



Australia Institute Submission Number 1

# **Common Misconceptions in the Climate Change Debate**

Submission to Standing Committee on Treaties

Inquiry into the Kyoto Protocol

28 August 2000

Contact: Clive Hamilton, Executive Director, Garden Wing, University House, ACT 0200  
Tel: (02) 6249 6221 Fax: (02) 6249 6448 Email: [mail@tai.org.au](mailto:mail@tai.org.au) [www.tai.org.au](http://www.tai.org.au)

## **Introduction**

This submission responds to a number of misconceptions, misunderstandings and myths that are frequently heard in the debate over climate change and the Kyoto Protocol. The ones dealt with in this submission are listed below and dealt with in turn. The Australia Institute can provide more detailed submissions on some of these issues.

1. Australia's fossil-fuel dependence makes it harder for us to cut our emissions
2. Reducing Australia's emissions is more difficult because we rely on exports of coal
3. Australia contributes little to global greenhouse gas emissions
4. Australia's emissions are high because we are a big country
5. The Kyoto Protocol accepted Australia's 'differentiation' position
6. Developing countries 'refused to sign' the Kyoto Protocol
7. Plantations provide an excellent opportunity for Australia to offset emissions
8. Emissions trading allows polluters to escape their responsibilities by planting trees
9. Emissions trading gives polluters the right to pollute
10. Policies that increase energy prices will see industry move out of Australia
11. Firms that are cutting their emissions should be given credit for early action

## **1. Australia's fossil-fuel dependence makes it harder for us to cut our emissions**

The Australian Government consistently claims that our high level of fossil fuel dependence means that measures to cut emissions will be more costly for Australia than other Annex 1 countries. A little thought reveals that in fact the opposite is more likely to be the case. In determining the cost of emission reductions, the key test is not the relative amount of fossil fuel burnt but how efficiently a country burns it. As an economy reduces its emissions it will start with the cheapest abatement measures (energy savings) and then move to the more expensive measures by replacing energy-using equipment and switching from high-emission sources such as coal to low emission sources such as natural gas and nuclear power. Thus countries that have been reducing their reliance on fossil fuels for some time will probably have eliminated the least efficient uses of fossil fuels first. This was the case in Japan when faced by the oil shocks in the 1970s and early 1980s when oil prices doubled overnight. Similarly, countries that have built nuclear power plants have tended to replace the least efficient coal-fired plants.

As an analogy, it is sometimes said that in reducing emissions people will at first 'pick the low-hanging fruit'. If more fruit is wanted then more effort must be expended getting it from the higher branches. Compared to most other OECD countries, Australia has not yet picked the low fruit.

The reason that it would cost relatively little for Australia to cut emissions is that fossil fuels in Australia are cheap and abundant. This was the message of the OECD's International Energy Agency when it reviewed Australia's energy economy. It is also the message of the most comprehensive analysis of Australia's energy efficiency performance, carried out by the foremost expert in the area, Lee Schipper of the IEA and Lawrence Berkeley Laboratories.<sup>1</sup> The analysis concluded that, while the story varies from sector to sector, overall Australia's energy efficiency performance over 1973-1994 has been poor compared to other OECD countries, with energy intensities falling by around 1% each year compared to 1.5% to 2.7% in other countries. The situation has been worse in the 1990s.

Even the Government's own MEGABARE model results, which formed the basis for some extraordinary claims by the Government before Kyoto, actually showed that the economic cost of a 15% cut in emissions would be tiny. The model results in 1995 indicated that real Gross National Expenditure (GNE) would fall below the 'business-as-usual' path by amounts ranging from -0.27% in the year 2000 to -0.49% in 2020. This does not mean that the *growth rate* of GNE is lower by these amounts, but that the absolute levels of real GNE are lower by these amounts. This is a very small change by any standard. One way of understanding the size of the costs predicted by MEGABARE is to compare them to income levels in the future. If the Australian economy grows on average by 3.5% then per capita incomes will reach double their current levels around 1st January 2025. If Australia adheres to its international commitments and reduces its

---

<sup>1</sup> The report, commissioned by the former DPIE, has not yet been released, although it was drafted two years ago.

emissions then, according to the MEGABARE estimates, the doubling of per capita incomes will have to wait until around 1st March 2025, a delay of two months, and that was before Australia received a generous target at Kyoto.

