WHERE DO WE GO FROM HERE? EMISSIONS TRADING UNDER THE *KYOTO PROTOCOL*

MICHAEL JEFFERY QC*

I INTRODUCTION

With the collapse of the Sixth Conference of the Parties to the *United Nations Framework Convention on Climate Change* ('COP 6') in The Hague in November of last year, followed shortly thereafter by the election of George W Bush as President of the United States ('US') and his subsequent repudiation of the *Kyoto Protocol to the United Nations Framework Convention on Climate Change* ('*Kyoto Protocol*')[1] in March of 2001, the prospect of a flourishing global market for emissions trading under the provisions of the *Kyoto Protocol* suffered a significant setback.

Amid the debris, however, there is a growing number of pragmatists, this writer included, who are not yet ready to abandon hope for a concerted and focused international response to the threat posed by global warming. Notwithstanding the US Government's position, it appears certain that emissions trading will continue to develop and expand in some form as the business and industrial sectors seek more cost-effective ways of reducing greenhouse gas emissions in the years ahead.

The purpose of this short paper is, therefore, to examine the efficacy of emissions trading and its use as a market-based mechanism – it is one of the three 'flexibility mechanisms' set out in the *Kyoto Protocol* – and to consider how an effective emissions trading regime might be developed in the event that the *Kyoto Protocol* is never ratified, a distinct possibility in the wake of apparent US intransigence on the part of both the Bush Administration and the Republican-controlled Congress.

In the last few years there has been a relatively rapid increase in the number of jurisdictions incorporating some form of emissions trading as part of a domestic regulatory regime for the purpose of facilitating the achievement of a particular environmental objective. This leads one to believe that this type of approach will continue to gain favour, whether or not the comprehensive *global* trading regime envisaged under the *Kyoto Protocol* is realised. As a starting point, it should be

* Professor of Law and Director of the Centre for Environmental Law, Macquarie University, Australia.

1 Opened for signature 16 March 1998, 37 ILM 22.

noted that market-based incentives in general and emissions trading in particular, evolved long before the events leading up to the signing of the *Kyoto Protocol* in 1997 and there is now considerable evidence to suggest that such mechanisms will continue to form an increasingly important component of most environmental regulatory regimes at the domestic, regional, or international level.

II BACKGROUND

As early as 1974, the US Environmental Protection Agency began a program whereby companies that reduced emissions below the level required by law received credits which could be used to allow greater emissions elsewhere. Under programs of 'netting and bubbling', companies have been allowed to trade emissions reductions among internal emissions sources, so long as total emissions comply with aggregate limits. Offset programs initially allowed companies that wished to establish new sources of emissions, not compliant with ambient air standards, to offset their new emissions by reducing existing emissions by a greater amount. These offsets gradually expanded from different plants within the same company to include offsets between different companies. Emissions trading received a significant boost in the late 1980s when the US Congress reacted to increasing sulphur dioxide emission levels by placing an overall restriction on power plant emissions nationwide. Coal-fired power generators were given the choice of investing in cleaner fuels (ie, pollution control technologies) or buying emission rights from plants that had excess emission rights to sell. This permitted older and less efficient plants to meet their regulatory requirements at a lower cost whilst effecting an overall reduction in sulphur dioxide emissions.[2]

The logical extension of these initial programs would be to establish a system of marketable emission permits. Under such a system all major pollution sources of defined pollutants within a given 'air shed' would be required to have permits specifying the amount of pollution they are allowed to discharge. Companies which are able to reduce discharges to below their permit levels would be allowed to sell their surplus to other companies. On the other hand, companies for whom compliance is relatively costly could choose instead to purchase additional permits or credits to remain compliant. Over time, a reduction by a specified percentage of overall emissions, or expressed another way, a reduction in total 'loading' of defined pollutants from all sources, would be required by law with the result that total emissions would decrease over time.

