

**TRADING IN  
GREENHOUSE GAS EMISSIONS**

**A Submission to**

**HOUSE OF REPRESENTATIVES STANDING  
COMMITTEE ON ENVIRONMENT,  
RECREATION AND THE ARTS**

**By**

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**March 1998**

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## EXECUTIVE SUMMARY

- Any GHG emission trading scheme implies moves beyond ‘no regrets’ measures, and is necessarily associated with policies that will have adverse impacts on the economy, trade and employment.
- If there is a need to reduce GHG emissions, a GHG emission trading scheme may be an effective way of reducing the costs of mitigation.
- Any GHG emission trading scheme should be only one component of a comprehensive policy to mitigate GHG emissions.
- It is not clear that current announced measures will be insufficient to meet the 2008-12 emission target. There is plenty of time to assess the position, and to take further action if current measures prove insufficient.
- All avenues for ‘no regret’ policies should be fully exploited and given priority for implementation.
- .The following principles should underlie any emission trading scheme:
  - *property rights*, in that any permit should be regarded as a property right, with full protection that that implies
  - *comprehensiveness*, in that any scheme should cover all GHG gases, all sources of emissions, and sinks, not just particular sectors or types of emitters of GHGs. In particular, any GHG emission quota system should not just apply to energy producers
  - *equity*, in that all GHG emitters should carry a fair share of the burden of abatement
  - *effectiveness*, in that the scheme does achieve the objective of mitigating the emissions of GHGs
  - *efficiency*, in that it should not distort the most efficient allocation of resources in the economy
  - *transparency*
  - *low cost* in terms of compliance
- It is most important that any emissions trading scheme facilitates the growth in the Australian economy. It must not reduce the international competitiveness of the Australian economy, in relation to its trading partners and competitors. This point will need to be assessed with particular relevance to non-Annexe 1 countries.
- Australia should fully participate in the development process of any international emissions trading scheme, with the aim of ensuring that Australia’s interests are preserved.
- Any development process needs to evaluate carefully the implications of the two complementary approaches to emissions trading – cap and trade, and baseline and credit regime.

- Any emission trading scheme must not be seen as a new tax mechanism. Quotas should be issued free of cost.
- The design and administration of quota system should minimise its effect on the uncertainty of investment, for example by ensuring that quotas are available to cover the volume of emissions over the life of a project. The design will also need to build in ease of tradeability.
- There should be no rushed implementation of a 'trial' scheme, as there is ample time to work out a comprehensive scheme. This would allow time to develop mechanisms to involve the broader community usage in the quota system through indirect mechanisms.
- The administration of any emission quota scheme would need to take into account:
  - documentation of quota
  - issue of quotas at the start of a quota period
  - recording of holders of quotas, and of changes in holders
  - monitoring of emissions by holders and non-holders of quotas, with particular attention to sellers of quotas
  - reconciliation of actual emissions against quotas held
  - imposing of sanctions against violations of emission quotas.
- Effective policing of the emissions and quota usage is essential. Without trust in the efficacy of the system, any trading mechanism will fail.
- Carbon sinks will need to be included. However a number of issues remain to be resolved, including allowance for any eventual release of the carbon contained in the sink.

## **Chapter 1: INTRODUCTION**

The Australian Institute of Petroleum was established in 1976 as a non-profit making industry association. AIP's mission is to promote the reputation and assist in the development of a strong, internationally competitive petroleum industry, with particular emphasis on refining, distribution and marketing of petroleum products.

AIP is pleased to make this submission in response to the terms of reference of the House of Representatives Standing Committee on Environment, Recreation and the Arts into the regulatory arrangements for trading in greenhouse gas emissions. The submission sets out the views of AIP and the following member companies of the AIP Health Safety & Environment Committee.

