

# Greenhouse Tax Versus Greenhouse *Cap and trade* The Debate We Never Had

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## 1. INTRODUCTION TO THE DEBATE WE NEVER HAD

The Federal Government has now released its Carbon Pollution Scheme White Paper and as expected the mechanisms it has chosen is that of a pollution permit and trade system (*cap and trade*). The *cap and trade* approach has been widely accepted by many businesses, green groups and Australia's major political parties including the Australian Greens and yet I am continuously witnessing surprise by individuals and groups when they learn more about the impact of such an approach on eliminating the economy wide benefits of voluntary behaviour.

At the outset when State and Federal Governments were considering which approach would best deliver reduced National emissions reduction, they should have explained the basic advantages and disadvantages in of the two likely contenders being a *carbon emissions tax (carbon tax)* or the *cap and trade* approach in an open and transparent manner. In the disadvantages column of a *cap and trade* scheme, stakeholders should have been advised of the following critical points

1. A *cap and trade* scheme by its nature, extinguishes the impact of voluntary efforts from reducing aggregated economy wide emissions as any greenhouse reduction or avoided emission by an individual or entity merely results in freeing up permits to pollute in another part of the economy. (i.e. it makes no difference whether I ride my bicycle to work or buy the biggest worst performing V8 petrol vehicle- National emissions will be the same!).
2. A *cap and trade* system by its nature does not drive innovation in voluntary markets and greatly reduces diversity in voluntary markets.
3. A *cap and trade* scheme that uses the voluntary surrender of permits as a greenhouse reduction mechanism ties the cost of voluntary abatement with the cost of pollution, ever diminishing prospects of continued voluntary action.

This is not to suggest that the *cap and trade* approach might not drive actions to reduce emissions by permit holders, but it leaves out vast numbers of individuals and small to medium businesses in the economy from being able to contribute to reduce

National emissions in a meaningful way. A *cap and trade* approach largely alienates non-permit holding businesses and individuals from taking a meaningful role in reducing the Nation's emissions. There is a question as to whether there is any value in the Department of Climate Change slogan "Think climate. Think change. We can't afford not to".

## **2. WHAT WERE STAKEHOLDERS TOLD ABOUT CAP AND TRADE AND THE ALERNATIVE CARBON TAX APPROACH?**

### **2.1. McKibbin and Wilcoxon Blueprint: Sensible Climate Policy**

Professor Warwick McKibbin and Peter Wilcoxon have been proposing a hybrid approach since the late 1990s presented as being somewhere between a *cap and trade* approach and a tax approach picking the best of both approaches. The idea has appeal but the concern is that the Blueprint could be considered to implement a cap in later years causing the failure of individual actions from reducing National emissions.

Their most well known paper is the McKibbin and Wilcoxon Blueprint "Sensible Climate Policy"(2005) which outlines an economy wide greenhouse management approach that would operate within Australia and link to international systems. The approach has since evolved and continues to be improved.

The hybrid policy proposed by McKibbin and Wilcoxon and more recent updates of the concept has a long-term goal for emissions reduction but also seeks to minimise short-term costs in achieving those targets. It does this by "focusing on the price of carbon in the short run but guided by information on the expected future price of a carbon target in the long run".

McKibbin and Wilcoxon argue that fixing the cost of abatement, has the disadvantage of involving potentially huge transfers of wealth either within countries for a domestic system or between countries for an international system, and would be politically unrealistic. However, a hybrid policy, combining the best features of the two would be an efficient and practical approach.

So the first thing that the McKibbin Wilcoxon approach does is to fix the price of permits (which is somewhat similar to fixing the cost of abatement) and provide unlimited permits in a given year. In my mind, this aspect is a carbon emissions tax. The *cap and trade* part of the concept comes into play where a limited number of long term permits are issued, and ultimately short term permits would diminish.

Blueprint describes that "Every ten years countries would meet to evaluate the information on emissions, climate change, and climate science and then decide whether or not to change the agreed annual permit price to be in place for the following decade". This is a sound approach to review and update the tax rate in line with emerging science and global co-operation to tackle climate change, but perhaps it should happen every 5 years to be more up to date with global changes.