Economic modelling by the Australian Government that purported to show that Australia would be hardest hit by uniform emission reduction targets failed to persuade other Parties.<sup>2</sup> The Australian economic modelling results were flatly contradicted by modelling carried out by the US Government in 1997. The US study estimated that Australian GDP would fall by 0.5% at its peak in 2010 as a result of measures to stabilise greenhouse gas emissions at 1990 levels, less than other industrialised countries except the USA. Some of the results of the US study are summarised in the table.

### **US Governments estimated impacts on GDP of stabilisation of emissions at 1990 levels**

Country	2005	2010
Australia	-0.2%	-0.5%
Canada	-0.4%	-1.1%
Japan	-0.2%	-0.6%
Western Europe	-0.2%	-0.7%
United States	-0.1%	-0.2%

*Source:* Interagency Analytical Team 1997 (US Government)

## **2. Reducing Australia's emissions is more difficult because we rely on exports of coal**

Exports of fossil fuels have no impact on Australia's greenhouse gas emissions because emissions count in the country where the fuels are combusted. Only energy used in mining and transporting fuels appear in Australia's emissions inventory. Coal exports are therefore not relevant.

Decisions by other countries to cut their emissions by reducing their usage of coal, and therefore their imports of coal from Australia (and elsewhere), will have an economic cost in Australia. Some economic models suggest that around half of the cost of uniform emission reductions would arise from declining demand for Australian coal, while the other half would arise from measures to reduce emissions in Australia. Australia can have no influence over the way in which other countries meet their targets; it is simply part of the changing international trading environment.

---

<sup>2</sup> Or indeed economists in Australia, 131 of whom (including 16 full professors of economics) in 1997 signed a statement criticising the Government's modelling and declaring that '[p]olicy options are available that would slow climate change without harming employment or living standards in Australia, and these may in fact improve Australian productivity in the long term'.

Australian liquefied natural gas exports are in a different situation. Natural gas production is very energy intensive (due mainly to the liquefaction process) and results in substantial greenhouse gas emissions. However, exports of natural gas substitute for the use of coal in other countries and therefore help reduce global emissions.

### **3. Australia contributes little to global greenhouse gas emissions**

It is sometimes argued that since Australia is responsible for only around 1.4% of total global greenhouse gas emissions, we should not worry too much about reducing them. This argument is fallacious and even dangerous in its implications. Firstly, if the world were made up of 71 nations all of which were responsible for 1.4% of global emissions, then no-one would take any action. More importantly, this argument has no moral basis. As an analogy, Kerry Packer could argue that since his taxes amount to only 0.01% of all tax collections in Australia, it will not make any difference if he refuses to pay his taxes. But we know that Mr Packer's refusal to pay would undermine the integrity of the tax system, and many others would refuse to pay.

The whole international climate debate is infused with issues of justice, and progress is possible only if each nation is seen to be doing its fair share. As a wealthy nation with the highest per capita emissions in the world, Australia must be seen to do its fair share, otherwise other nations, no matter how big their emissions, will feel less obligation to do their fair share. This reasoning underpinned the extraordinary lengths the world's negotiators were prepared to go to at Kyoto to ensure that Australia did not break the consensus and withdraw from the treaty. If a wealthy nation with high per capita emissions refused to adopt emission reduction targets, it would be impossible to persuade developing countries to adopt targets in subsequent commitment periods.

