TASK GROUP ON EMISSIONS TRADING

ISSUES PAPER

Introduction

On 10 December 2006, the Prime Minister announced the establishment of a joint government-business Task Group on Emissions Trading. The Terms of Reference for the Task Group are as follows:

> "Australia enjoys major competitive advantages through the possession of large reserves of fossil fuels and uranium. In assessing Australia's further contribution to reducing greenhouse gas emissions, these advantages must be preserved.
>
> Against this background the Task Group will be asked to advise on the nature and design of a workable global emissions trading system in which Australia would be able to participate. The Task Group will advise and report on additional steps that might be taken, in Australia, consistent with the goal of establishing such a system."

In examining these issues, the Task Group is cognisant of the importance placed by the Terms of Reference on maintaining Australia's comparative advantage while delivering substantive emissions abatement. It intends to examine "what form an emissions trading scheme, both here in Australia and globally, might take to make a lasting contribution to a response to the greenhouse gas challenge, but in a way that does not do disproportionate or unfair damage to the Australian economy…." (Prime Minister's speech to the Business Council of Australia 13 November 2006).

In seeking to answer this important question the Task Group will undertake an extensive consultation process with domestic and international stakeholders to identify directions and principles for future efforts.

The Issues Paper provides the context for the work to be undertaken by the Task Group. It does not imply any particular view by the Task Group or its individual members. Rather, it sets out some of the relevant issues and questions on which the Task Group would value public comment. The Task Group is required to report to the Prime Minister by **31 May 2007**.

All submissions in response to this Issues Paper should be emailed to the Secretariat to the Task Group by **7 March 2007** at secretariat@emissionstrading.pmc.gov.au. Guidelines for submissions are available on the Task Group website (www.pmc.gov.au/emissionstrading). Submissions will be made available to the public via the Task Group website unless specifically requested otherwise.

Submissions may also be sent to:

Secretariat to the Task Group on Emissions Trading
c/-Department of the Prime Minister and Cabinet
PO Box 6500
CANBERRA ACT 2600

If you have any queries, please contact the Secretariat on telephone +61 2 6276 1075.

Context Setting

The increasing weight of scientific evidence[1] indicates that there is significant and damaging growth in the level of greenhouse gases arising from human activity. This will have a detrimental effect on the global environment and generate economic costs arising from adverse impacts on infrastructure and a range of industries, negative impacts on human amenity and degradation of ecosystems.

While debate continues about the precise scale, consequences and costs of climate change, and the scope for long-term adaptation to global warming, there is growing acknowledgment that governments, individually and collectively, should act to mitigate the emission of greenhouse gases. The warning signs cannot be ignored.

It is important to lay a foundation to deal with the problem over the generations ahead. The long-lived nature of greenhouse gases suggests that even stabilising the rate of new emissions will probably result in further increases in greenhouse gas concentration in the decades ahead. Restraining the extent of the increase in atmospheric concentration requires stabilising, and then reducing, emissions over the long term.

The Australian Government's immediate policy objective is to achieve its Kyoto Protocol target of limiting emissions to 108% of 1990 levels in the period 2008-12. While it is not an easy goal, the most recent estimates indicate that Australia is broadly on track to meet this target (see Chart 1 below). While the suite of climate change policy measures introduced by governments, and the actions of industry, have already played a role in reducing emissions, a key factor has been the impact of reducing landclearing (see Chart 2 below). This will not be repeated. Indeed, without further action, ongoing strong economic growth is expected to result in emissions rising to 127% of 1990 levels by 2020.

