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Carbon Emission Trading: A Critique

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Introduction

In December 2007, the Australian Government ratified the *Kyoto Protocol*, and as a result the necessary national response to the obligations of the *Protocol* emerged in the form of the Exposure Draft of the Carbon Pollution Reduction Scheme (CPRS) legislation. The CPRS proposes an emissions trading scheme utilising a “cap – and – trade” system where the cap is slowly reduced on the quantum of green house gas (GHG) emissions permitted annually expressed as equivalent carbon dioxide emissions.

Such a system involves the creation of Australian Emission Units (AEUs) which will be issued by the proposed Australian Climate Change Regulatory Authority to industry equaling the annual permitted cap on carbon dioxide emissions. Some industries may have more AEUs than required and will trade those permits to other industries that do not have an adequate number of AEUs. This is the fundamental nature of the carbon permit trading market that is proposed in the CPRS.

The following section of this paper examines the relevant components of the CPRS as set out in the Exposure Draft, and the emerging fragile relationship with land property rights.

CPRS and Property

The proposed CPRS legislation released by the Department of Climate Change as an Exposure Draft on 10 March 2009 by Senator the Hon Penny Wong, Minister for Climate Change and Water responds to Australia’s anticipated carbon dioxide equivalent emissions over the period 2012 – 2020. In this period the Department of Climate Change suggests that emissions in 2012 will be at an average of 108% of 1990 levels and rising in 2020 to 120%². The Department states that for Australia to

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² Department of Climate Change (2009), Exposure Draft of the Carbon Pollution Reduction Scheme Bill 2009: Commentary, (Canberra), 8.

meet its *Kyoto Protocol* target of limiting emissions, a “comprehensive response to climate change”³ is needed and that Australia:
*...is well placed to provide the necessary financial services to support developing carbon markets in the Asia-Pacific region.*⁴

Increasing Australian levels of GHG since 1995 reveal there is “considerable momentum in national emissions”⁵ and unsurprisingly the proposed CPRS is the critical tool for the Government necessarily to manage “the transformation to a low-carbon economy”⁶. Arguably, the proposed AEU and the associated trading scheme create a form of “new property”⁷ given established notions of property are of little relevance in the current carbon constrained environment. According to Boydell *et al*, AEU as “new property” are a form of right hitherto unknown in Australian property law, allowing:

*...the commodification of the ‘right’ to pollute the environment. Conceiving this right accurately could have implications on the future institutional arrangements of governments.*⁸

Confounding this collision between climate change and property law, the CPRS Bill adopts at *Clause 240* a definition of *carbon sequestration right* for Torrens system land which states *inter alia*:

*...the person has the exclusive legal right to obtain the benefit (whether present or future) of sequestration of carbon dioxide by trees to which the [reforestation] project relates...*⁹

Further, the above proposed definition is expanded by the following:

*...in determining whether a person has the exclusive legal right to obtain the benefit (whether present or future) of sequestration of carbon dioxide by trees to which a reforestation project relates, it is immaterial whether that right extends to sequestration of carbon dioxide by the soil in which the trees are growing.*¹⁰

This breathtaking definition of carbon sequestration right conveniently ignores the historic legal nexus between the ownership of the elemental land property right and all things in or on that land, such as the living fibre of vegetation (trees). The definition does not explain how the right to carbon in the living fibre will be crystallised out of the land property right. A number of States have adopted *profit a prendre*¹¹ as a basis for the right to carbon, however this action offends the common law notion of land property, and is fundamentally flawed.

³ Department of Climate Change, 8.

⁴ Department of Climate Change, 8.

⁵ Department of Climate Change, 8.

⁶ Department of Climate Change, 8.

⁷ Boydell, S., Sheehan, J., Prior, J., & Hendy, S., (2009) “Carbon Property Rights, Cities and Climate Change”, in J.-J. Helluin (ed.) *Proceedings of 5th Urban Research Symposium – Cities and Climate Change: Responding to an Urgent Agenda* (16)(Marseilles, France: World Bank), 9.

⁸ Boydell, 9.