- ❖ BHP Petroleum Pty Ltd
- ❖ BP Australia Limited (BP)
- ❖ Caltex Australia Limited (Caltex)
- ❖ Esso Australia Ltd
- ❖ Mobil Oil Australia Limited (Mobil)
- ❖ Shell Company of Australia Limited (Shell)

This submission examines the principles that should underlie any national or international program to abate greenhouse gas emissions (GHGs), including emission trading schemes. The submission then outlines the views of AIP on possible regulatory arrangements to apply to any scheme of emission trading that may be introduced.

## **Chapter 2: PRINCIPLES UNDERLYING GHG EMISSION ABATEMENT SCHEMES**

### **2.1 The Context for Action**

The Kyoto Conference has demonstrated that there is an increasing international consensus that further steps need to be taken to abate GHG emissions. This is in the light of a widely held view that GHG emissions are having a discernible effect on the climate and that the effect of the increasing emissions will be harmful.

It is not intended in this submission to debate whether this view is correct. For the context of the debate on possible GHG emission trading schemes, AIP suggests that it be based on:

- acceptance that a growth in GHG emissions has caused an increase in GHG concentrations in the atmosphere
- recognition that GHG concentrations will increase for the foreseeable future. Efforts to abate GHG emissions will only reduce the rate of increase.

The context for action must also recognise the stance taken by non-Annexe 1 countries, in refusing to adopt any measures to mitigate GHG emissions for the time being. These countries generally are at a stage of rapid economic and population growth, and consequent increase in demands for energy use and land clearing – key factors in the development of GHG emission. Given this, non-Annexe 1 countries, such as India and China, are predicted to overtake Annexe I countries in emission of GHGs.

In summary, measures adopted to abate GHG emissions in Annexe 1 countries will, at best, only have the effect of slowing the increase in GHG concentrations. Measures taken by Australia, responsible for less than 2% of GHG emissions at present, will have a negligible effect.

Therefore AIP contends that any measures taken by Australia must be realistic and take into account the need to protect Australia's economic competitiveness and sovereignty. Australia should therefore participate fully in the development of any international emission trading systems, to ensure that Australia's interests are preserved.

### **2.2 The General Public Policy Context**

As part of the Kyoto Protocol, the Australian Government has been given the target of limiting its GHG emissions levels to 8 per cent above the 1990 levels in the period 2008 to 2012. The Protocol remains to be signed and ratified by Australia and will not come into force internationally until 1999 at the earliest.

The Protocol contains an agreement in principle on emission trading schemes by Annexe 1 countries as a flexible tool to help the abatement of GHG emissions. However the key policy driver is the GHG emission target, not emissions trading per se.

Many Australian companies have already put in place voluntary, commercially sensible measures to mitigate the emissions of GHGs. AIP believes that the measures put in place to date, in particular the Greenhouse Challenge program, are entirely appropriate for the overall context of uncertainty in the science, and the need to retain Australia's trade competitiveness against non-Annexe 1 countries.

Two points need to be made.

1. It is not clear that currently announced measures will be insufficient to meet the 2008-2012 emission target.
2. There is plenty of time to assess the position, and to take further remedial action. It is crucial that it be firmly established that there is a need to move beyond current measures before any such policy decisions are taken.

This reinforces the fact that there are a number of possible policy responses available to mitigate GHG emissions. From a public policy viewpoint, the most attractive measures are 'no regrets' measures, since they do not impact on the international competitiveness of the economy. As such, all possible 'no regret' avenues should be explored and exploited as a priority.

Any emissions trading scheme is essentially a means of reducing the cost of emission mitigation measures. As such, the scheme implies a move beyond 'no regrets' measures. The effect of such schemes will be to raise the costs of activities that cause emissions of GHGs; the consequent effects on prices and market demand will act to limit those activities to the required overall level of GHG emissions.

The Australian economy is reliant on fossil fuels for energy and trade. Fossil fuel usage will cause emissions of GHGs. Most of Australia's international trading partners and competitors in the Asian region will not be bound by any restrictions on GHG emissions.

