



## Submission to the House of Representatives Standing Committee on Environment, Recreation and Arts Inquiry into

# THE REGULATORY ARRANGEMENTS FOR TRADING IN GREENHOUSE GAS EMISSIONS

### Executive Summary

The Department of Finance and Administration (DoFA) supports the development of a domestic greenhouse gas emissions and sinks trading system as one cost effective means of reducing greenhouse gas (GHG) emissions within a broader strategy for meeting Australia's international commitments under the Kyoto Protocol.

A domestic trading system<sup>1</sup> should be developed within an agreed framework of principles which integrate economic, social and environmental considerations, and which include the following:

1. The effective achievement of Australia's greenhouse gas emissions reduction objectives;
2. The maximisation of the potential economic benefits for Australia from international climate change commitments;
3. The establishment of a robust framework to provide reasonable certainty in the face of changing circumstances;
4. The development of a competitive market with integrity and credibility with all stakeholders; and
5. The minimisation of transaction costs and adjustment costs.

We examine key threshold issues for the design of a domestic trading system and provide the following recommends:

**Recommendation 1** The scope of any domestic trading system should be as comprehensive as possible, subject to the exclusion of sectors/GHG's where transaction costs exceed potential benefits, introduced incrementally as part of an overall integrated national greenhouse strategy covering all relevant sectors/sources.

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<sup>1</sup> This term is intended to refer to any domestic system of trading of GHG emissions permits and/or carbon sequestration credits.

**Recommendation 2** Any domestic trading system should seek to include as a priority:

- trade in carbon sinks, building on the Bush for Greenhouse initiative;
- those sectors/GHGs with least transaction costs; and
- those sectors/GHGs that are likely to be included in an international trading system.

**Recommendation 3** Any domestic trading system should be introduced well before the start of 2008-12 budget period under the Kyoto Protocol.

**Recommendation 4** Legal and administrative arrangements should be developed to create secure, clearly defined and tradeable carbon credits arising from the creation of carbon sinks.

**Recommendation 5** Any allocation of GHG emission permits based on grandfathering should be assessed to ensure that it provides net public benefits as required by the Government's National Competition Policy.

**Recommendation 6** A national approach to a single domestic trading system should be jointly agreed by Australian governments.

**Recommendation 7** The administration costs of any domestic trading system should be funded through transaction charges to users.

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## **I. Introduction**

This submission seeks to examine whether a domestic trading system in greenhouse gas (GHG) emissions would be of net benefit to Australia and to develop a framework of principles under which regulatory arrangements for trading in greenhouse gas emissions could be developed. The issues involved in actually designing regulatory arrangements for trading in GHG emissions are many and complex and their resolution needs to be based on an agreed framework of principles.

This submission has also addressed some key threshold issues in the design of regulatory arrangements:

- The scope of a domestic trading system
- Mechanisms to integrate emissions trading with the development of carbon sinks
- The allocation of permits to emit GHGs
- The roles and responsibilities of governments
- The financing of a domestic trading system

## **II. Considerations in Whether to Establish a Domestic Trading System**

### **1 International Experience and Current Developments**

Internationally the sulphur dioxide allowance trading in the US is the most significant trading system that is similar to a GHG emissions trading system. There are also various examples of major transferable fishing quota trading systems, such as those in New Zealand and Iceland. In Australia tradeable permit systems also operate: tradeable salinity rights in the Hunter River and Murray-Darling Rivers, transferable water rights, and individual transferable quotas in some fisheries. These systems have demonstrated the need for very careful design appropriate to the sectors and environment considerations involved. These systems have also demonstrated the need for the design of an emissions trading system to be robust enough for it to evolve. The systems need to be able to 'learn'.

With the growth of international knowledge and inclusion of international emissions trading in the Kyoto Protocol, there has been increased interest worldwide in domestic emissions trading systems. For instance:

- The US was a major proponent of international GHG emissions trading and has indicated that it is planning to develop a national trading system.
- As part of its domestic climate change response, Canada is currently examining issues involved in setting up a domestic trading system through a national consultation process with stakeholders.
- New Zealand has produced a major discussion document that concludes that an emissions trading system including carbon credits for sinks should be their major future domestic policy instrument to achieve their climate change targets.

