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## **Balancing the seesaw: how Australia's carbon pollution reduction scheme can fail**

Andrew S. Tan

*University of Wollongong, atan@uow.edu.au*

Mary A. Kaidonis

*University of Wollongong, maryk@uow.edu.au*

Lee C. Moerman

*University of Wollongong, leem@uow.edu.au*

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## Abstract

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## Keywords

seesaw, carbon, pollution, scheme, can, fail, australia, reduction, balancing

## Disciplines

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# **Balancing the Seesaw: How Australia's Carbon Pollution Reduction Scheme Can Fail**

Andrew Tan<sup>†</sup>  
University of Wollongong

Mary Kaidonis  
University of Wollongong

Lee Moerman  
University of Wollongong

- DRAFT -

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<sup>†</sup> Corresponding author.

**Abstract:**

Australia's ratification of the Kyoto Protocol and the recent release of the Carbon Pollution Reduction Scheme Green Paper affirm the Government's commitment toward carbon emissions reduction and the advancement of the environmental cause. Using a naïve model which maximises the environmental cause at the expense of financial impact on the economy, this paper highlights how the failure of the first phase of the European Union Emissions Trading Scheme can be attributed to the over-relaxation of parameters crucial to the success of the scheme as measured by verified reduction in emissions. The Government's preferred position as elucidated in the Green Paper is then contrasted in this context to illustrate the possible sources of failure that are currently engendered in the Scheme. The implementation of the Scheme will impose great compliance costs on the economy – we argue that the Government's over zealous protection of business interests may ultimately lead to failure of the Scheme, in which case the businesses and community would have incurred the financial burden over nothing.

## **1. Introduction**

As more scientific research produce evidence that reinforce the negative impact greenhouse gasses have on climate change, the knee-jerk solution is to reduce the total emission of these gasses globally. These gasses are collectively termed as “carbon-equivalent” or just “carbon” for simplicity in definition and measurement. The Kyoto Protocol is tasked with the objective of reducing global carbon emissions and sets short and long term reduction trajectories accordingly. Each country signatory is then mandated to reduce its emissions in line with these trajectories.

Australia’s recent ratification of the Kyoto Protocol and the subsequent release of the Carbon Pollution Reduction Scheme (CPRS) Green Paper signal the Rudd Government’s firm commitment toward carbon pollution control and environmental protection. In developing the Green Paper, the Government relies on several key sources for information and feedback, including the Garnaut Climate Change Review (commissioned by the Government), the National Emissions Trading Taskforce, the European Union Emissions Trading Scheme (“EU ETS”) and other schemes that are already in operation in certain Australian states and territories as well as elsewhere in the world.

The implications of this significant step are immense for Australian businesses, particularly pollution emitters, and while the economy as a whole is expected to be affected, the precise potential financial impact is an unknown factor which is unable to be reliably measured. Achieving the environmental aim and minimising the economic impact at the same instance are two rather separate objectives made even more difficult by their inherent inverse relationship with each other. Needless to say,

it is imperative that the Australian CPRS works to not only reduce carbon pollution over time, but to do so at minimum costs. For these concerns to be met, the CPRS has to be well designed with policies well implemented in order to provide as much regulatory and financial certainty to businesses and other participants.

Using design assessment criteria specifically stated by the Government, this paper highlights several key weaknesses in the Scheme which can potentially contribute to its failure. We introduce a naïve model which maximises the environmental objective as well as the experience from the European Union Emissions Trading Scheme as our basis of argument. Our paper is particularly motivated by the failure of reducing overall emissions in Europe despite the presence of a scheme since 2005. Additionally, this study contributes to the understanding of policy factors which influence the outcomes of the scheme, and is therefore helpful to the Australian Government which has stated previously that “the Government’s overriding objective is to get the design right” (Green Paper Summary, pg.10). The subject matter of this study has been received by the Government in the form of a submission and is published online.<sup>1</sup>

This paper is organised as follows. The next section describes the generic ‘cap-n-trade’ currently used in carbon reduction schemes. Section 3 introduces the naïve model which is a cap-n-trade scheme that maximises the environmental cause at the expense of economic impact, while section 4 illustrates how the failure of the European Union Emissions Trading Scheme can be attributed to the over relaxation of the parameters crucial in determining the success of the scheme. Section 5

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<sup>1</sup> The submission can be viewed here:  
<http://www.climatechange.gov.au/greenpaper/consultation/pubs/0721-school-of-accounting-and-finance.pdf>

summarises Australian Government's preferred position under the Green Paper including design assessment criteria. Section 6 highlights key weakness areas of the Scheme which could contribute to its failure. Lastly, section 7 concludes.