There is a problem however with the scheme proposal to release long term *rights to pollute* in diminishing permits that in time do cease all together (with varying specified rates for up to 100 years). Whilst the release of diminishing permits could be done cautiously, a growing number of scientists are suggesting that the Global

situation may require zero emissions or even negative net emissions. There is little value in five or ten yearly reviews if too many long term permits have already been issued. If this turns out that extreme cuts are needed, virtually all issued permits would need to be bought back or cancelled.

I fully agree that the mechanism would perform well in comparison to the Kyoto Protocol which has its foundations in trading greenhouse benefits from countries with no greenhouse constraints to countries with constraints. I compare this to trading when insolvent and suggest that this must change when all countries agree to constraints.

In regards to supporting voluntary actions, the McKibbin - Wilcoxon Blueprint is virtually a *carbon tax* based approach in the short term, and then a *cap and trade* scheme in the longer term causing the elimination of the role of individuals and business entities in reducing National emissions because the associated permits are used elsewhere.

This problem was not discussed in the Blueprint and at the time of its creation, and it is possible that few people had thought these issues through, certainly not to the extent that is only now just being covered in the Federal Governments Discussion paper on a proposed [National Carbon Offsets Standard](#). (see [policy analysis](#) on Bravenewclimate.com).

## **2.2. National Emissions Trading Taskforce.**

When the National Greenhouse and Energy Taskforce (NETT) headed up by Roger Wilkins presented its [National Emissions Trading Taskforce Report](#) in 2007, it contained a brief discussion on the merits of *cap and trade* compared with ‘alternatives’.

The paper asked the question: “Why emissions trading?” In answering the question, the paper made the following statements:

“Compared with alternatives, it is widely acknowledged that emissions trading is a practical, flexible and relatively low cost means of achieving an emissions target for some sectors, potentially including the energy sector. However, stakeholder views on alternative approaches are sought”.

It is interesting that the paper starts with an unsubstantiated viewpoint, and then asks for stakeholder views, rather than describing the nature of the problem, in that there needs to be lower emissions and then asking for real discussion about what is the best approach that would motivate markets towards achieving this goal.

Further statements:

“Another strength of an emissions trading scheme compared with alternative measures is that it has an inbuilt mechanism for providing adjustment assistance. Scarce permits to emit greenhouse gases have value. The way in which this initial value is allocated can be used as a way of ensuring that those who are likely to be most adversely affected by the introduction of the scheme are assisted.

Such a strength can be equally applied through a *carbon tax* mechanisms via tax exemptions of discounts to certain entities for a period of time.

“A further advantage is that a scheme can be designed to facilitate trading in future emission permits—which provides both market estimates of future emissions costs and an opportunity for companies making long-lived investments to hedge them. In this way, an emissions trading scheme can reduce investment risks in the power and energy-intensive industry sectors.”

This is a feature of the mechanism that is not needed with a *carbon tax* approach. Emission reduction pathways and targets identified by Governments can also be used to provide estimates of the future costs of a *carbon tax*. The mechanism is really about cost mitigation for certain emitters rather than being an advantage of the scheme.

“One of the great strengths of an emissions trading scheme is that it is technology-neutral (ie, does not specify suitable technologies). It allows the market to seek out the lowest-cost ways of achieving any particular emissions cap. It does not rely on omniscient governments directing investments and abatement activities through more traditional ‘command and control’ regulation, or through industry- or technology-specific subsidies. It allows a variety of technologies to be adopted based on commercial competitiveness.”

With the Taskforce having expressed this view in 2007, we see in 2009 that the CPRS proposes to pick large emitters as winners through the granting of vast amounts of free permits to fossil fuel technologies. We also see large amounts of assistance to energy intensive trade exposed industries and strongly affected industries and so the intended “great strength” is completely lost and commercial competitiveness between low emissions technologies and existing fossil fuel industries is barely changed. It is rather disturbing that a market based ideology dependent on the market forces determining the price of permits is now compromised by capping the costs. A true *cap and trade* mechanism fixes the cap for permits, and never fixes the price.