Any commitment to measures beyond 'no regrets', whether or not linked to emissions trading, will have a detrimental effect on the Australian economic activity, investment and employment levels.

## 2.3 General Principles

A GHG emissions quota system has many elements of a tax on activities that cause emission of GHGs. It is reasonable therefore that the principles that apply to taxation should be applied to any quota scheme. AIP suggests that the following principles need to underlie any emission trading schemes:

- ***property rights***, in that any permit should be regarded as a property right, with the full protection that that implies
- ***comprehensiveness***, in that any scheme should cover all GHG gases, all sources of emissions, and sinks, not just particular sectors or types of emitters of GHGs. In particular, any GHG emission quota scheme should not just apply to energy producers
- ***equity***, in that all GHG emitters should carry a fair share of the burden of abatement
- ***effectiveness***, in that the scheme does achieve the objective of mitigating the emissions of GHGs
- ***efficiency***, in that it should not distort the most efficient allocation of resources in the economy
- ***transparency***
- ***low cost*** in terms of compliance

### 2.3.1 Property Rights

An emission trading scheme is a means of allocating scarce resources – ie rights to emit GHGs – in accordance with market forces. It is a fundamental necessity that these rights are considered as property rights, with all the protections that are implied. Only if this concept is firmly established will companies have the certainty necessary for sustainable operation and investment.

### 2.3.2 Comprehensiveness

To be effective in reducing emissions, any emission trading scheme must cover all GHGs, and allow for sinks, to ensure an accurate response to the overall objective of impacting on global warming.

Similarly all emission sources must be considered for inclusion. If some are excluded, the reduction in emissions in the included sectors may be offset as economic activity and consequent emissions are simply displaced to sectors not included in the scheme. Such bias in coverage will lead to inequity and loss of effectiveness of the overall Greenhouse strategy.

In particular, while energy producers do account for a significant proportion of GHG emissions, any quota system should not just apply to some or all sectors of energy production, given the importance of energy to overall economic activity.



### 2.3.3 Equity

For any scheme to be equitable, the full community must be equally engaged in the limitation of GHG emissions. All parties must have established all appropriate 'no regret' measures to mitigate GHG emissions. If further measures beyond 'no regret' are required, they again must apply to all sectors of the economy, not just those that can be most easily targeted. Similarly, companies that have already moved to mitigate GHG emissions should receive credit for these moves.

### 2.3.4 Effectiveness

There are attractions in the use of an emission trading scheme in meeting an overall emission target. Most emission trading schemes involve the setting of a cap or baseline for emissions. This can be set at the required emission target. This makes the achievement of the target easier, compared to blunt and imprecise measures such as direct taxation of carbon fuels.

Emission trading schemes can also incorporate credits for sinks, and so allow a more comprehensive approach to emission mitigation.

There will be a need for a careful evaluation of the relative effectiveness of the 'cap and trade' quota models of emission trading systems, and the 'baseline and credit' systems.

Any scheme must be effectively policed. Otherwise, the value of any property rights conferred under the scheme would be fatally undermined.

On an international level, any emissions trading scheme will not have a significant impact on global warming unless it includes all countries. Policing of any emission trading scheme is even more important, and more difficult, on an international level. Important issues regarding national sovereignty and the availability of effective sanctions will need to be resolved.

### 2.3.5 Efficiency

Emissions trading is based on market forces. As such, it has attractions in terms of economic efficiency and resource allocation. This will only be the case, however, if the emission quotas are applied to all sectors of the economy, and the community in general. If this is not the case, economic distortions will start to emerge, and detract from economic efficiency.

### 2.3.6 Transparency

Programs to abate emissions must involve all parts of the community, and to be effective must be seen as fair and reasonable. This will require complete transparency of the process, in the setting of the quotas, in the mechanisms for trading quotas, and in the policing of the emissions.