## **2. The Role of a Generic Emissions Trading Scheme: the Cap-n-Trade**

### **Approach**

For the most effective reduction in pollution output, all carbon emitters would be required to reduce their emissions over time according to each signatory country's declared carbon reduction trajectories.<sup>2</sup> For an effective reduction in global emissions, emitters would have to incur a financial penalty for emission at a price which is costly enough to justify investment in comparatively cleaner technologies and/or methods resulting in lower actual output of emissions.

In the cap-n-trade approach, all carbon emitters would be required to offset their emissions by the use of trading permits either with or without the use of alternative carbon offsets. These trading permits are expected to be distributed and/or auctioned off to emitters and non-emitters alike at regular intervals provided that the units of CO<sub>2</sub>-e covered in these permits do not exceed the trajectory set by the government. The number of permits is therefore set to a "cap". Each trading permit has definable proprietary (both legal and equitable) rights to facilitate the transfer of these rights, and is retired upon use to offset a specific amount of emissions<sup>3</sup>. Accordingly, a secondary market in which the trading of carbon permits between market participants takes place is expected to exist.

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<sup>2</sup> Australia has not made such declaration at the time of writing but is scheduled to do so at the end of 2008.

<sup>3</sup> Currently set at 1 ton of CO<sub>2</sub>-e gasses.

The use of this cap-n-trade approach as the basis of the generic ETS engenders multiple objectives. The Green Paper, while unclear with the specifics of an Australian ETS, nevertheless signals its intention to adopt the cap-n-trade approach rather than a carbon tax.

The Government has stated that the development of the Scheme will be guided by the following principles:

- The scheme will be a 'cap and trade' scheme. That is, it will set an overall environmental cap by issuing a set number of permits, and allow entities to trade permits, thereby putting a price on carbon.
- The caps will be designed to place Australia on a low emissions path in a way that best manages the economic impacts of transition, while assuring our ongoing economic prosperity.
- The scheme will have maximal coverage of greenhouse gases and sectors, to the extent that this is practical. The broader the scheme's coverage, the more cost-effectively it will reduce greenhouse gas emissions, and more fairly spread the burden of such reductions across the community.
- The scheme will be designed to enable international linkages, while ensuring it suits Australia's economic conditions.
- The scheme design will address the competitive challenges facing emission-intensive trade-exposed industries in Australia.
- The scheme will also address the impact on strongly-affected industries.
- Measures will be developed to assist households - particularly low income households - to adjust to the impact of carbon prices.



It is clear from the above principles that the Government is aware of the need to achieve this country's environmental objective with due consideration to financial impact to the economy. Given that the Government is responsible for setting and defining the key parameters of the framework in the Scheme, this juggling act is ultimately determined by a political process which can be subjected to manipulative pressures from other interests. Setting a cap that is too high for fear of financial backlash jeopardises the environmental objective as less pressure is put upon emitters to conform; while setting a cap that is too strict on emitters would substantially increase the financial impact on the economy.

In highlighting what we argue are potential key deficiencies in the Scheme, for the purpose of comparison, we rely on a rudimentary ETS framework which maximises the environmental objective but disregards the financial impact it may cause. Additionally, we examine the reasons why the EU ETS has failed to reduce overall verified emissions during its first phase of operation as basis to illustrate how an environmental conservation scheme can fail in this context.

### **3. The Naïve Model**

As the starting point of our discussion, we introduce a strict ETS model which maximises the environmental objective and which, by necessity, ignores its economic impact. This 'naïve' model is then compared to the carbon pollution reduction schemes in Europe and Australia to illustrate our argument that certain elements of the Australian model may potentially be deficient in achieving the environmental objective.