## **2 Potential benefits in establishing a domestic trading system in Australia**

Establishing a domestic trading system in Australia will be no easy challenge, as is the case in the establishment of any significant and largely new policy instrument. However, such a system presents the opportunity to harness the power of markets to achieve economic gains for Australia and increase the certainty of meeting Australian commitments under the Kyoto Protocol through:

- reducing the costs of achieving emissions reductions through allowing industry the flexibility to find the least cost means of achieving them;
- establishing a clearly defined and transparent cap or caps on GHG emissions;
- improving Australia's competitive advantage by providing incentives for innovation and technical development to build more competitive industries in the post-Kyoto environment of binding commitments to reduce GHG emissions;
- facilitating access for Australian companies to any intercompany international trading to further reduce the costs of GHG emissions reductions; and
- influencing the development of the international trading system to include trade in carbon sink credits through the power of demonstration in a domestic trading system, so revenue can be accessed internationally to support revegetation in Australia.

For these reasons, DoFA supports the development of a domestic greenhouse gas emissions and sinks trading system as one cost effective means of reducing greenhouse gas (GHG) emissions within a broader strategy for meeting Australia's international commitments under the Kyoto Protocol.

### **III. Key Principles for a Domestic Trading System**

Prior to examining the particular issues involved in implementing a domestic trading system, it is important to develop a framework of principles to underpin the implementation of the system. These principles will need to be agreed prior to the development of any system and should guide its development.

DoFA considers that the following are the key principles that should underpin the development of a domestic trading system:

#### **1 The effective achievement of Australia's greenhouse gas emissions reduction objectives**

A domestic trading system would need to be integrated into a comprehensive GHG emission reduction strategy to effectively achieve Australia's GHG emission reduction commitments under the Kyoto Protocol.

#### **2 The maximisation of the potential economic benefits for Australia from international climate change commitments**

Potential economic benefits include reduced costs of emission reductions, competitiveness gains and revenue from international trading in carbon sinks (see discussion in section II.2).

### **3 The establishment of a robust framework to provide reasonable certainty in the face of changing circumstances**

Any system that is robust will allow a response to any changes in Australian policy or international commitments without significant financial cost.

A system that provides a reasonable level of certainty will promote investment and innovation to achieve reductions in GHG emissions at least cost. For example, economic uncertainty due to a lack of a clear definition of water rights has been considered a factor in limiting their trade and hence the resulting economic gains.

### **4 The development of a competitive market with integrity and credibility with all stakeholders**

Any restriction on competition will need to pass the public benefits test required by National Competition Policy.

The level of participation in the market will depend on its credibility and integrity. Stakeholder consultations and accountability mechanisms will be crucial in achieving this credibility and integrity.

### **5 The minimisation of transaction costs and adjustment costs**

Minimising transaction costs of emissions trading (ranging from the costs of measuring emissions to making a trade) has been identified as a key to a successful trading system from US experience.

## **IV. Key Issues in Designing a Domestic Trading System**

The terms of reference for this inquiry identify most of the major issues involved in the design of a domestic trading system. There are some further issues that could be added to this list:

- The scope of the domestic trading system
- The commencement date of any domestic trading system
- The definition of contracted arrangements under the domestic trading system
- The definition of the total volume of allowable net emissions over a particular period - the cap
- The financing of a domestic trading system.

All these issues will need substantial examination. In providing a submission to this Inquiry, DoFA has selected the critical threshold issues to comment on rather than attempting to provide a comprehensive submission on all the possible technical issues involved.

## 1 The scope of a domestic trading system

This is a threshold design issue for any domestic trading system. The scope of the system could vary from including one sector for one GHG, for instance covering CO<sub>2</sub> emissions in the energy sector, to including all sectors and GHGs covered by the Kyoto Protocol. It would also be possible to bring different sectors/sources into the trading scheme in a phased manner. It would, for instance, be relatively easy to include from the start CO<sub>2</sub> emissions arising from the burning of fossil fuels through a permit system covering coal and oil producers and importers. Other sectors/sources may be more problematic to include such as enteric fermentation producing CH<sub>4</sub> in the agricultural sector or land use change creating CO<sub>2</sub> and CH<sub>4</sub> emissions and could be considered once a domestic trading system is established.

Subject to transaction costs and efficiently working markets, economic theory would suggest that a trading system is likely to bring gains (in terms of reduced costs of achieving given emissions targets) for all sectors, even where an international trading system does not exist. If the market is larger, this will also be likely to increase competition and reduce the possibility of market distortions arising from a lack of participants (principle 4). Hence the largest possible scope, subject to transaction costs (principle 5), would be likely to provide the greatest economic gains to Australia (principle 2).