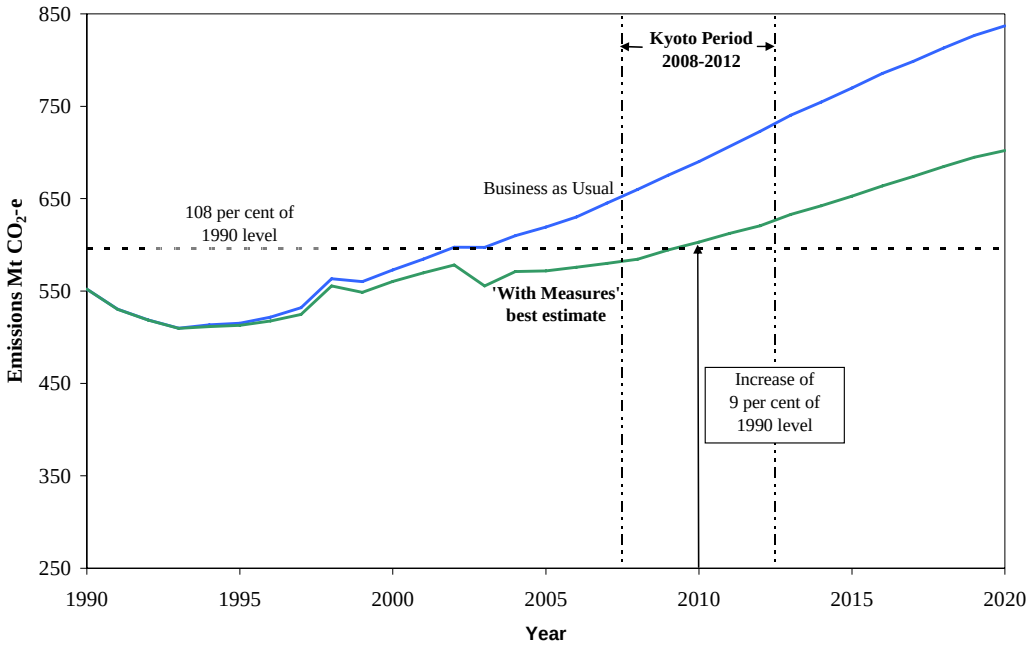
The size of the greenhouse gas abatement task confronting Australia is significant. To illustrate, consider Australia's demand for electricity. While energy consumption per unit of GDP is declining, economic and population growth and increasing reliance on electric-powered technologies are driving up demand for electricity. As a result, demand for electricity will more than double by 2050. Over this period, more than two-thirds of existing electricity generation will need to be substantially upgraded or replaced and new capacity added. The additional capacity will need to use technology with near-zero greenhouse gas emissions if Australia is to keep emissions from this sector at today's levels[2]. Significant effort will also be needed to restrain emissions in other sectors, especially transport. To the extent that we try to reduce emissions from current levels, the task will be even more challenging.

Other countries are also projected to experience a rise in emissions over the long term. It is a global challenge. Indeed Australia only represents around 1½ % of world greenhouse gas emissions. Effective solutions therefore require a global response.

[1] See, for example, the first volume of the Intergovernmental Panel on Climate Change (IPCC) Fourth Assessment Report "Climate Change 2007: The Physical Science Basis", published in February 2007. The IPCC is recognised by the Australian Government and other governments around the world as an authoritative source of scientific advice on climate change.