We envisage this naïve model to utilise the cap-n-trade approach. In our model, assuming that the emission limit for a specific year is 1,000 kilo tons of CO<sub>2</sub>-e gasses, then a similar amount will be covered by carbon trading permits, which, if specified at 1 ton per permit, would equate to 1 million permits. Since no carbon offset is allowed, an emitter who emits for example 10 kilo tons of CO<sub>2</sub>-e gasses per year will be required by the regulatory framework to offset its emissions using 10,000 permits. The shelf-life of each permit is limited to one year, and all emitters regardless of size or industry are covered under this model. All permits are auctioned off in an ascending manner with combined amount of CO<sub>2</sub>-e covered in the permits not exceeding the trajectory declared for that year. The financial penalty for non-compliance is set so impossibly high that it ceases to be an issue.

With a declared set of emission reduction trajectory in place, and given no other alternative mean of offsetting emissions beside the use of permits, the supply of permits will decrease over time, thereby making scarcity of permits an important consideration to emitters. Unless demand for these permits adjusts, the price of carbon permits is expected to rise, *ceteris paribus*. With the same or increased in output production, emitters who do not consider cleaner ways of achieving this level of output and/or invest in research & development in cleaner production methodology will bear the brunt of the costs of emission. Eventually, the cost of acquiring carbon permits will outgrow the cost of reducing actual emissions in this model, in which case emitters would have no other choice but to start exploring cleaner ways of production, or to reduce production, or shut down completely in the extreme when business is not viable given the costs. In any of these scenarios, the environmental

objective is maximised at all cost. Any impact on the economy or industry competitiveness is considered.

As can be seen, while the naïve model demonstrates how the environmental objective is the one and only focus, its lack of consideration of economic and business impact renders it an impractical one to implement. Accordingly, it is to be expected that any cap-n-trade scheme would be in practice a more relaxed model with better treatment of economic and financial costs. However, as next section shows in Europe, the over-relaxation of the model, as seen in the lenient setting of key parameters in the EU scheme, for the purpose of protecting businesses has rendered the EU scheme ineffective in combating emissions output.

#### **4. Relaxations of the Naïve Model: Lessons from EU ETS**

No rational government would pursue a strict model such as the one described above. The political process is subjected to pressure from various sources, particularly from the collective influence of businesses whose interests will not be ignored by governments.

Evidence from the EU ETS suggests that companies implement typical project selection exercise in determining the cheapest method to offset emissions. That is to say, although compliance with the scheme is required by law, emitters would seek the most cost-effective way to do so as profitability is arguably a more important factor than environmental care. Indeed, the European Commission reported on 23<sup>rd</sup> May 2008 that during the first phase of the EU ETS (2005 – 2007), the 24 EU member states (not including Romania, Bulgaria and Malta) have achieved a change in

verified emissions ranging -20.8% to 28.5%, with an overall *increase* in emissions by 1.9% in that period. As can be seen from Table 1, results in emission change range widely with Sweden achieving the best result. Finland and Estonia are the worst culprits with both increasing emissions by over 20% respectively in that period. Clearly, this outcome undermines the intention of their scheme and thus the EU ETS has been described as a failure.

**Table 1: Verified Emissions from European Union Members, 2005 – 2007.**

This table illustrates the verified emissions of 24 European Union members during the first phase of operation of the European Union Emissions Trading Scheme (EU ETS). Figures are in metric tonnes of CO<sub>2</sub>.