The principal advantage to participants in such a scheme would be to allow individual polluters to choose their own best cost-efficient strategy for pollution control. Companies would be allowed to trade emission permits, giving them a right to emit a certain quantity of pollutants, or they could pursue other

2 See Title IV of the *Clean Air Act*, 42 USC s 7401 (1977) as amended, which cleared the way for trading sulphur emissions among 110 power plants in the US.

production or abatement strategies that reduced their emissions, whichever would be the most cost effective. In short, each company would be left to decide whether, for that particular corporation, it would be cheaper to reduce emissions or to buy additional permits on the open market. Normal market forces such as supply and demand would determine permit price.[3]

Tradeable emission permit schemes introduced in recent years in Australia include those associated with the Bluefin tuna trading rights, water rights in the Murray-Darling Basin and the Hunter River salinity trading scheme.[4]

III EMISSIONS TRADING UNDER THE *KYOTO PROTOCOL*

During the negotiations leading up to the signing of the *Kyoto Protocol*, the inclusion of emissions trading was strongly supported by the US and equally strongly opposed by the European Union ('EU') and some non-government organisations. A compromise brokered by the United Kingdom resulted in art 17, which left most of the principles and mechanics of precisely how such a regime would operate to future negotiations. Nevertheless, the mere prospect of a global emissions trading regime led many developed countries to quickly develop and establish emission trading systems designed – to the extent possible in the absence of defined rules and guidelines – to be compatible with whatever international emissions trading scheme ultimately evolved under the *Kyoto Protocol*.

The COP 6 negotiations failed to obtain agreement on the precise rules and guidelines necessary to develop and/or implement emissions trading under art 17. However, there has nevertheless been substantial agreement on the essential elements which must be addressed to provide the appropriate infrastructure for emissions trading on an international scale among those countries interested in pursuing this option. These include an appropriate method of measuring, monitoring, reporting and verifying emissions by sources, and 'sequestration' of greenhouse gases (particularly carbon dioxide) by sinks. Likewise, on the domestic front a number of key issues have been identified concerning the licences or permits to be issued by a government to meet its international commitments under the *Kyoto Protocol*. These include settling the parameters surrounding permit allocation, permit acquittal, permit design, structure of the market in which the unit is being traded and the legal nature of the unit being traded.[5]

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3 One of the most prominent of these early emissions trading schemes was that established in Southern California to reduce the smog and emissions that caused acid rain.

4 See Michael Hinchy, Brian Fisher and B Graham, *Emission Trading in Australia: Developing a Framework*, ABARE Research Report No 90.1 (1998) 2; See also L Dobes, 'Trading Greenhouse Emissions: Some Australian Perspectives' (Occasional Paper No 115, Bureau of Transport Economics, 1998).

5 See Australian Greenhouse Office, *National Emissions Trading: Designing the Market*, Discussion Paper No 4 (1999): See also Brian Fisher and Stuart Beil, 'The Role and Future of International Emissions Trading', in Australian Department of Foreign Affairs and Trade, *Trading Greenhouse Emissions: An Australian Perspective* (1998) xvi, xvii.

Of equal importance will be the need to ensure that credits generated through the Clean Development Mechanism ('CDM') and Joint Implementation ('JI') will be readily substituted for nationally traded permits (or units) and ultimately Assigned Amount Units ('AAUs') under the *Kyoto Protocol*. As is the case with all trading regimes, there will be the need to establish a strong compliance system. Experience with domestic commodity markets has shown that that they cannot function efficiently in the absence of a clearly defined set of rules and a high degree of certainty and credibility, which necessarily involves strict enforcement of both rules and obligations. In addition there must be clearly defined legal consequences for violating rules and obligations as a deterrent to deviant behaviour.

Most of the emissions trading activity that has occurred to date has involved primarily the land-based sequestration side of the carbon cycle, namely carbon credits arising from sinks in accordance with the limitations set out in art 3.3 of the *Kyoto Protocol*. As a result, much of the debate surrounding both the CDM and the emissions trading provisions under the *Kyoto Protocol* has focused on whether sinks should be included within the CDM and the degree to which emission credits can be used to offset domestic greenhouse gas reduction efforts of the countries listed in Annex I of the *United Nations Framework Convention on Climate Change* ('*UNFCCC*').[6]

Inasmuch as the *Kyoto Protocol* itself has little to say on the creation and development of markets for trading in emissions credits, it is useful to examine the type of emissions trading that has occurred in those jurisdictions where some form of carbon trading has taken place. Historically, at least in the domestic arena, commodity markets normally undergo a series of steps in their development which ultimately result in a sophisticated trading regime interfacing with a public commodities exchange. These steps have been sequentially described as follows:

(1) direct bi-lateral swaps between a buyer and seller;[7]
(2) over-the-counter trading whereby sellers provide details of what they are offering and buyers react by judging the inherent risks involved, which, in part, determines price;[8]
(3) the product being traded and becoming standardised and fungible with the other elements of a public trading system, including independent verification, accounting and documentation standards, electronic depositories, etc; and
(4) continuous trading, with market bid and offer prices moving with supply and demand.