⁹ *Part 10 Division 14 Clause 240 (1)(e) Carbon Pollution Reduction Scheme Bill, 2009* (Exposure Draft).

¹⁰ *Part 10 Division 14 Clause 240 (8) Carbon Pollution Reduction Scheme Bill, 2009* (Exposure Draft).

¹¹ A right to go on another’s land and take produce from it, as by logging, mining, drilling, grazing animals, etc.

Underpinning the definition of carbon sequestration right is the notion of a *forest stand* which is defined as a stand of forest where:

- (a) *under the regulations, the stand is taken to have been established by means of direct, human-induced methods; and*
- (b) *the stand occupies an area of land of 0.2 hectares or more; and*
- (c) *the stand consists of trees that:*
 - (i) *have attained, or have the potential to attain, a crown cover of at least 20% of the area occupied by the stand; and*
 - (ii) *have reached, or have the potential to reach, a height of at least 2 metres; and*
- (d) *on 31 December 1989, the area occupied by the stand was clear of trees that:*
 - (i) *had attained, or had the potential to attain, a crown cover of at least 20% of the area occupied by the stand;*
 - (ii) *had reached, or had the potential to reach, a height of at least 2 metres; and*
- (e) *the stand meets such other requirements (if any) as are specified in the regulations.*¹²

However, this definition of *forest stand* is expanded by the Commentary to the Exposure Draft which states at paragraph 6.30 that:

*It is envisaged that the regulations will specify requirements going to the calculation and reporting of net greenhouse gas removals, including that the trees comprising a forest stand be established at the same time within a single encompassing boundary (and excluding all non forest stand areas) and are of the same (set of) species and are subject to the same management regime.*¹³

Given biologically diverse stands of vegetation may arguably have a greater capacity for carbon sequestration than a mono species stand, the requirement that a forest stand should contain the same species is somewhat curious. Clearly, further detailed scientific investigation is required before a mono species regime is adopted, to ensure that greater harm is not actioned upon the natural environment.

The CPRS Bill in the outline to *Part 10* states at *Clause 190* that the number of free AEU's will be determined by the "net total number of tonnes of greenhouse gases"¹⁴ which are removed by each reforestation project subject to the unit limit determined by the Australian Climate Change Regulatory Authority. Of concern, the International Accounting Standards Board (IASB) had already withdrawn in March 2005 its accounting standard for the attribution of forest-derived GHGs which utilised sequestration levels of 40%, 60% and 80% nett tradeable carbon respectively in the three forest classifications¹⁵. The IASB withdrew the accounting standard reportedly:

*...as a result of pressure from the European Union and other international bodies, expressing concern that the document was unworkable.*¹⁶

¹² *Part 1 Section 5 'Forest Stand', Carbon Pollution Reduction Scheme Bill, 2009 (Exposure Draft).*

¹³ Department of Climate Change (2009) Exposure Draft of the Carbon Pollution Reduction Scheme Bill 2009: Commentary, (Canberra) 168.

¹⁴ *Part 10 Division 1 Clause 190 Carbon Pollution Reduction Scheme Bill, 2009 (Exposure Draft).*

¹⁵ Gelonesi, Antonio (2007) *Carbon Accounting Standard for Planted Forests*. Paper prepared for the World Business Council for Sustainable Development (26 February).

¹⁶ *The Australian Financial Review* (2007) "Accounting for carbon credits is still a grey area (26 September) Special Report Sustainable Investments, 8.

Clearly, the approach adopted at *Clause 190* is problematic given continuing absence of scientific clarity.

At *Clause 195(2)* the Bill requires that the issue of a certificate of reforestation only be issued if the Applicant holds “the carbon sequestration right in relation to the project”¹⁷. The unclear nature of the right to carbon in vegetation crystallised out of the elemental land property right denies the Authority the capacity to ascertain that the right to carbon is held as asserted by any applicant. The capacity of the Authority to satisfy itself as to the fundamental nature of the right to carbon asserted by any Applicant, will be severely limited by the resources of the Authority. Sequestration through reforestation throughout the Australian continent requires a level of accuracy in mapping of vegetation, species identification and biomass assessment which is currently not possible.