	<i>Verified Emissions</i>			<i>Change</i>
	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2005-2007</b>
Austria	33,372,826	32,382,804	31,751,165	-4.90%
Belgium	55,363,223	54,775,314	52,795,318	-4.60%
Cyprus	5,078,877	5,259,273	5,396,164	6.20%
Czech Republic	82,454,618	83,624,953	87,834,758	6.50%
Germany	474,990,760	478,016,581	487,004,055	2.50%
Denmark	26,475,718	34,199,588	29,407,355	11.10%
Estonia	12,621,817	12,109,278	15,329,931	21.50%
Spain	183,626,981	179,711,225	186,495,894	1.60%
Finland	33,099,625	44,621,411	42,541,327	28.50%
France	131,263,787	126,979,048	126,634,806	-3.50%
Greece	71,267,736	69,965,145	72,717,006	2.00%
Hungary	26,161,627	25,845,891	26,835,478	2.60%
Ireland	22,441,000	21,705,328	21,246,117	-5.30%
Italy	225,989,357	227,439,408	226,368,773	0.20%
Lithuania	6,603,869	6,516,911	5,998,744	-9.20%
Luxembourg	2,603,349	2,712,972	2,567,231	-1.40%
Latvia	2,854,481	2,940,680	2,849,203	-0.20%
Netherlands	80,351,288	76,701,184	79,874,658	-0.60%
Poland	203,149,562	209,616,285	209,601,993	3.20%
Portugal	36,425,915	33,083,871	31,183,076	-14.40%
Sweden	19,381,623	19,884,147	15,348,209	-20.80%
Slovenia	8,720,548	8,842,181	9,048,633	3.80%
SK	25,231,767	25,543,239	24,516,830	-2.80%
UK	242,513,099	251,159,840	256,581,160	5.80%
<b>Total</b>	<b>2,012,043,453</b>	<b>2,033,636,557</b>	<b>2,049,927,884</b>	<b>1.90%</b>

Source: European Commission press release 23<sup>rd</sup> May 2008<sup>4</sup>.

<sup>4</sup> “Emissions trading: 2007 verified emissions from EU ETS businesses”, viewed 25<sup>th</sup> July 2008, <<http://europa.eu/rapid/pressReleasesAction.do?reference=IP/08/787&format=HTML&aged=0&language=EN&guiLanguage=en#fn1>>

The first phase of the EU ETS covered approximately 12,000 installations representing some 40% of EU CO<sub>2</sub> emissions. Under the EU scheme, the EU member states agree on national emission caps which have to be approved by the European Commission, allocate free allowances to their industrial operators under each member's National Allocation Plan, track and validate the actual emissions against the emission caps, and require the allowances to be retired after the end of each year.

There are three lessons from this failure:

- (1) Lax emission reduction targets culminated in unambitious emission caps. This suggests a tentative commitment, at best, by EU member countries. With some countries achieving a growth in emissions of over 20%, the caps set by most EU member states are simply not ambitious enough. Indeed, caps set for the power sector are far too lenient compared to other sectors, resulting in inequitable carbon reduction requirements.
- (2) The over allocation (as compared to business-as-usual emissions level) of free carbon trading permits provided no incentive for businesses to reduce emissions. The over allocation of permits occurred in 20 out of the 24 reporting EU member countries. EU member states have given away under their respective National Allocation Plans far too many free allowances to their installations, particularly to the power sector which is a major source of pollution. Moreover, as Ecofys reported in August 2004<sup>5</sup>, several countries have given *more* allowances than estimated to be needed under business-as-usual scenario. This implies that no practical effort is necessary to reduce emissions in these countries since current level of emissions is more than

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<sup>5</sup> Ecofys Interim Report on National Allocation Plans, August 2004, viewed 15<sup>th</sup> August 2008, <[http://www.ecofys.co.uk/com/publications/gate.asp?fn=documents/Interim\\_Report\\_NAP\\_Evaluation\\_180804.pdf](http://www.ecofys.co.uk/com/publications/gate.asp?fn=documents/Interim_Report_NAP_Evaluation_180804.pdf)>

enough covered by carbon permits. This was confirmed in May 2006 when several carbon registries reported that their industries were given more allowances than they could possibly use. The price of carbon emission spiralled immediately after, reaching an all time low of €0.03 per ton in December 2007.<sup>6</sup> With permits trading at super cheap prices, and no issue whatsoever with scarcity in terms of the availability of allowances and carbon permits, it is not surprising to find that the EU ETS has failed so remarkably.

- (3) The EU ETS allocated free carbon permits to business installations (entities) which were significant polluters and thus further undermining the purported intentions of their scheme.