### **4. Australia's emissions are high because we are a big country**

Some people have vague notions about Australia being a wide brown land with long distances to transport goods and that this means that our greenhouse gas emissions must be higher than other, more compact countries. These beliefs are misconceived.

Australia is a large country, but around 62% of all fuel used for land travel is consumed in urban areas. Of the remainder, a proportion is used for travelling within and around towns not classified as urban. Relatively little is used on long-distance travel. Most of the fuel used in passenger cars is for travel in urban areas (around 70%). Similarly, around 60% of rigid truck and light commercial vehicle fuel use occurs in urban areas. Only for large trucks and buses is more fuel used in non-urban areas (21% and 38% urban, respectively).

Of course, almost all air travel and most sea travel takes place outside urban areas, but these modes consume less than 10% of the total fuel used in transport. If Australia's use of transport is large it is because of a dependence on passenger vehicles for urban travel. These passenger cars are also particularly inefficient. In the late 1990s the average Australian car was getting about the same number of kilometres per litre as the average

car in 1971. The reality is that most Australians do not spend their time driving across the wide brown land, but sitting in traffic jams in the congested brown city.

All of the above factors lead to transport producing around 16.8% of Australia's total greenhouse emissions (excluding land clearing). The percentage of energy-related greenhouse gas emissions (i.e., emissions from fuel combustion) from transport in Australia is around the OECD and European Union average, and is less than the percentage in Canada, New Zealand, the UK and the USA.

In summary, most travel in Australia occurs in urban areas and, accordingly, the size of our country has only a small impact on total travel requirements. Secondly, when compared to other developed countries, the share of emissions from transport in Australia is about average. There is nothing particularly special about our country that can be blamed for our transport emissions, other than our lifestyle and urban planning choices.

## **5. The Kyoto Protocol accepted Australia's 'differentiation' position**

The Australian Government argued vigorously in the lead up to the Kyoto conference that since Australia is heavily dependent on fossil fuels for export revenue, and relies on fossil fuels as the chief source of domestic energy, uniform emissions reductions targets would be very costly and would impose a disproportionate economic burden on Australia compared to other Annex 1 countries. It advocated a form of 'differentiation', that is, allocation of different targets for Annex 1 countries on the basis of 'equal economic cost per capita' for each Annex 1 country. Australia would, under the this proposal, have more lenient targets than most other countries.

A number of other differentiation proposals were discussed at Kyoto. At the broadest level, the principle of differentiation holds that nations should be allocated emission targets according to some principle of fairness. Parties would adopt targets reflecting national circumstances including their contribution the problem of climate change.

The Kyoto Protocol endorsed emission targets ranging from 92% to 110% of 1990 emissions for Annex B (industrialised) countries, an outcome that clearly differed from the uniform percentage reduction proposal that the European Union adopted as its negotiating position going into the conference. But the fact that national targets varied does not mean that principle of differentiation was adopted. The Kyoto outcome certainly does not reflect the Australian Government's particular set of differentiation criteria.

To demonstrate this it is only necessary to note that Japan (with a target of 94% of 1990 emissions), the USA (93%) and the European Union (92%) – which together account for 70% of all Annex B emissions – accepted targets that differ by only 2%. This difference of 2% stands in contrast to wide differences in national circumstances. Per capita emissions range from 7.8 tonnes per person in France and 9.5 tonnes in Japan up to 21.2 tonnes in the USA, and per capita incomes range from US\$11,300 in Greece to US\$27,000 in the USA (see the table). Adherence to any of the differentiation criteria that have been discussed internationally would require much more divergence in targets.

Country	Polluter pays tCO <sub>2</sub> /an/capita	Ability to pay US\$/capita/an
Japan	9.5	21,930
United States	21.2	26,979
France	7.8	21,176
Germany	12.6	20,370
Italy	9.0	20,174
Greece	10.1	11,265
United Kingdom	11.3	19,302
Australia	26.7	19,632

The rest of the world had a very different conception of fairness under differentiation to that of Australia. It was summarised by a Norwegian delegate:

Parties should take their share of the burden in proportion to their relative contribution to the climate change problem. Those who currently emit more than their fair share should thus contribute more. Also, Parties that have greater capacity, economic or otherwise, to deal with the problem, should in principle do more than other Parties to reduce emissions (Dovland 1997).