New South Wales ('NSW') was one of the first jurisdictions to formally embrace the concept of a global carbon credit emissions trading scheme. In

6 Opened for signature 4 June 1992, 31 ILM 849 (entered into force 21 March 1994).

7 By way of example, the initial two transactions between NSW State Forests and Delta Electricity and Pacific Power would be categorized as bi-lateral swaps.

8 In these instances brokers are usually involved, although unlike a public securities exchange there is little transparency and determination of the price by the market itself.

November 1998 it enacted the *Carbon Rights Legislation Amendment Act 1998* (NSW), giving State Forests of NSW and public electricity utilities the statutory mandate to own or trade in carbon sequestration rights. The Act also allows State Forests to act as a service provider in establishing and managing planted forests, and providing carbon sequestration verification and carbon accounting services. In addition, the legislation permitted the registration of a carbon sequestration right over land separate from the registration of a forest right, and the owner of the right may now use the benefits related to the right (eg, carbon credits) independent of the landowner.

The initial work done by the Sydney Futures Exchange following the signing of the *Kyoto Protocol* in attempting to develop the world's first exchange-traded market for carbon sequestration credits provides a good example of an evolving *public* market for emissions trading.[9]

In a somewhat parallel development, the European Commission published a Climate Action Plan[10] and a Green Paper[11] in March 2000 and plans to commence emissions trading within the EU by 2005. The first European emissions trading scheme was legislated by Denmark and approved by the European Commission on 29 May 2000. This set up a limited trading system for carbon dioxide quotas between the country's largest electricity producers.

IV CONCLUDING COMMENTS

There is little doubt in this writer's mind that the use of market-based mechanisms such as emissions trading will continue to develop for a number of compelling reasons. Climate change is fast becoming the environmental lightning rod of the new millennium and pressure is building on governments around the world at grass roots level to stop wrangling about the problem of greenhouse gas emissions and move on to address it with concerted action.

Even reluctant governments such as the Bush Administration in the US – considered by many to be a hostage of the business community, and in particular the energy industry – may find themselves at odds with the very sector they purport to protect, for *it is the business community itself* that sees the financial opportunities inherent in an emissions trading regime that ultimately could span the globe.

There now appears to be a determined effort on the part of several countries, most notably those of the EU bloc, Japan, and to a more limited extent Australia, to persuade the US that even if it is not prepared to ratify the *Kyoto Protocol*, it

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9 For a concise overview of carbon sequestration trading, including market evolution, see David Brand, 'Carbon Sequestration in Forests as Part of an Emissions Trading Regime' (Paper presented at the Emissions Trading Conference, Sydney, 12-13 July 1999).

10 European Commission, *Communication from the Commission on EU policies and measures to reduce greenhouse gas emissions: Towards a European Climate Change Program (ECCP)* (2000).

11 European Commission, *Green Paper on greenhouse gas emissions trading within the European Union (the EU Green Paper)* (2000) <http://europa.eu.int/comm/environment/docum/0087_en.htm> at 17 June 2001.

should not seek to prevent the other signatories from moving forward with a coordinated regional (if not global) response to reduce greenhouse gas emissions in accordance with agreed targets.

Outraged by the failure of the US to embrace the *Kyoto Protocol*, the emerging strategy of many nations is to explore ways of reaching a strong consensus with other countries which see significant benefits to be derived from the ratification and entry into force of the *Kyoto Protocol*, either as it stands or with some modifications. Rather than attempting to reverse the US position, there is a growing realisation that their efforts over the next few months could be better spent on evaluating and developing, both individually and collectively, those elements of the *Kyoto Protocol* which will reduce the burgeoning costs associated with greenhouse gas reduction, in order to achieve their agreed targets. It is in this context that emissions trading will continue to remain at the forefront of the economic market-based incentives endorsed by the vast majority of domestic environmental regulatory regimes, including that of the US, regardless of the fate of the *Kyoto Protocol*.

Faced with increasing energy costs and the need to develop cleaner technologies, the business communities of developed countries will seek to avail themselves of those mechanisms that provide an economic incentive to reduce emissions at a lower cost than otherwise would be the case. It is primarily for this reason that emissions trading will continue to develop on a limited scale both domestically and regionally as various groupings of countries struggle to come to terms with the most serious environmental threat in our history.