While the EU carbon market is overseen by a neutral regulator, the setting of the emissions cap and the National Allocation Plan are specific to each government of the member states. The failure of the EU scheme due to above factors strongly suggests that these governments have been materially influenced by economic and business concerns. Indeed, European businesses have manipulated the scheme by passing on costs to consumers even though the permits were allocated to them with zero consideration. The International Herald Tribune observed: “the carbon trading system has created a multibillion-euro windfall for some of the continent's biggest polluters, with little or no noticeable benefit to the environment so far.”<sup>7</sup>

If governments are reluctant to boldly confront the environmental issue and thus directly and/or indirectly undermine the mechanics of an effective carbon scheme as a result, we argue that there is no point having an EU ETS in the first place.

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<sup>6</sup> Prices obtained from the European Energy Exchange, < <http://www.eex.com/en>>

<sup>7</sup> Kanter, J., 9<sup>th</sup> December 2008, “EU carbon trading system brings windfalls for some, with little benefit to climate”, viewed 12<sup>th</sup> December 2008  
<<http://www.iht.com/articles/2008/12/09/business/windfall.php>>

Compliance to any form of scheme requires costs, and in this case there is no justifying additional financial cost investment without any real credible collective effort in achieving the objectives of the scheme. A poorly constructed scheme not only fails in meeting the environmental objective but also create an inequitable time-sink forced upon businesses and households

## **5. Australia's Carbon Pollution Reduction Scheme at a Glance**

The CPRS Green Paper, published by the Department of Climate Change, puts forward the Australian Government's preferred positions on the Carbon Pollution Reduction Scheme. It is stated that the overall framework of the CPRS is to achieve the environmental objective in the *most efficient and cost effective* way.<sup>8</sup> Emissions trading is the mechanism of the Scheme, and the framework and design options of the Scheme are to be assessed according to the following assessment criteria (Green Paper Preferred Positions, pg. 35):

1. Environmental integrity
2. Economic efficiency
3. Minimisation of implementation risk
4. Policy flexibility
5. Promotion of international objectives
6. Implications for industry competitiveness
7. Accountability and transparency
8. Fairness

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<sup>8</sup> The meaning of efficiency and cost-effectiveness can be subjectively interpreted. In regards to the latter, it is interesting to note that this is a departure from the Garnaut Report which used the phrase "...to deliver emissions reduction at the *lowest possible cost* to the domestic economy" (Garnaut Report, pg. 321)

The major key elements are summarised as follows:

- The Scheme to start in 2010. All six Kyoto gases to be included.
- Current coverage is about 1000 operators comprising approximately 70% of current Australian emissions. Petrol is included. Possible inclusion of agriculture in 2015.
- Obligation to surrender permits sets at an emission threshold for facilities of 25kt of CO<sub>2</sub>-e per annum.
- Annual emissions cap to be set on a rolling five year basis.
- A range of assistance mechanisms will be granted to industries most affected by the Scheme (known as Emissions-Intensive Trade-Exposed Industries, or EITEs):
  - Activities with emissions intensity above 2kt CO<sub>2</sub>-e per dollar million revenue will at first be granted free permits that cover approximately 90% per unit of output. Free permits granted will decrease to 60% for activities with emissions intensity of 1.5kt CO<sub>2</sub>-e per dollar million revenue. The total amount of free permits given will use approximately 30% of total available number of permits.
- Special assistance is also given to Strongly-Affected Industries (SAIs) which include coal fired electricity generators. Size of fund to be determined in White Paper.
- A Climate Change Action Fund will be established to fund investment in, inter alia, lower carbon technology and to raise awareness for businesses.
- Australian carbon permits will be auctioned off on a quarterly basis by a regulator.



- The rights under the permits are fully described and are fully transferrable. Equitable interests can be registered against these rights.
- Legal transfer of the permits possible only via a registry.
- As these permits will have no use-by date, the unlimited banking of these permits will therefore be permitted. An entity may borrow up to 5% of emissions units from future years' caps.
- A cap on permit price for the period 2010 – 2015 to be set higher than the expected market level.
- Design of the Scheme to be compatible with international schemes thereby making market linkages a future possibility.
- Accounting guidance to be determined by national and international standard setters.