Further, at *Clause 240(1)(e)* it is proposed in the Bill that a carbon sequestration right in Torrens system land will be held by:

*...the person [who] has the exclusive legal right to obtain the benefit (whether present or future) of sequestration of carbon dioxide by trees to which the project relates...*¹⁸

The common law concept of land property has not been approached correctly in this *Clause* which purports to identify an exclusive legal right to the benefit of sequestration. Legislation in the Australian States variously attempt to distil such a right out of the elemental land property right, however, as previously mentioned the general basis used is *profit a prendre* which is neither exclusive nor correct in application for this purpose.¹⁹

The use of the terminology “exclusive” in *Clause 240(1)(e)* highlights the poorly understood nature of the carbon sequestration right in vegetation, which currently lies firmly with the landowner. This area of *Part 10* is significantly flawed, further confounded by the disparity between the States in adopting either a *profit a prendre* or a statutory carbon right in land.²⁰

Hepburn points out that by the adoption of disparate concepts of carbon rights rather than a clear universal statutory interest, Australia has moved to a complicated position which now:

*...depends heavily upon a rigorous regulatory framework.*²¹

Adding further complexity to this situation, the CPRS Bill states at *Clause 240(8)*:

For the purposes of this section, in determining whether a person has the exclusive legal right to obtain the benefit (whether present or future) of sequestration of carbon

¹⁷ *Part 10 Division 3 Clause 195(2)(b) Carbon Pollution Reduction Scheme Bill, 2009* (Exposure Draft).

¹⁸ *Part 10 Division 14 Clause 240(1)(e) Carbon Pollution Reduction Scheme Bill, 2009* (Exposure Draft).

¹⁹ In Western Australia the *Carbon Rights Act 2003* (WA) created a new statutory land interest rather than adopt the pre-established common law notion of *profit a prendre*.

²⁰ *Ibid.*

²¹ Hepburn, Samantha (2008) “Carbon Rights as New Property: Towards a Uniform Framework”. Paper presented to Australian National University (ANU) College of Law Seminar, 21 August, 7.

*dioxide by trees to which a reforestation project relates, it is immaterial whether that right extends to sequestration of carbon dioxide by the soil in which the trees are growing.*²²

This area of the Bill purports to include sequestration rights of carbon dioxide in the soil in which the trees are growing. The *Clause* is poorly drafted, and demonstrates an appalling misunderstanding of common law concepts of land property. It is inconceivable under current Anglo-Australian property law that carbon in soil could be separated from the elemental land property right. The prospect of separate carbon property rights in soil was examined and discounted by Sheehan and Kanas in 2008 who concluded that:

*...the huge potential carbon sink in Australian soil cannot as yet be assured scientifically, Indeed whether this pathway is a sustainable solution for carbon sequestration and trading in the future is at best problematic. Although the effects of carbon in soil is well reported in the scientific literature, paradoxically an understanding of carbon sequestration continues to develop albeit much more slowly than emerging property theory and law.*²³

The somewhat cavalier approach adopted in the Bill to the obvious difficulties in conceiving nationally consistent land based carbon property rights perhaps reflects the support for soil carbon storage in particular by both major political parties given pressure from Australian farm groups, who reportedly:

*...have begun lobbying the Government for support to offset their emission costs, such as carbon sequestration in soil or trees.*²⁴

On 3 March 2009 Tony Burke, Commonwealth Minister for Agriculture announced \$32M funding for around 20 research projects to explore the capacity of national soils to “emit and capture greenhouse gases” reportedly:

...to help build the knowledge to support Australia’s bid to change global greenhouse accounting rules on soil carbon storage.

*Soils can add or subtract from the nation’s greenhouse account depending on their composition and management, but their role is yet to be acknowledged in international negotiations.*²⁵

The following section of this paper canvasses the policy implications of adopting a cap and trade emissions trading scheme as proposed in the CPRS Bill, rather than the alternative of a carbon tax regime, which may be less complex and expensive.

CPRS v Carbon Taxation?