Of most particular interest to the current situation regarding offset products, the NETT Report presented a positive future for carbon offset products. The NETT Report did not acknowledge any of the risks that we now see emerging for voluntary markets, and did not acknowledge that the nature of *cap and trade* mechanism would ruin the impact of voluntary action on reducing National emissions. Instead, the NETT Report said:

“A number of priority areas for the development of methodologies for offsets have been identified: forestry; carbon capture and storage; reductions in industrial process emissions; and destruction of methane in the waste sector. It is proposed that a flexible approach be adopted that would allow project proponents to submit methodologies for projects in other areas. These would then be reviewed by the Scheme Developer ... against set criteria designed to protect the integrity of the scheme. Projects for which

methodologies were approved would be eligible to create offset credits”.

On a final note, the text in the main document suggested that:

“While a number of different potential models for emissions trading exist, the collection of *cap and trade* models are widely preferred as they better guarantee emissions reductions while the costs can be capped”.

This comment is not backed up with examples of success or failure in complex markets.

In concluding an assessment of the NETT Report discussion on the issues, there are no compelling reasons as to why *cap and trade* would be better than a tax, just statements about widely viewed preferences, benefits that can equally be claimed with an emissions tax approach and a somewhat misleading viewpoint on carbon offsets.

### **2.3. The Garnaut Review**

Ross Garnaut in the 2008 [Garnaut Review](#) suggested that the role of complementary measures to the emissions trading scheme is to “lower the cost of meeting emissions reduction trajectories, as well as adapting to the impacts of climate change by correcting market failures”. It is surprising that the Garnaut review did not openly discuss the impacts of a *cap and trade* approach on voluntary actions. Whilst it is possible for a reader to interpret that some discussion on complementary measures might include voluntary actions, it is not explicit.

The Garnaut Review made one additional comment that policy makers should heed.

“A well-designed emissions trading scheme has important advantages over other forms of policy intervention. However, a carbon tax would be better than a heavily compromised emissions trading scheme”.

Since the release of the White Paper, Garnaut has openly [criticised](#) the level of free permits and compensation identified in the CPRS proposal. Garnaut’s following comments suggest that the CPRS is now heavily compromised:

- “There is no public policy justification for \$3.9 billion in unconditional payments to generators in relation to hypothetical future "loss of asset value"”.
- “Never in the history of Australian public finance has so much been given without public policy purpose, by so many, to so few”.
- “The proposed issue of free permits to trade-exposed emissions-intensive industries raises different issues. Like free permits to generators and the price cap, it carries risks to the public finances — in this case, of much greater dimension”.

### **2.4. CPRS Green Paper**

In section 1.22 of the Green Paper there is a comparison of the CPRS *cap and trade* approach against other possible policy responses. The Department of Climate Change set about with ideological statements to justify a pre-existing viewpoint without fully describing advantages and disadvantages. Most of the discussion is placed into a neat little box<sup>1</sup> which by itself is a method of marginalising the issue. The discussion presents a number of claims as reasoning.

With regards to the section on “Why not a Tax?”, I have numbered the paragraphs in the box in order to make comments on each in text that follows.

*Box 1.9 – Extract from the CPRS Green Paper*

**Why not a tax?**

1. Both an emissions trading scheme and a *carbon tax* are ways of putting a price on carbon. An emissions trading scheme restricts the quantity of emissions and allows the market to set the price of carbon pollution permits—the carbon price. A *carbon tax* increases the cost of emissions by a set amount and allows the market to determine how much abatement to undertake in response—that is, whether it is more cost effective to pay the *carbon tax* or to undertake abatement.
2. Where the Government has full information, a *carbon tax* and an emissions trading scheme can deliver similar economic and environmental outcomes. However, it is rare that the necessary information conditions can be met for a *carbon tax* and an emissions trading scheme to be equivalent policy instruments.
3. The key benefit of an emissions trading scheme over a tax is that it secures the environmental objective by controlling the quantity of emissions directly. Emissions trading may provide greater long-term policy credibility as the community can see the direct link between the policy instrument and the environmental objective.
4. Australia’s international commitments are likely to continue to be defined as quantitative targets so this approach allows international obligations to be managed more effectively.
5. Emissions trading has emerged as the preferred approach in many other developed countries. In part, this is because domestic emissions trading schemes can easily be linked, giving firms the capacity to access least cost abatement opportunities internationally. As this occurs, carbon prices will equalise across countries, creating a global carbon price, without the need for centralised decision making.
6. *Carbon taxes* could also be harmonised but this would involve multi-party agreement and would therefore be difficult to achieve in practice.
7. Emissions trading also allows for mechanisms to help entities manage the uncertainty around future carbon prices. For example, emissions trading