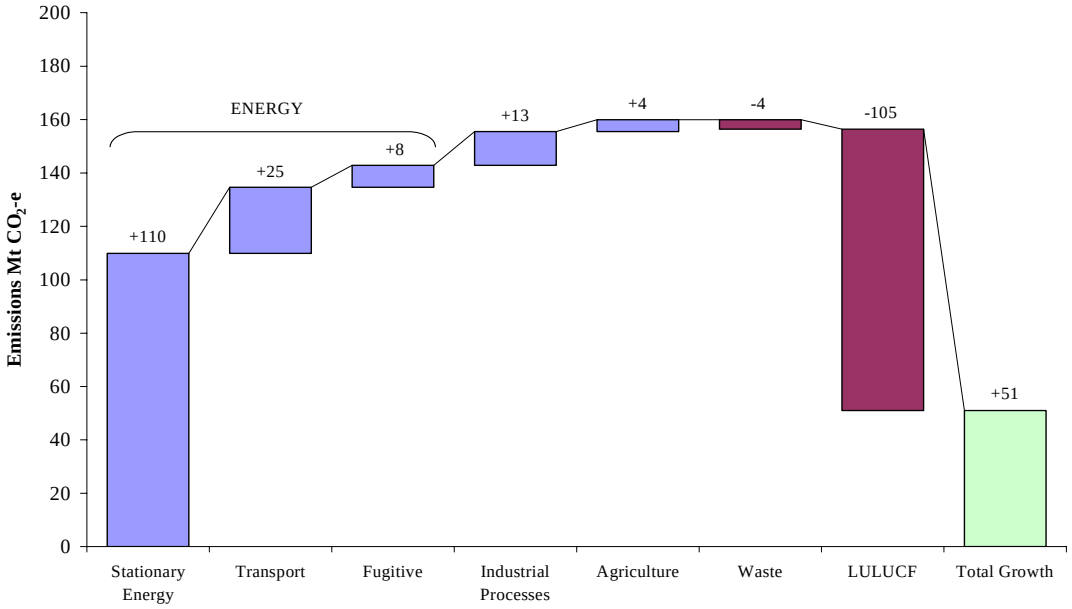
[2] Uranium Mining, Processing and Nuclear Energy (UMPNER) report to the Prime Minister – "Opportunities for Australia?".

Chart 1: Australian Projected Emissions



Source: 2006 Greenhouse Gas Emission Projections, Australian Greenhouse Office.

Chart 2: Sectoral contribution to Australian emissions growth 1990-2010



Source: 2006 Greenhouse Gas Emission Projections, AGO.
Note: Fugitive emissions are emissions from the extraction of coal, oil and gas. LULUCF stands for Land Use, Land Use Change and Forestry. It includes the one-off impact of reduced landclearing.

If the world is to stabilise and then ultimately reduce emissions, major emitting countries will need to introduce more stringent measures to restrain emissions. It will not be an easy task. While there are a number of measures available to reduce emissions which are either low cost or have a net economic benefit beyond emissions abatement, such as improving energy efficiency, reductions of the magnitude required will inevitably impose costs on industry and the community. It is perhaps not generally understood that the measures introduced to date by the Commonwealth and state/territory governments are already imposing a net carbon cost on the Australian economy.

As the Prime Minister has noted, policy settings should be designed by "looking at the evidence as it emerges and responding with policies that preserve Australia's competitiveness and plays to our strengths" (Prime Minister's address to the National Press Club 25 January 2007). Our dependence on energy exports and use needs to be recognised. A key question is how best to achieve the right balance and, in particular, to consider the extent to which emissions trading can set a framework which will allow the market to restrain energy demand and promote technological adaptation – including through possible retrofitting and use of cleaner coal-fired generation, gas, nuclear power and renewable energy sources.

In 2004 the Australian Government's Energy White Paper *Securing Australia's Energy Future*, identified emissions trading as a potentially least-cost approach to reducing emissions subject to an effective global approach being in prospect. The challenge, which is central to the Task Group's consideration, is how best to link international and domestic action.

To be sustained over time, any international climate change policy framework needs to be effective in delivering greenhouse gas abatement, politically acceptable to a majority of countries and robust to changing economic circumstances. In particular, it must allow countries – including Australia - to maintain their economic competitiveness and meet their development goals. The question is how to develop a framework that ensures that global emissions are reduced in the most efficient, equitable and practical manner.

Emissions trading is a more flexible market-based policy tool than imposing a carbon tax on industry. It requires emitters to hold permits that provide the right to emit a certain amount of greenhouse gases and allows them to buy and sell permits in an open market. Such a system works because only enough permits are allocated to ensure total emissions are curtailed over time, and industry uses the open market to discover the lowest cost ways of reducing emissions. A tradeable permit market creates an explicit carbon price signal which allows business greater certainty in taking long term investment decisions and allows for the development of financial instruments to manage risk.