Given that Australia is now internationally obligated to reduce national GHG emissions the manner of decarbonisation is of crucial importance. An alternative way of reducing GHG emissions is a carbon tax whereby a tax of per tonne of carbon is imposed on industries emitting carbon dioxide. The principle is that the cost of producing goods and services which are emissions intensive increases due to the carbon tax, and hence the consumption of those particular goods and services is

²² *Part 10 Division 14 Clause 240(8) Carbon Pollution Reduction Scheme Bill, 2009 (Exposure Draft).*

²³ Sheehan J. & Kanas, O., (2008) “Carbon Property Rights in Soil”. Paper presented to the 14th Annual PRRES Conference, Hotel Istana, Kuala Lumpur Malaysia, 22 January, 17.

²⁴ *The Australian* (2009) “\$32m for research on carbon storage in soil”, (3 March), 4.

²⁵ *Ibid.*

reduced as they become more expensive. Arguably, a carbon tax encourages industries to produce goods and services which are less emissions intensive through alternative pathways. The alteration of manufacturing behaviour is one pathway which avoids raising the price of goods and services significantly.

A carbon tax would arguably continue to increase until evidence existed that a reduction in emissions was occurring and indeed had fallen to the desired level. Economists such as Gittins note that a carbon tax:

*...is intended to discourage the consumption of [emissions intensive] goods and services, while also providing producers with an incentive to find ways of reducing the amount of emissions generated by their production process.*²⁶

Arguably, the sophistication of emissions trading schemes are more difficult to monitor and administer than a carbon tax system, which involves the imposition of a specific tax rate for a specific purpose. Michael Costa, former NSW Treasurer argues that the proposed CPRS is too complicated in a country which currently has “one of the most complex personal tax regimes in the world, and now another rebate scheme has been added”.²⁷

The recent bankruptcy of Lehman Brothers highlights the already speculative nature of carbon emission trading, that company previously seeking to enter the carbon market in the:

*...hope to dominate...centred on the buying and selling of carbon permits, through the EU's²⁸ Emissions Trading Scheme (ETS) set up in 2005, the UN's Clean Development Mechanism (DM) and the “cap and trade” system proposed for the US by both McCain and Obama.*²⁹

The interest that Lehman Brothers had in carbon emission trading centres on the concept that the number of permits³⁰ available will fall each year resulting in an increasing shortfall in emission capacity. This reduction in permits can only be addressed in two ways, either through active reduction in carbon emissions or through the purchase of further permits, presumably at increasing cost. This aspect was not missed by Lehman Brothers.

In addition, China one of the world's largest GHG emitters is in the bizarre position of reportedly being a nett “carbon creditor” because it has constructed huge dams for hydroelectric power which according to the International Energy Agency generated from that source 397017 gigawatt hours (GWh) in 2005³¹. Hence, China will be capable of selling offset credits in the future to the EU in particular.

This potential to sell carbon credits occurs against a backdrop where China constructs one additional coal based electricity power station every four days.³²

²⁶ The Sydney Morning Herald (2009) “Economists fiddle while climate burns” (14-15 March) 5.

²⁷ Michael Costa cited in The Sunday Telegraph (2009) “Inconvenient truth of carbon policy”, (8 March), 95.

²⁸ European Union.

²⁹ The Sunday Telegraph (UK) (2008) “Lehman misses out on carbon credit scam” (21 September), 28.

³⁰ In Australia these are known as AEU's.

³¹ International Energy Agency (2008) *Electricity/Heat in China, People's Republic of in 2005*, IEA Statistics (Paris), http://www.iea.org/Textbase/stats/electricitydata.asp?COUNTRY_CODE=CN, (20 October).

³² The Sunday Telegraph.