However it would seem to be impractical and potentially high risk to attempt to develop a comprehensive system from the start<sup>2</sup>. An incremental approach to developing a system with phased introduction of different sectors/GHGs would be most likely to result in achievement of emission reduction objectives (principle 1). This would also be consistent with developing a domestic trading system with credibility (principle 4). The first sectors/sources included in a domestic trading system could be those most likely to be successful. This would work to build credibility in the domestic trading system so that it could later expand into more administratively challenging sectors/sources.

In phasing in the system, it would be important to ensure that the system did not introduce economic distortions reducing the economic gains (principle 2) and did not create leakage of GHG emissions between sectors included in the system and those excluded thus jeopardising the achievement of GHG reduction objectives (principle 1). Distortions could arise if different sectors faced different costs per unit GHG emission. This could disadvantage a particular sector and/or lead to leakage of GHG emissions between sectors through investment shifting to the sectors with least GHG emission unit cost. These issues would need to be addressed through an integrated national greenhouse strategy covering all sectors which are sinks and/or sources of GHGs.

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<sup>2</sup> It should be noted that these issues of practicality and risk would not apply to the comprehensive establishment of an international intergovernmental trading system given established measurement methodologies at the aggregate level and that trading would be between governments.

**Recommendation 1** The scope of any domestic trading system should be as comprehensive as possible, subject to the exclusion of sectors/GHGs where transaction costs exceed potential benefits, introduced incrementally as part of an overall integrated national greenhouse strategy covering all relevant sectors/sources.

It would be necessary then to develop a phased approach to the development of the domestic trading system with clear priorities for initial development. This should be built on current initiatives, choosing sectors with greatest ease of administration, and hence least transaction costs (principle 5), and the need to influence the development of the international trading system through demonstration of successful carbon sink credit trading, to maximise economic gains for Australia (principle 2).

**Recommendation 2** Any domestic trading system should seek to include as a priority:

- trade in carbon sinks, building on the Bush for Greenhouse initiative;
- those sectors/GHGs with least transaction costs; and
- those sectors/GHGs that are likely to be included in an international trading system.

The above recommendations provide a broad approach to determine the scope. However there will be a need for substantial investigation, including economic modelling, to provide a basis for deciding on the final scope of, and timing for, the incremental introduction of different sectors/GHGs.

## **2 The commencement date of any domestic trading system**

Consideration will need to be given to the optimum date to introduce any domestic trading system. The budget period<sup>3</sup> for international commitments under the Kyoto Protocol is from 2008-12. However there would seem to be considerable advantages in introducing any domestic trading system earlier than this:

- It would provide time to establish the credibility of, and phase in, the domestic trading system in order to ensure that emission reduction targets are achieved (principles 1 and 4); and
- It would provide earlier signals and incentives for investment decisions that reduce GHG emissions more gradually and at less cost (principle 2) rather than having to achieve last minute significant and more expensive reductions to achieve targets.

**Recommendation 3** Any domestic trading system should be introduced well before the start of 2008-12 budget period under the Kyoto Protocol.

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<sup>3</sup> In this period, countries need to meet their emissions reduction target on average e.g. in the initial year they could not achieve their target as long as this is balanced in later years by exceeding their target.



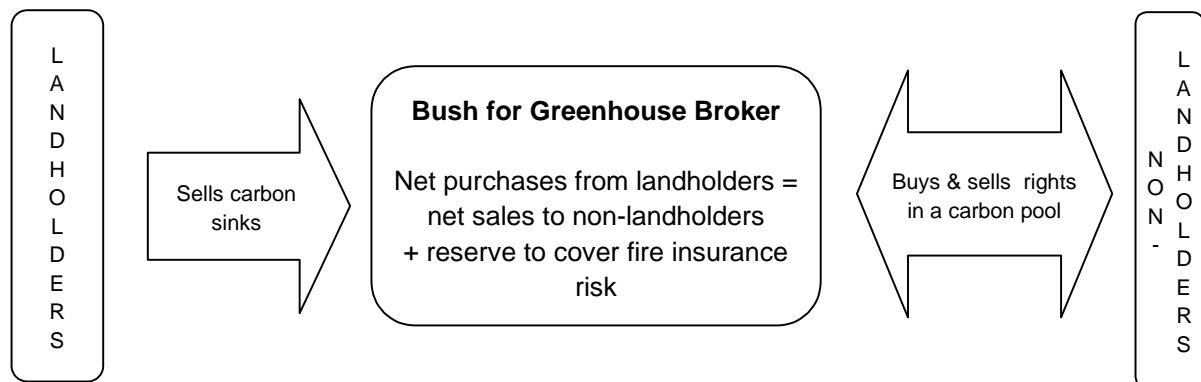
### 3 Mechanisms to integrate emissions trading with the development of carbon sinks