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<sup>1</sup> A similar approach was used to stage discuss Scope 2 emissions accounting matters in the December 2007 [Discussion Paper on the NGERs Determination](#), Page 128, or see my comments on this in the appendix of my [personal submission](#) on the expanded National Renewable Energy Target).

allows for derivative financial products to be developed. It is difficult for a *carbon tax* approach to provide similar means to manage uncertainty around future carbon prices.

**RE: Paragraph 1: on context**

Paragraph one outlines how in an ideal theoretical situation the two approaches would work. In reality, the statement regarding an emissions trading scheme allowing “the market to set the price of carbon pollution permits—the carbon price” is false. The proposed CPRS uses grand fathering; compensation payments on a massive scale to manipulate the price of permits and costs for picked industry situations; and one way trade restrictions to prevent exports of Australian CPRS permits (converted into Kyoto tradable units).

The Government backs up price control by capping the price at \$40/tonne CO<sub>2</sub>-e. When the Green Paper was released, the Government had already planned such market interventions and must have known that the *cap and trade* approach in this form would not allow the market to determine the price.

**RE: Paragraph 2: on Full information**

Such a statement on the need for full information in a *carbon tax* is complete nonsense. A *carbon tax* does not require full information as the rate of tax is easily adjusted to drive a faster or slower market response. Setting the reduction targets and pathways lets the market know that the cost of emissions will increase if businesses fail to reduce emissions and this acts as an additional constant driver across periods of high and low economic and emissions growth. In contrast, the emissions *cap and trade* approach always requires an assessment current and future economy wide emissions and business emissions creating vast opportunities for mistakes. We have already seen this fail spectacularly in Europe where too many permits were issued in the first trading period, virtually wasting 5 years in starting to bring down emissions and creating windfall profits for a number of polluters. A *cap and trade* approach does not create a constant market driver across economic cycles of and low emissions growth.

**RE Paragraph 3: on the Key benefit being a secure environmental objective**

Firstly I particularly dislike the belittling of the importance of reducing emissions to being “an environmental objective”. As the Government points out in its Green Paper the IPCC suggests that climate change presents the risk of increased temperatures in Australia by 1 to 6.4 degrees. On current global Fossil Intensive behavior (Closely aligned to the A1FI Scenario) the range is between 2.5 degrees and 6.4 degrees with a best estimate of 4 degrees by 2100. This is double the dangerous climate change usually referred to at 2 degrees and many human settlements, economies and ecosystems would not be able to adapt. Most human settlements and economies in Southern Australia’s vulnerable dry zone could not adapt to such an extremes and would decline. The high end of A1FI human behaviour suggests three times dangerous climate change and the Government should keep reminding us that the risks to the

economy, people and environment increase in a non linear way as temperature rises.

As for the key benefit being secure emissions control, this is dependent on achieving a target that does the job. Currently, emissions reduction objectives set between 5% and 15% reductions by 2020 are not sufficient and there is a risk that the cap and trade mechanism with the targets may lock in failure.

There is an added risk that everything will revolve around achieving a specific value cap causing too much attention on accounting methodologies that support results being achieved (including clever accounting loopholes) rather than drivers which support constant action and change for emission reduction. At 5% reductions it is arguable that there may be no direct link between the Scheme and the objective to reduce Australia's emissions to sustainable levels.