In regard to the governance of the Scheme, the Government/Parliament sets the key rules such as caps and reduction targets, international links, permit allocation rules etc. A Scheme regulator will be established to make independent decisions based on rules set in legislation.

As expected, the Green Paper addresses (though not fully) both environmental and economic objectives. The Government is now opened for submissions<sup>9</sup> for future consideration in the development of the Scheme.

As discussed before, the lessons from the EU ETS have proven important in suggesting that the setting of the trajectories and caps and the assistance given in the

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<sup>9</sup> Submission to the Green Paper is now closed.

form of allowance to industrial operators are both crucial factors in determining the success or failure of the Scheme. Australia's position in this regard is not fully known. Indeed it is interesting to note the Government's willingness to grant assistance without properly addressing how the assistance arrangement can help affected industries reduce their emissions rather than passing on the costs to consumers. Perhaps more importantly, the development of the Green Paper itself suggests a political process that is more concerned with business interests since these are addressed more explicitly than Australia's proposed trajectories and caps.

## **6. Key Weakness Areas of Australia's Scheme**

As the experience from Europe has shown, good intentions toward environmental conservation do not necessarily produce the requisite result. Indeed, as the Garnaut Report (pg. 321) observes, "seemingly small compromises will quickly erode the benefits that a well designed emissions trading scheme can provide".

We detail in this section five areas which we argue are potential shortfalls in Australia's Scheme. While these areas can be individually identified, the respective areas are inherently intertwined.

### *6.1 Government as policy setter*

The crux of this area of weakness is the age-old question of "who governs the government". The determination of crucial parameters in the Scheme is to be made by a political process which can be materially influenced by lobby groups pursuing their

respective interests or by submissions made by individuals and organisations<sup>10</sup>. Indeed, the Garnaut Report warned against such influence when it observed (on pg. 343):

*“In recent public debate and commentary, it has been apparent that industries will seek to influence the design of any such assistance arrangements in ways that maximise their respective returns from the scheme. This is to be expected. It also signals the scale of the challenge faced by policy makers in not becoming distracted by vocal and well organised interests.”*

It is important to observe that the Scheme Regulator, while tasked with making independent decisions, does so based on rules already set in legislation. Additionally, as the Green Paper itself suggests, independent recommendations made by the Garnaut Review are not always readily adopted by the Government.<sup>11</sup>

The setting of critical elements such as the short and long term emissions reduction trajectories and the allocation of free permits, *inter alia*, directly defines the strictness of the Scheme, and thereby signals the Government’s intentions in regards to the environmental objective, as our naïve model illustrates earlier. While it is not for this study to put forward an opinion on this matter, it is interesting to note nevertheless that the Government has appeared to have taken a modest stance on emissions

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<sup>10</sup> A list of submissions made to the Green Paper can be viewed online here: <http://www.climatechange.gov.au/greenpaper/consultation/submissions.html>

<sup>11</sup> Various visible “discrepancies” exist. For example, Garnaut Report recommends that no permit is to be freely allocated whereas the Government has signalled its intentions to do so to protect certain emissions-intensive industries.

reduction targets.<sup>12</sup> This is in spite of recent Government's plan to expand coal exports in Newcastle.<sup>13</sup>

## *6.2 Links with international schemes*

Linkage with international carbon markets is recommended by the Garnaut Report and is also provided for in the Green Paper. The Government has indicated that it is carefully calibrating its response in light of international action, and has made the minimisation of implementation risk an early priority for the sake of establishing a stable/predictable start up. However, this vision is not adequately substantiated by more detailed definition of key elements. This creates an added layer of uncertainty to businesses as Scheme obligations and other variables may change with the introduction of international links.