### 2.3.7 Low Cost

Compliance with an emission trading scheme will impose administrative burdens and costs on all parties covered by the scheme. Any such costs reduce competitiveness, and must be minimised.

There is, however, a further crucial point concerning cost. An emissions trading scheme must not be introduced as a means of generating Government revenue. This is particularly important in the context of the initial allocation of quotas, which must be free of cost.

## 2.4 Competitiveness of the Economy

The impact of any emission trading scheme on Australian economic performance must be an overriding factor. The introduction of such a scheme implies a move beyond 'no regret' measures. Such moves will disadvantage Australia, compared to its trading partners and competitors. There would be adverse impacts on the economy and major dislocations of current economic activity and employment.

It is crucial therefore that any emissions trading scheme is explicitly designed to facilitate as much as possible growth in the Australian economy. The implications for international competitiveness must be carefully assessed.

At the very least, imports should be subjected as much as possible to emission quotas. This would be possible for imports of goods that directly cause GHG emissions, such as fossil fuels. However, it would be practically very difficult in the case of manufactured goods. For example, it would be possible to require that imports of petroleum products are subjected to emission quotas. However, the emissions produced in the manufacture of the petroleum products would be under emission quota in Australia, but not overseas. Thus the local manufacture of petroleum products would be disadvantaged.

Exports of all types of products would generally be disadvantaged

## **Chapter 3: FRAMEWORK FOR POSSIBLE EMISSION TRADING SCHEMES**

### **3.1 Overview**

It was argued in the previous Chapter that any emission trading scheme should be only one component of a comprehensive policy to mitigate GHG emissions, and in particular that all avenues for ‘no regret’ policies should be exploited first. It is also important to recognise that any emission trading scheme is a move beyond ‘no regrets’ measures, and will have adverse impacts on the economy, trade and employment.

Given that emissions trading is a move beyond ‘no regrets’, this submission does not address voluntary schemes. It should be noted that some international companies are considering the introduction of internal voluntary emission trading schemes.

More importantly, there is a major policy issue whether a country should voluntarily adopt a national compulsory emission trading scheme, while there is no compulsion to do so. If there is a clear commitment to reduce GHG emissions, an emission trading scheme may be a cost-effective way to cut the costs of mitigation. If there is no need for such commitment, the introduction of emissions trading may mean that a country is electing to voluntarily disadvantage itself in international trading, compared to other countries that have elected to ignore emission reductions.

To meet its objectives, any emission trading scheme must:

- cover all sectors of the economy and the community
- cover all GHGs, and include allowance for sinks
- be policed effectively
- be transparent, and have an effective trading mechanism
- minimise the cost of compliance

Given these, there are a number of specific issues that need to be addressed.

### **3.2 Quota Definition**

The basic principle behind tradeable GHG emissions quotas is one of property rights. A quota is a means of sharing out the defined total amount of allowable emissions. Quotas imply limitation of emissions, and an allocation of that limited amount. However it should be noted that the debate at Kyoto referred more to an equitable sharing of the burden of emission reduction, rather than any consideration of sharing of absolute emissions.

The questions that arise from this are:

- What products should the quota cover?
- What should be the term of the quotas?
- What should be the size of the quotas?

AIP has argued above that an emissions trading scheme can only be truly effective if all GHGs are covered, and the scheme explicitly recognises sinks. Thus the quotas should cover the gases covered by the Kyoto Protocol: CO<sub>2</sub>; CH<sub>4</sub>; NO<sub>x</sub>; HFCs; PFCs, SF<sub>6</sub>.

These can be reduced to a CO<sub>2</sub> equivalent.

The term of the quotas is more difficult. From the point of view of Government, a short-term quota – such as 1 year - allows Government more control. However the administrative costs of constant renewals would be enormous to Government and business.

From the point of view of business, it would be imperative to have flexibility of the term and size of the quota. Companies will need access to long term and evergreen quotas, to allow business to make investments. Any investment involving GHG emissions in any form (eg energy usage) that requires a payback period greater than the life of the quota would be inherently that much more risky, and so less likely to proceed.