Both of these principles – polluter pays and ability to pay – would have seen Australia assigned more stringent targets than most other countries, rather than more lenient targets. Indeed in 1997, a German Government study considered various principles and criteria that have been suggested as the basis of a ‘fair’ allocation of national targets. The criteria were selected from the international literature and included emissions per capita, level of wealth, emissions intensity of output, dependence on primary energy, national climate characteristics and dependence on fossil fuels. Five variants combined these criteria in different ways. The study then asked how each Annex 1 country would fare if each variant were used to assign differential targets so that overall emission in all Annex 1 countries fell by 15%. The study concluded that under any feasible differentiation proposal, far from it being given more lenient targets, Australia would have more *stringent* targets.

It is true to say that the Australian proposal for differentiated targets received no serious consideration from the rest of the world. It was seen as self-serving and not based on any recognised principles of equity. It is quite untrue to suggest that because Australia received a very generous target that the Parties acknowledged the strength of the Australian case. At Kyoto the targets for the big three – USA, EU and Japan – were set by intense negotiation taking account of a range of economic and political circumstances, and they varied by only 2%. Targets for other parties were set by a pledging procedure reflecting “willingness to pay”. In the end, political bargaining based on the threat to withdraw were the means by which Australia achieved its lenient target.

## 6. Developing countries ‘refused to sign’ the Kyoto Protocol

The 1995 Berlin Mandate of the UNFCCC declared the formal intent of the parties to the Framework Convention to begin a process leading to the setting of mandatory emission reduction targets. The process begun by the Berlin Mandate culminated at the Kyoto Conference in December 1997. The Mandate’s aim was to set mandatory targets for rich countries exclusively. It stated, *inter alia*, that the purpose of the process was the “strengthening of the commitments of the Parties included in Annex 1”, i.e. the developed countries, through the adoption of a protocol. The aim was for Annex 1 Parties “to set quantified limitation and reduction objectives within specified time-frames” and specifically said that the process would “[n]ot introduce any new commitments for Parties not included in Annex 1”.

The Mandate not only stated that the targets to be set would apply to developed countries alone, but set down the principles that were to guide the process, notably:

The fact that the largest share of historical and current global emissions of greenhouse gases has originated in developed countries, that the per capita emissions in developing countries are still relatively low and that the share of global emissions originating in developing countries will grow to meet their social and development needs.

The Berlin Mandate reaffirmed the principle, enshrined in the Framework Convention, that “the developed countries should take the lead in combating climate change and the adverse effects thereof”.<sup>3</sup> The mandate reflected universally accepted ethical principles, *viz.* that those countries responsible for increased concentrations of greenhouse gases in the atmosphere should do most to reduce the problem, especially since, being rich countries, they were in a better position to do so. These principles of polluter pays and ability to pay were reinforced by the acknowledgement that while rich countries became rich by burning fossil fuels, poor countries would suffer most of the damage of climate change. There was no challenge to these views.

A few months before the Kyoto Conference conservative forces in the USA opposed to any agreement – the fossil fuel lobby backed by Senate Republicans – suddenly began to argue that it would be ‘unfair’ and ineffectual if the proposed mandatory targets were adopted by developed countries only, and that no agreement would be acceptable without

---

<sup>3</sup> The phrase ‘common but differentiated responsibilities’ was first used in the Framework Convention and reiterated in the Berlin Mandate. As a matter of record it is important to make clear that the phrase referred to the ‘common but differentiated responsibilities and respective capabilities’ *between developed and developing countries*. It is important to recognise this because the Australian Government used the phrase to give legitimacy to its differentiation argument in the lead-up to the Kyoto Conference. This was intended to give the impression that the Framework Convention and the Berlin Mandate provided the principle on which the Australian case was based. This was a misuse of the wording of the Convention for it was never understood to apply to ‘differentiated responsibilities’ among the rich countries.