## *6.3 Uncertainty on how certain industries are to be protected.*

Emissions intensive industries will be significantly affected by the introduction of the Scheme. If no assistance is rendered, these industries would face immediate deterioration in profitability, market-share and therefore competitiveness in the international setting. With no effective short-term response to the Scheme<sup>14</sup>, these industries may be forced to relocate their emissions intensive operations away from

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<sup>12</sup> See for example: Wilkinson, M. , 1<sup>st</sup> December 2008, "Australia squibs on climate promise", *Sydney Morning Herald* < <http://www.smh.com.au/news/environment/climate-promise-uturn/2008/11/30/1227979844927.html>>and Wilkinson, M. and Cubby, B., 10<sup>th</sup> December 2008, "Wong to resist calls for greenhouse cuts", *Sydney Morning Herald*. < <http://www.smh.com.au/news/environment/global-warming/wong-to-resist-calls-for-greenhouse-cuts/2008/12/09/1228584839266.html>>

<sup>13</sup> Sydney Morning Herald, 14<sup>th</sup> December 2008, "Large targets needed in ETS: Greenpeace". < <http://www.smh.com.au/news/environment/global-warming/large-targets-needed-in-ets-greenpeace/2008/12/14/1229189428795.html>>

<sup>14</sup> In the steel industry for example, emissions are inherently unavoidable given the chemical processes that are involved in the production of steel.

Australia, thus costing jobs to Australia and not creating an impact on reduction of global emissions.

The Green Paper acknowledges that emissions intensive industries, such as the EITEs and SAIs, should be provided with transitional assistance. For the former, up to 30% of total number of permits will be freely allocated. A special fund (not fully defined) will be established to assist SAIs. However, crucial questions remain to be answered. The Government admits the need to balance support for EITE firms with other community interests by adjusting EITE assistance over time to ensure equitable contribution. It is also stated however that withdrawal of assistance “depends on international developments”, with “thresholds and rates of assistance to be finalised in light of additional information”.<sup>15</sup>

#### *6.4 The issue of scarcity of carbon permits*

The naïve model shows that scarcity is introduced when the number of permits is effectively capped if permits have limited shelf-life and are all surrendered at the end of the compliance period. Under the proposed Scheme, while the number of permits available per year will be capped according to the reduction trajectory, permits will however have an indefinite life, are bankable for future use, and limited number of permits from future years (called ‘vintage’) can be borrowed for current use. Additionally, a carbon bank will be established and empowered to lend limited number of permits. These characteristics arguably convolute the issue of scarcity in *actual practice*. It is important to note that scarcity forms the first guiding principle of scheme design according to the Ganaut Report, which asserts (at pg. 323) that

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<sup>15</sup> Green Paper Roadshow Presentation, pg. 25 & 29.

“...where the scarcity of permits is uncertain...this will distort resource allocation decisions and impose unnecessarily high costs on the economy”.

### *6.5 Timing of implementation*

The Australian Opposition asserts that the Scheme is too rushed and is in need of more extensive consultation with stakeholders.<sup>16</sup> It can also be argued that implementation of the Scheme should be delayed so that international action on climate change can be more readily discerned. Moreover, given the recent credit crisis which has affected the world's economy, and which has lead to depressed business and consumer confidence as well as recessions in several developed countries, the commencement of the Scheme in 2010 will impose unwelcome costs on a recovering Australian economy.

## **7. Conclusions**

The release of the Carbon Pollution Reduction Scheme reinforces Australia's commitment to emissions reduction and environmental protection. This paper highlights the crucial and inverse relationship between achieving effective carbon pollution reduction with minimal costs to businesses and the community, the balancing act which is determined by a political process. In doing so, we showed a model which maximises the environmental objective (the naïve model) and illustrates the failures of the scheme in the European Union where the scheme has been extensively relaxed compared to our naïve model for fear of economic backlash. We argue that, once committed, the Scheme has to work as a whole in reducing carbon emissions for it to justify the compliance and other associated costs on the economy.

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<sup>16</sup> Joint press conference with Malcolm Turnbull, Leader of the Opposition, and Andrew Robb, shadow minister assisting the Leader on Emissions Trading Design.  
<<http://www.liberal.org.au/news.php?Id=2302>> Accessed 12<sup>th</sup> December 2008.

There are several key areas in the Scheme which we highlighted as potential shortfalls which can contribute to the failure of the Scheme. We also show that the Australian Government, in its development of the CPRS, has shown more concern toward non-environmental interests by being more upfront with the assistance available to affected industries, and less transparent in regards to setting the carbon reduction trajectories and the cap which are both crucial in determining the success or failure of the Scheme.

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