There will also need to be assessment of the products that can be traded. This may encourage the adoption of standardised quotas, to allow an effective trading market to develop, in addition to larger, long term or evergreen quotas.

### **3.3 Quota Allocation**

Issues to be addressed under this heading include:

- What parties should be covered by emission restrictions, and so obliged to work within quota allocation?
- How should quotas be allocated?

#### **3.3.1 Quota Coverage**

For an emission trading scheme to be effective and efficient, it should apply to all sources of GHG emissions. In theory, this applies to everyone in the community. This has the attraction of reinforcing the point that reductions of GHG emissions is a responsibility of the whole community.

Such direct coverage would probably be administratively impossible. However, given that for private individuals and most business entities, GHG emissions almost entirely arise from energy and vehicle usage, it would be possible to design mechanisms which serve as reliable proxies for direct quotas for small energy users such as private individuals. Large entities that emit GHGs, such as manufacturing operations could still be covered directly.

There have been suggestions that the quotas are applied to producers and importers of energy, other manufacturers that are direct emitters of GHGs (such as cement plants) and primary producers. This is administratively simpler, but misses a significant section of GHG emitters. These latter would have no incentive to reduce emissions, thus making achievement of the overall objective that much harder. In this case, other regulatory mechanisms would need to be introduced for those sectors not covered by the emission trading scheme.

It has also been suggested in some quarters that quotas should initially be applied to parts of the economy where it is easiest – for example, major producers of energy. AIP believes that there are serious problems with such a concept. The effect will be to reduce the competitiveness of major parts of the economy, while missing coverage on major sources of emissions such as primary producers.

There would be a serious risk that the energy producers covered by quotas could not pass on the costs to consumers, due to competition from energy sources less affected by quotas. In this case, energy production would tend to move to other sources of energy, reducing economic efficiency without necessarily reducing GHG emissions.

Imported energy would also be given a competitive advantage, since the production of that energy would not be covered by quotas in the producing countries. Unless this problem was addressed, domestic energy production would be greatly disadvantaged. The worst case outcome could see the production of major parts of Australia's energy production move overseas, to the detriment of the Australian economy and employment and without any effect on global GHG emissions.

This reinforces the point that the focus of any emission trading scheme should be on the end user, rather than the producer. If there is a focus on the producers, any adverse effect on competitiveness will need to be compensated.

In summary, AIP believes that any GHG emission quota system should be applied as widely as possible, not just to energy producers. There should be no rushed implementation of a 'trial' scheme, as there is ample time to work out a comprehensive scheme. This would allow time to develop mechanisms to involve the broader community usage in the quota system.

### 3.3.2 Allocation

The allocation of allowable emissions between nations is largely determined by the Kyoto Protocol, as least as far Annexe 1 countries are concerned. It needs to be remembered that emission restrictions, and any linked emission trading, will have little actual effect on global GHG emissions until non-Annexe 1 countries are included.

If countries do move to adopt emission trading, each country will have to establish its emission quota cap, or baseline, consistent with the emission target set by the Kyoto Protocol. The issue then is how to allocate these quotas.

GHG emissions represent property rights that already being used. Effectively existing emitters already own those rights. There is no justification to auction all quotas. Such a move would simply amount to taxation that would disadvantage industry, rather than a serious move to mitigate GHG emissions.

A key point to be considered is how to allow for economic change and consequent new demands for emission rights. New entrants will require access to an allocation of quotas, without being unfairly disadvantaged.

### 3.4 Administration and Policing

Any GHG emission quota system is designed essentially to control and limit emissions in line with Government objectives. Thus Government needs to oversee the system and police its working to ensure that its objectives are reached.

The use of a trading mechanism allows market forces to allocate the scarce resource of the quotas in line with economic efficiency criteria. Government should not intrude into the working of the trading operation. However Government needs to ensure that the property rights being traded are real. Without this assurance, no market can work.