developing countries also signing on to mandatory targets. The Australian Government took the same position as the Senate Republicans.<sup>4</sup>

At Kyoto, these same forces managed through threats and noisy lobbying to make the issue of developing country participation appear to be one of the key negotiating questions, even though no other party took the argument seriously. In response to requests from the USA, Chairman Raoul Estrada repeatedly ruled that the terms of the Berlin Mandate excluded discussion of developing country commitments. Journalists and commentators unfamiliar with the background to the negotiations mistakenly began to write that developing countries 'refused to sign' the Protocol, thus playing into the hands of industry lobbyists.

Since there was never any expectation on the part of the main parties to the Kyoto negotiations that developing countries would or should adopt mandatory targets, it is quite misleading to argue that they refused to sign the Protocol.

## **7. Plantations provide an excellent opportunity for Australia to offset emissions**

The opportunity to use plantations to offset emissions from fossil sources will be much less extensive than many people believe. There is a lot of hype about the opportunities for land holders to establish plantations or woodlots with a view to selling the emission credits in the future. The first fundamental point to recognise is that carbon stored or sequestered in plantations can only count towards the Kyoto target if it meets two conditions:

- the plantations must have been established after 1990, and
- they must be established on land that was cleared before 1990.

If a plantation meets these criteria then it may count towards the Kyoto target. However, in practical terms only large, professionally managed plantations are likely to qualify and be commercially worthwhile. There are two sets of reasons for this.

Firstly, in order to avoid cheating, Parties to the Protocol that include carbon sequestered in trees will have to prove that each plantation passes stringent tests. They will need to be certified, monitored, audited, insured against fire and other events and probably meet a strict liability regime. The need to meet these conditions will impose significant costs on owners of plantations. All of these conditions are still to be worked out and agreed internationally and the Australian Government will have responsibility under the Protocol to ensure that all of the conditions are met.

Secondly, there is a great deal of uncertainty about how much of the carbon stored in suitably certified plantations will actually be eligible to generate an emission credit.

---

<sup>4</sup> The decision by the Australian Government in 1998 not to ratify the Kyoto Protocol until the US had done so made Australia's foreign policy hostage to the decisions of the US Senate, since the US Government has made it clear it would ratify if it could get it through a hostile Senate.

Since trees only store carbon temporarily, the extent to which they can offset emissions from elsewhere will be closely related to the guaranteed duration of storage. The key question then is how long it takes for the carbon stored to be released back into the atmosphere. Some of the carbon will be released on harvesting from discarded branches and disturbed soils, some at the saw mill as saw dust and wood waste, and the remainder will be stored in products with varying lifespans. Newspaper has a short life span while quality furniture and housing timbers may be deemed to have a life span of, say, 50 years.

One possible rule which may be agreed would be to divide the average life span of stored carbon by 100 years. The IPCC uses 100 years as the time period over which carbon dioxide in the atmosphere has a 'forcing' effect for calculation of Global Warming Potentials of other greenhouse gases. Although some part of a tonne of CO<sub>2</sub> emitted now will remain in the atmosphere after 100 years (with the remainder absorbed by natural marine and terrestrial sinks), a first approximation may be that to offset the warming effect of a tonne of CO<sub>2</sub> emitted now (from fossil fuel say) it is necessary to sequester one tonne of CO<sub>2</sub> for 100 years.<sup>5</sup>

In this case, every 100 tonnes of carbon sequestered in a plantation may generate only 30 or 40 tonnes of emission credits, sharply reducing the commercial viability of plantations for sequestering purposes.