Mark O'Neill, the Executive Director of the Australian Coal Association observed in 2006 that the annual Australian energy output at approximately 30,000 megawatts was equalled by the combined output of those Chinese coal fired power stations constructed every nine months.³³

All of the above demonstrates that any reduction in carbon emissions on a global scale will be difficult to achieve, although there is increasing evidence that some countries such as Australia are taking their obligations under the *Kyoto Protocol* seriously. The CPRS *Green Paper* highlighted the evolution that is occurring in international accounting rules, indicating that:

*[t]here is a general movement towards a more comprehensive and scientifically accurate international accounting framework, however, as negotiations are at a very early stage, the direction of any changes cannot be predicted.*³⁴

The issue of accuracy has also been highlighted by the Australian Competition and Consumer Commission in its findings arising from investigations into claims being made about carbon offsets. There are strict obligations under the *Trade Practices Act 1974* (Cth.) prohibiting misleading and deceptive conduct together with a series of prohibitions against specific misrepresentations. Importantly the Commission published an *Issues Paper* in January 2008³⁵ seeking comments on claims about carbon offsets and whether such claims when assessed against the requirements of the Commonwealth trade practices legislation could involve breaches.

In June 2008 the Commission released subsequent guidelines on carbon claims observing that:

*[t]he development of a credible and transparent carbon offset market and straightforward carbon offset marketing will assist Australia to reach its climate change goals. However, false or deceptive claims damage consumer perception of carbon offsetting, thereby damaging the emerging industry.*³⁶

The following section of this paper canvasses the costs associated with decarbonisation irrespective of the regime chosen.

The cost of decarbonisation

Much debate has occurred since the release in March 2009 of the CPRS Bill focused particularly on the cost to carbon emitters of the introduction of an emissions trading scheme. Issues of cost are obviously of great interest not only to Australian emitters, but also elsewhere. It is reported that the current wholesale cost of UK electricity is around GBP32 billion, and it is calculated that every ton of CO² emitted in electricity production will cost GBP35, with UK electricity suppliers paying an additional GBP8 billion for carbon permits. This is calculated to add 25% to the total annual cost of electricity in that country.³⁷

³³ Mark O'Neill cited in *The Sydney Morning Herald* (2006) "The green backers", (8 April) Good Weekend, 34.

³⁴ *Carbon Pollution Reduction Scheme Green Paper* (2008) (Canberra: Department of Climate Change) July, 121.

³⁵ Australian Competition and Consumer Commission (2008) *Issues Paper: The Trade Practices Act and carbon offset claims* (Canberra), 16 January.

³⁶ Australian Competition and Consumer Commission (2008) *Carbon claims and the Trade Practices Act* (Canberra) (June), 2.

³⁷ *The Sunday Telegraph* (UK) (2008) "Lehman misses out on carbon credit scam" (21 September), 28.

The EU Environment Committee has decided approval of new rules will be sought from the European Parliament and the EU member states requiring coal power electricity generators to meet the cost of “all their carbon dioxide emissions from 2013”.³⁸ The Committee also decided on 7 October 2008 that all large power stations constructed from 2015 are to be equipped with carbon capture and storage technology (CCS), rather than release carbon dioxide into the atmosphere.³⁹

In British Columbia, Canada, similar concerns have been expressed over the cost of decarbonisation, however these costs have arisen following the introduction on 1 July 2008 of an alternative approach to the CPRS, namely a carbon tax scheme. The current Provincial Budget published on 17 February 2009 lists a carbon tax collection of CAD300million for the 2008-2009 fiscal year. For the fiscal year 2009-2010 the carbon tax has been estimated in the Budget at approximately CAD546 million rising to CAD754 million in 2010-2011 and CAD968 million in 2011-2012.⁴⁰

When the tax was introduced in 2008 the base was CAD10 per tonne of carbon dioxide, increasing to CAD15 on 1 July 2009 and in successive similar amounts annually until reaching CAD30 per tonne in 2012. The tax collected is returned under the scheme to individuals and industry in the form of reductions in personal and corporate income tax, together with low income tax credits.⁴¹ It has been estimated that the projected increases in the carbon tax in 2009-2010 will add CAD0.0117 (1.17cents) to the cost of a litre of petrol and CAD0.0135 (1.35cents) to the cost of heating oil or diesel.⁴²

Whether this Canadian carbon tax is actually encouraging decarbonisation is yet to be determined, however British Columbia also has a “cap –and – trade” system which was introduced on 3 April 2008.⁴³ However, whilst offsets gained by reforestation have a potential to be used by carbon intensive industries, the Canadian Government when signing the *Kyoto Protocol* declared that it was the owner of all “forest carbon sinks”, an issue which has created concern amongst First Nations⁴⁴ and the Provincial Government of British Columbia.⁴⁵

Given the above discussion concerning the likely cost of the CPRS and the alternative carbon tax regime, the final section of this paper briefly canvasses the reality of decarbonisation in Australia.