The nature of the property right being transacted is the right to future emissions of GHG. The future nature of the transaction is not itself a problem. There are futures markets covering a wide range of standard commodities operating actively in a number of countries, including Australia. In these, market participants trade future deliveries of a commodity, or the right to buy or sell the commodity, at a future date. A common feature is the ability to finalise the transaction through actual delivery of the standard commodity, with no actual sourcing specified.

GHG emission trading will differ from this in one important aspect. What is being traded is not a commodity that can be delivered, but rather a commodity that must not be delivered by the seller – ie once the holder of the emission quota makes a sale, it must then not continue to make the emissions which were effectively covered by the quota. In effect, the value of the commodity being traded is derived from non-production of emissions. Thus for the market to place a value on the quotas, and so allow trading, there must be security that the non-production has actually eventuated.

This implies that there must be strong policing of the quota system and utilisation. Governments need to know that quota holders are not exceeding quotas, and that non-holders of quotas are not emitting GHGs. Holders/purchasers of quotas must be able to have confidence in the value of the quotas, both for trading and for accounting purposes.

The administration system must therefore encompass:

- documentation of quota
- issue of quotas at the start of a quota period
- recording of holders of quotas, and of changes in holders
- monitoring of emissions by holders and non-holders of quotas, with particular attention to sellers of quotas
- reconciliation of actual emissions against quotas held
- imposing of sanctions against violations of emission quotas

The key operations are the monitoring, reconciliation and sanctions.

Monitoring processes could include self-assessment based on agreed emission performance characteristics of equipment, metering of certain operations, and spot checks. The latter would be particularly important for sellers of quotas.

The reconciliation process could be used during a quota period, as well as at the end of the period. This would provide an early warning for operations that are over emitting, and likely to be in deficit.

Sanctions must work both to penalise entities trying to cheat the system (eg sell quotas but still emit), and to ensure that the overall quota targets are in fact maintained. One possible way to achieve this could be to have sanctions incorporate both financial penalties and a forced requirement either to purchase quotas to make up the deficit or to cut emissions in the future. However this would not solve the scenario when a seller of a quota operates until the end of the quota period and then shuts down. This also depends on there being sufficient liquidity of quotas in the quota trading market.

A final issue to be addressed is that of under-users of quotas. Companies may well have legitimate operational reasons to bank quotas for emissions some time in the future, beyond the end of the quota period. An example of this could be the need to ensure sufficient emission rights for a major long-term investment. The deferment of quota usage does not detract from the overall objective of mitigating overall global warming, and serves the useful purpose of aiding investment and business activity. Such rollover of unused emission rights to future periods should be built in to the system.

### **3.5 The Trading Mechanism**

Consideration needs to be given to the mechanism for trading.

AIP believes that Government should not be involved in the market operation itself, at least for national transactions. Other possibilities include established trading institutions that could offer the service. Companies could also trade directly off market. In addition, there should be mechanisms to allow Australian companies to purchase emission rights on overseas emission trading markets.

In all these mechanisms, the prime requirement should be for notification of the transaction to the administering body.

### **3.6 Treatment of Carbon Sinks**

The development of carbon sinks is a valid way to manage GHG emissions. In principle, therefore, carbon sequestration operations, such as tree planting, should be included in the quota trading program.

A difference needs to be established, however, between the active development of new mechanisms to act as carbon sinks, and general improvements in agricultural practices – ie improvements which lead to less emissions. Agricultural operations should have a general requirement, as other industries, to improve their emission performance.

There will be a need to establish the actual carbon sequestration effectiveness of the sink, and thus its quota value. Different trees have different effectiveness, and sequestration only occurs in the growing phase. Carbon is released back to the atmosphere when the tree is removed, decomposes or is destroyed (for example in a bushfire). Thus the quota value will need to recognise a time factor in carbon sinks.