Note that carbon stored in existing forests is outside of the Kyoto Protocol as they are assumed to be in a state of carbon equilibrium. However, if these forests are cut down during the commitment period the resultant 'deforestation' will result in net emissions from the forestry sector which will add to emissions under the Protocol.

## **8. Emissions trading allows polluters to escape their responsibilities by planting trees**

This misconception arises from mixing up two quite independent policy measures – the introduction of emissions trading, and allowing polluters to offset emissions through the development of carbon sinks (especially forest plantations). Emissions trading (of the cap-and-trade variety) requires identified polluters to own permits to cover their annual emissions. These permits can be traded among polluters (and anyone else) with the result that emissions reductions are concentrated in the activities where it is cheapest. Under the terms of the Kyoto Protocol, polluters may be permitted to offset some of their emissions by way of activities that sequester carbon in trees (the principal form of sink activity).

But it is quite feasible for a nation to have emissions trading without any provision for sinks. Similarly, a nation may allow polluters to invest in sinks to offset emissions in the absence of an emissions trading system. In short, a nation could have sinks without trading, and trading without sinks. Thus the arguments used against the use of sinks to

---

<sup>5</sup> These issues are developed by Mark Jackson, 'Carbon Sharefarming: owning a measured sequestration commodity' (unpublished paper 1999)

meet emissions reduction obligations have no bearing on the merits or otherwise of emissions trading as such.

## **9. Emissions trading gives polluters the right to pollute**

Some people object to emissions trading on the grounds that it appears to give polluters the right to pollute. In fact, polluters already have the right to pollute with greenhouse gases, since there is no legislated or other restriction on polluting activities. Emissions trading is based on the prior imposition of a legally enforced cap on total emissions. Thus, rather than granting the right to pollute, emissions trading *restricts* the right to pollute because in order to do so a polluter must possess a permit. The permit costs money to buy (unless the government gives them away) and is surrendered (or acquitted) when the emissions occur.

Some might argue that there is a distinction between the legal right to pollute and the moral right to pollute, and that although emissions trading may restrict the legal right to pollute it implicitly confers a moral right. While there may be some force to this argument, in the end the limitation of emissions should be the dominating objective. Indeed, any measure that restricts the right to emit greenhouse gases implicitly confers both the legal and the moral right to pollute up to that specified limit.<sup>6</sup>

It is also worth noting that the Kyoto Protocol has vested the emission rights with the governments of the Annex B parties. Since governments are merely constituted authorities rather than physical actors, and as such are not capable of polluting, they must now choose either to give these rights to domestic polluters or require them to buy the rights through an auction.

Emissions trading is often characterized as an ‘economic instrument’ and contrasted with environmental regulation (sometimes described by the tendentious term ‘command and control’<sup>7</sup>). Emissions trading is in fact a combined regulatory and market-based measure. In the case of the cap-and-trade system, an emission trading system is predicated on two facts: a national emissions limit is set in legislation, and identified emitters are required by law to hold emission permits to cover all of their emissions. The national emission limit is specified by the government and determines the total number of permits issued. This process sets a binding limit on total national greenhouse gas emissions. Trading in emission permits then allows the reallocation of this national limit among polluters required to hold permits.

In the case of a baseline-and-credit system, the government determines a baseline of emissions over time for each defined polluter so that the overall emission limitations requirement is met. Emission credits (as opposed to permits) are generated only by reducing emissions below the specified baseline. Polluters may not exceed their defined

---

<sup>6</sup> The AGO (1999, p. 2) notes a recommendation that emission permits be regarded as licences to emit rather than property rights which may go some way to allaying the objections of those who do not want to confer moral rights.

<sup>7</sup> A term coined by free market advocates and designed to imply the traditional methods have Stalinist overtones.

emissions limit unless they purchase emission credits from another polluter that has reduced emissions below its baseline level. Thus the tradable instrument is only created by deviations from the baseline.