The latest forecasts by the International Energy Agency (IEA)[3] indicate that fossil fuels will continue to play a significant role in meeting global energy demand for the foreseeable future. It is likely that lower emission technologies, including those based on cleaner use of coal, will cost more than those currently in use. A carbon price can play a useful role in encouraging the commercial deployment of 'greener' technologies. It is not necessarily sufficient, however, to deliver an appropriate level of research and development. It will be important to assess the extent to which emissions trading will stimulate research and development of lower emissions technology and whether other complementary policy measures will be needed.

To be fully effective, a global emissions trading scheme would need to be underpinned by an international framework which is able to generate broad-ranging support. Within the United Nations Framework Convention on Climate Change (UNFCCC), developed countries have agreed to take the lead on reducing their emissions. However, rapid growth in key developing countries, such as China and India, means their emissions are forecast to account for more than half of global emissions before 2030.

There is not yet agreement to launch negotiations on a post-Kyoto international framework that would include broad-ranging commitments. European and a number of other developed countries have indicated a preparedness to take on further

[3] International Energy Agency World Energy Outlook November 2006

commitments, but that this should be accompanied by the development of a pathway by which major developing countries would make contributions to the overall global effort to cut emissions. In order to achieve this, it will be important to ensure that restraining emissions in developing countries does not threaten their economic growth and development prospects.

Taken together, three main criteria appear to emerge as being important to developing an effective approach to addressing climate change. Any policy solution must be:

- environmentally effective – it should result in an acceptable global environmental outcome;
- economically effective – outcomes should be achieved at the lowest possible costs and should minimise distortionary impacts; and
- politically acceptable – it should be capable of attracting sufficient support internationally, including the participation of developing nations.

Questions for Consideration

1. What are the implications for Australia of a carbon constrained future?
2. What are the elements likely to affect the cost of reducing emissions over time and how might these develop?
3. To what extent is Australian industry currently factoring a carbon price into investment decisions? How can longer term investment certainty be improved?

A workable global emissions trading scheme

The framework for the international post-2012 climate change response will need to emerge from ongoing discussions. However, it is generally accepted that market-based mechanisms should feature as part of any new framework.

There is a range of possible models for an emissions trading scheme. These include cap and trade, baseline and credit, and hybrid schemes with cost capping and other variations. Each of these models may have implications for the design of the broader international framework. For example, a cap and trade or baseline and credit scheme would require agreed targets, while other models may require international agreement on prices or other parameters.

The emissions trading scheme envisaged within the Kyoto Protocol cannot be considered to be a truly global trading scheme. It has limited coverage and impact. Nevertheless it contains a number of provisions that are relevant to the consideration of a possible future global scheme.

A central feature of the Kyoto Protocol is an international cap and trade scheme based on agreed national targets or caps for developed countries. Developing countries have no targets, but can generate emissions credits via joint projects with developed countries that are assessed as reducing emissions relative to business-as-usual (the so called 'Clean Development Mechanism').

The Kyoto Protocol provides a basic framework for participating governments to link compatible domestic trading schemes to create a larger and more liquid (and hence more cost effective) market[4]. This is the approach adopted by the European Union (EU) for member states under its trading scheme.

One possible global approach would be a single trading scheme operating at the enterprise level across all participating countries and administered by an international operator according to agreed rules. While a single system ensures equality of treatment for all firms in a given industry, it would be administratively complex and less able to deal with different national circumstances. It is unlikely, however, that a comprehensive international agreement to support such a scheme will emerge in the near future.

To reflect important differences between the economic bases and political aspirations of different countries, a global model might possibly evolve from a set of national and regional schemes with different characteristics and rules linked by national decisions to accept a foreign permit or credit towards meeting a domestic emissions liability.

There may also be a range of bilateral and multilateral arrangements to promote the development and transfer of cleaner technology between nations. Already Australia is playing a key role in this regard through its participation in the Asia Pacific Partnership on Clean Development and Climate (AP6) and the establishment of an Australia-China Joint Coordination Group on Clean Coal Technology.