In considering integration of emissions trading with the development of carbon sinks, it is useful to distinguish between the development of carbon sinks and changes in land use. The first situation is limited to where specific action is taken, generally planting trees, to create a carbon sink. It could also be achieved through permanently dissolving increased amounts of CO<sub>2</sub> in the sea. The second situation involves the control of GHG emissions resulting from land use change and is similar to control of say CO<sub>2</sub> emissions from electricity production. It requires the creation of landuse change allowances for landholders linked to CO<sub>2</sub> emissions and the setting of a cap on total landuse change allowances allocated in a particular period.

We have already recommended that the inclusion of carbon sinks in a domestic trading system should be a priority (Recommendation 2). Such inclusion though must retain a credible market (principle 4). To achieve this, important issues need to be addressed including:

- National agreement on measurement methodologies for carbon sequestration;
- Work to encourage international<sup>4</sup> recognition of carbon sequestration methodologies; and
- The development of clearly defined and secure legal and administrative arrangements for the creation of tradeable carbon sequestration credits.

**Figure 1 Illustrative model for a carbon sink/land use change pooling system**



Work is already being undertaken by the Commonwealth on the issue of measuring carbon sequestration. The issues of legal and administrative arrangements need to be investigated. Models could range from the creator of the carbon credit being required to own land and plant trees to some form of agency or trust that would hold a portfolio of carbon credits from plantations and sell units in this holding (see Figure 1). An issue which would need particular attention is that of security given that carbon sinks, after planting, require management to retain their value and can be destroyed by fire.

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<sup>4</sup> Without international recognition these carbon credits would not be tradeable and hence the gains from the system would not be so great. However a national system could operate in isolation. The development of an effective national system could influence the acceptability of such a system internationally as discussed earlier.

**Recommendation 4** Legal and administrative arrangements should be developed to create secure, clearly defined and tradeable carbon credits arising from the creation of carbon sinks.

#### **4 Allocation of permits to emit greenhouse gases**

The possibilities for the allocation of permits to emit greenhouse gases range from a fully grandfathered<sup>5</sup> system to one where all permits are auctioned. These approaches can be combined through a percentage of permits being grandfathered and the balance being auctioned. Furthermore when permits are renewed, a greater or lesser percentage can be auctioned over time. It is important to note that even if grandfathering is used as a means of allocation, the available permits may not be sufficient to meet the demands of current emitters given that a cap will be placed on emissions by the number of permits provided.

In most systems to date, permits have been allocated on a grandfathered basis. This may be due to the need to reduce the resistance of the industry to the introduction of such schemes. However, it is questionable whether this is the most beneficial form of allocation. Such a basis of allocation would tend to discriminate against new entrants:

- New entrants may not find enough permits on the market to purchase as current holders may wish to prevent new entrants to preserve or create monopoly profits.
- The operating costs of new entrants would be higher given that they have to purchase permits which would create economic distortions through effectively providing a subsidy to current operators.

New entrants may also be more likely than current emitters to introduce new and innovative technology for reducing GHG emissions and hence grandfathering may discourage industry restructuring towards a less intensive GHG emitting sector. Furthermore, depending on the method, grandfathering can reward those operators which have taken least steps to date to reduce their emissions and create a disincentive for current emitters to take action to reduce emissions.

Overall limiting the grandfathering of permits should ensure that the market is more competitive consistent with principle 4.

**Recommendation 5** Any allocation of GHG emission permits based on grandfathering should be assessed to ensure that it provides net public benefits as required by the Government's National Competition Policy.

#### **5 Roles and responsibilities of governments**

DoFA considers that there is a need for a national approach for a single domestic trading system because it would:

- increase the certainty of achieving GHG emission reduction targets (principle 1) through providing a simpler unified mechanism;
- increase the scope for trading and hence the economic gains (principle 2); and
- create a larger and more competitive market (principle 4).

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<sup>5</sup> Grandfathering refers to the issue of permits to emit GHGs based on current patterns of GHG emissions.

Given the pervasive impacts of any domestic system, including on interstate trade, and the administrative requirements, this national approach should be agreed between all Australian governments.

**Recommendation 6** A national approach to a single domestic trading system should be jointly agreed by Australian governments.

## **6 Financing a domestic trading system**

Consistent with the polluter pays principle, we provide the following recommendation:

**Recommendation 7** The administration costs of any domestic trading system should be funded through transaction charges to users.