The market aspect of emissions trading only follows the introduction of a major regulatory measure i.e. specification of a maximum level of allowable emissions.

## **10. Policies that increase energy prices will see industry move out of Australia**

It is possible that some firms that must pay more for energy as a result of emission abatement policies will consider shifting offshore to non-Annex B countries. The aluminium industry in particular has threatened to do this on many occasions. If this happened, carbon emitted in Australia would be emitted in another country, a process known as ‘carbon leakage’.

While the prospect of some carbon leakage cannot be dismissed, its likely extent has been grossly exaggerated by the fossil fuel-based industries and by ABARE in its modeling. In order to be subject to carbon leakage, firms need to meet three criteria: they need to be energy-intensive in production, they need to be export-dependent (or import-competing), and their competition must come from non-Annex B countries (since all Annex B countries will have emission abatement policies).

The great majority of energy is consumed by industries or activities that are entirely domestic and face no foreign competition – electricity and gas consumed in households, nearly all transportation, the commercial and service sectors of the economy. The major sectors that fall into this category are alumina, aluminium, LNG and steel production. These sectors account for around 10% of Australia’s total emissions.

For these sectors, energy prices are certainly not the only consideration in industry location. In addition, corporate decision makers considering shifting operations to developing countries would need to take account of the likelihood that those countries too will need to adopt emission abatement policies in a decade or so as they take on emission reduction obligations. For long-term investments the probability that non-Annex B countries will take on targets in subsequent commitment periods is a relevant consideration.

In a few cases, a good case can be made for some special concessions for exporters, so that the rest of the economy meets the cost of reducing emissions. LNG is a case in point. Although produced using an energy-intensive liquefaction process, it has the potential to replace more emission-intensive fuels worldwide. In such cases, it may be desirable to incorporate special transitional provisions to offset the costs of emission abatement and provide those firms most affected with a longer period over which to adjust.

## **11. Firms that are cutting their emissions should be given credit for early action**

The targets set by the Kyoto Protocol apply to the commitment period 2008-2012. It is over those years that Australia's total emissions cannot exceed, on average, 108% of emissions in 1990. In terms of impact on climate, it is preferable that polluters begin reducing their emissions sooner rather than later as emissions over the period up to 2008 will be lower than otherwise. The question is whether those firms that reduce emissions before the commitment period should get some form of credit for doing so.

Firstly, it should be recognised that nearly all major polluters will bring their emissions down gradually to meet the commitment period deadline; for many, their emissions will peak in the early 2000s. So the 'early action' in question needs to include not just any emissions reductions prior to 2008 but emission reduction beyond levels that would occur anyway to meet the target.

Secondly, the biggest problem with credit for early action is the way in which it might interact with the terms of the Kyoto Protocol. The Protocol does not make any provision for credit for early action. Thus it is not possible to exceed the target level of emissions in the commitment period on the basis of lower emissions prior to 2008.

The best solution to the issue would be the introduction of a domestic emissions trading system for the years prior to 2008 with a specified national path of emissions. Firms that engage in early action would be relieved of the need to pay for as many emission permits and thereby would be rewarded.

The possibility of 'banking' permits, i.e. holding them over to later years, gives rise to a potential problem. Banked Australian permits will not allow Australia to exceed its assigned amount (108%) in the commitment period.<sup>8</sup> The volume of permits issued for the years 2008-2012 cannot exceed 108% of 1990 emissions, and while permits generated from sink and CDM activities will allow an excess of emissions over 108%, surplus domestic permits from earlier years will not.

The solution to this problem is to reduce the volume of emission permits offered in the years of the commitment period by an amount equal to the number of permits banked from earlier years which are available for use in 2008-2012. The system as proposed would give full credit to Australian firms for early action to reduce emissions without compromising Australia's commitment under the Protocol.

---

<sup>8</sup> The Kyoto Protocol allows for permits unused in the first commitment period to be banked for use in subsequent commitment periods.