Closing Comments

It is surprising that there has been so little debate on whether emissions trading or carbon tax regimes offer better pathways to decarbonisation for Australia. Emissions trading schemes such as the proposed CPRS actually operate in a somewhat similar

³⁸ *The Australian* (2008) “EU law makes power firms pay for all emissions” (9 October), 8.

³⁹ European Parliament Press Release 20081006IPR38802 (2008) “Equipping power plants to store CO₂ underground”, (7 October).

⁴⁰ *The Globe and Mail* (2009) “Long-term returns, B.C.’s carbon tax and ABCP”, Report on Business (19 February), B5.

⁴¹ *Ibid.*

⁴² *Ibid.*

⁴³ *Greenhouse Gas Reduction Targets Act*, 2008 (BC).

⁴⁴ First Nations Forestry Council (2008) *Carbon Credit Opportunities for First Nations in BC*. Briefing document for BC Forestry Round Table (Vancouver), 4.

⁴⁵ The Provincial Government owns over 90% of all forests in British Columbia – personal communication from Chris Rolfe, Chair Climate Action Legal Team, Ministry of Attorney General, (19 February 2009).

manner to carbon tax schemes, through limiting annual allowable emissions hence increasing the cost of goods and services which are emissions intensive. The difference between the two methods is that the quantity of permitted emissions is controlled by the cap, while a carbon tax determines the price of emissions, with the market place deciding on the quantum of emissions that are economically possible.

However the global financial crisis has resulted in the overall price of carbon traded to drop significantly. In the first few weeks of October 2008, the price of carbon traded dropped from USD30 per tonne to below USD22 per tonne. Given that the price in July 2008 had been as high as USD37 per tonne, the necessary market stability for a carbon tax scheme is now problematic.⁴⁶

Similarly the CPRS relies on an increasing scarcity factor for AEU's, and hence their tradable value is of critical importance for the success of the scheme. The worrying collapse in the worth of carbon tones and the resultant impact upon international emissions trading is however not unexpected, with Martijn Wilder, Chair of the Sydney Carbon Market Taskforce observing in December 2008 that:

*...[a] good emissions trading scheme needs broad coverage and a carbon price sufficient to drive change...*⁴⁷

The prospects for success of the CPRS are yet to be determined, especially given that emissions trading and carbon taxation are blunt tools attempting to offset economic activity (GHG emitting) against environmental protection (decarbonisation). Perhaps, on balance emissions trading schemes such as the CPRS appear preferable as they are more in harmony with international trends, Gittins recently observing that:

*One good reason for preferring a trading scheme is that it fits better with what other countries are doing and allows international trading in permits. Where other countries can reduce their emissions more cheaply than we can, we effectively pay them to do it for us.*⁴⁸

Irrespective, when the Conference of Parties meets in Copenhagen on 1-12 December 2009, the likelihood of a global agreement to reduce emissions for the period 2012-2020 will commit Australia to further its obligations to decarbonisation, which emerged with the ratification in December 2007 of the *Kyoto Protocol*.

⁴⁶ Bond, Patrick, (2009) "Climate Justice False Solutions: A timely death?" *New Internationalist* 419, (January/February), 14.

⁴⁷ Wilder, Martijn cited in *The Sydney Morning Herald* (2008) "Balancing act on the carbon tightrope" (13-14 December), 22.

⁴⁸ Gittins, Ross cited in *The Sydney Morning Herald* (2009) "Economists fiddle while climate burns" (14-15 March), 5.

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http://www.iea.org/Textbase/stats/electricitydata.asp?COUNTRY_CODE=CN, (20 October).
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