Considerable economic and political investment has been made in existing emission trading schemes and this would suggest they will remain a significant part of the emerging international market architecture.

Questions for Consideration

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?
2. How have existing emissions trading schemes delivered against key desirable design elements? What problems have emerged?
3. Does the inclusion and design of a global emissions trading scheme have implications for the broader international climate change framework?
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

[4] Subject to meeting specified criteria designed to ensure the integrity of the overall trading system.

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?

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?

Domestic action to prepare for a workable global scheme

The Terms of Reference require the Task Group to advise and report on additional steps that might be taken, in Australia, consistent with the goal of establishing a workable global emissions trading system. A key issue to consider is whether the introduction of a domestic emissions trading scheme is consistent with such a goal, including in advance of a comprehensive global system being in place. Key judgements include:

- how to ensure that any domestic scheme maintains Australia's competitive advantages particularly in relation to its resource base, including the implications of different design features;
- the impact on broader economic performance, including in relation to investment decisions and business certainty and confidence;
- the economic and environmental effectiveness of any emissions trading scheme relative to other existing and likely domestic climate change policy responses; and
- the opportunity for Australia to exert influence on the development of a global scheme.

Other domestic initiatives might also exist which could also help prepare Australia for the emergence of a workable global emissions trading system. For example, accurate information on national emissions at a disaggregated level would seem to be an essential pre-condition for the effective operation of any trading scheme.

Other policies may be worth pursuing even if a trading scheme was only perceived as feasible in the long term. For example, measures to improve end-use efficiency might help reduce the rapid growth in emissions from the energy sector. Policies that promote the development of low emissions technologies can also potentially reduce the cost to the economy of carbon constraints imposed as part of a global emissions trading system by increasing the availability of feasible abatement options.

Questions for Consideration

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?
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.

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

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?

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

Other Measures

Australian governments have already been active in seeking to mitigate the level of greenhouse emissions produced in Australia and to promote adaptation to the consequences of climate change (particularly water use). Indeed the current suite of climate change policies in Australia includes a large number of measures with a variety of objectives. Some programmes are targeted substantially at directly reducing emissions, including by purchasing abatement. A range of regulatory requirements and grant programmes also provide significant support to renewable energy technologies in various applications, including through mandating the use of renewable energy in electricity generation.

The Commonwealth government has also committed significant expenditure to the research, development and demonstration of low emissions technologies.

As a result of such measures – which involve government working with industry and the community – Australia is on target to reduce greenhouse gas emissions by 87 million tonnes per year by 2010. It is anticipated that greenhouse emission intensity in the Australian economy will have fallen by 45% between 1990 and 2010.[5]

[5] "Tracking to the Kyoto Target 2006", Australian Greenhouse Office.

Given the scale of the challenge faced there is no room for complacency. Market-based approaches will generally reduce emissions at a lower cost than other interventions. Indeed some policies provide only modest abatement at relatively significant cost, both in terms of direct budgetary impacts and regulatory cross subsidies from electricity consumers. The multiplicity of programmes between jurisdictions, including the significant degree of overlap, has been raised as a key cost and compliance issue for business and the economy. Introducing a national emissions trading scheme creates the potential for rationalising some existing climate change measures.

Low emissions technologies are widely regarded as critical to achieving large reductions in greenhouse gases, both globally and within Australia. These technologies include prospective renewable energy technologies and those aimed at reducing emissions from fossil fuel energy generation (given the continued importance of these fuels for many years to come). A key issue for Australia is the extent to which the current suite of expenditure measures promotes in the most cost effective way the commercial deployment of low emissions technology and, in particular, whether a market price signal would assist in this regard. It will also be important to understand whether emissions trading might facilitate further investment in research, development and demonstration of low emission technologies.

Another important judgement is the extent to which the introduction of direct price signals will overcome the information and knowledge barriers associated with the adoption of energy efficiency technologies.

Questions for Consideration

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