#### **RE Paragraph 4: International Targets**

There is no reason why an emissions tax cannot be used to achieve quantitative targets. International frameworks do not prescribe how nations will achieve their commitments. There is however a real danger that when Australia does start to reduce emissions in a significant way, pressured by the international community in the face of emerging climate impacts, and when true scarcity is introduced, the artificially priced controlled permits will be fully consumed causing businesses to run out of permit supply. At that point we will say '*what now?*' There will have been insufficient drivers for change to transition to a low emissions economy. Large Corporations would have used market position to buy up permits leaving smaller players to struggle. In ten years time, we may need to re-visit the whole mess and acknowledge that the stage managed *cap and trade* approach failed to contain drivers for change. This will be the Murray Darling Basin situation repeated but in the atmosphere, contributing to global worsening and not just regional failure.

#### **RE Paragraph 5: Emissions trading has emerged as the preferred approach**

The Australian Government should look past what "many other developed countries" are doing and assess the best approach that will be effective and sustainable. Domestic schemes under a *cap and trade* approach can also be linked to other nations giving firms greater capacity to access or sell least cost abatement opportunities internationally. This does not happen under the CPRS which is extremely restrictive, particularly in reducing offset opportunities, reducing voluntary renewable energy mechanisms and restricting export markets in offsets and low emissions products.

#### **RE Paragraph 6: Carbon taxes could also be harmonised but this would involve multi-party agreement and would therefore be difficult to achieve in practice.**

Is the Australian Government seriously suggesting that linking *cap and trade* schemes will harmonise carbon prices but *carbon taxes* would not?

The reality check needed here is that harmonisation is not likely to occur in either case because even if all nations could participate in the market, nations have different economic wealth. We don't have free trade and market parity in any other aspect of global markets so it is a fallacy to suggest that carbon prices



will equalise across nations regardless of whether there is a *carbon tax* or a *cap and trade* approach, particularly when we need action from both developed and developing nations.

**RE Paragraph 7 Emissions trading also allows for mechanisms to help entities manage the uncertainty around future carbon prices.**

Nothing could be further from the truth. With a *carbon tax*, the market knows the starting cost straight away without the need for market intervention for free permits to indirectly manipulate the price and cost. The Government has proven that it does not even believe this statement because it has fallen back to a price cap of \$40 per tonne CO<sub>2</sub>-e, just as a *carbon tax* would set the price.

In a *carbon tax* approach, depending on how quickly the market is responding, future tax gateways and projections could be used in the same way as when setting emissions caps.

An emissions *cap and trade* approach provides no certainty in price where emissions will need to be reduced (more than the 5% that might happen with recession anyway). There is a risk that with an artificial price cap, the ceiling might be reached and businesses will run out of permits. At that stage we will face an impossible economic dilemma and the Government will need to choose between acknowledging that the CPRS didn't work or it might force business sectors into closure.

The claim that it is difficult for a *carbon tax* approach to manage uncertainty around future carbon price is by definition untrue because it is far more direct, transparent and can be more easily forecast.

With regard to derivative financial products such abstract creations are not necessarily welcome. The last thing we would want is a perverse use of permits to create securities or to be hoarded by speculators. Permit products and rights issued to the market also create the conditions that will cause the need for compensation when the scheme targets need to be tightened up at a faster rate than anticipated. There is little benefit in creating a market sector based on intangible nonsense that gets us nowhere other than to secure perverse outcomes.

In reality, the *cap and trade* approach in destroying the ability for individuals and entities in being able to reduce economy wide emissions through tangible actions reduces market opportunity for offset products, renewable products financial products and even efficiency products in the wider economy.

**Conclusion regarding the CPRS Green Paper “*Why not a tax*”**

Based on the Green Paper, and its lack of reasoned justification on the merits of the *cap and trade* approach compared with a tax there is nothing of merit to suggest that the *cap and trade* approach would be better than a tax in achieving reduced emissions in line with identified targets and reduction pathways. Some of the stated advantages apply equally or are even stronger in an emissions tax approach. Other claims such as being better to manage price uncertainty by definition of the mechanisms, are simply not true.

There were carefully placed comments about the nature of carbon offsets in other parts of the document but the critical issues on how the *cap and trade* approach would differ from an emissions tax approach across the whole economy and what it would do to the efforts of individuals, were not covered in an open and transparent way in this important discussion.

### **3. ANOTHER VIEW - JAMES HANSEN**

Dr. James E. Hansen of Columbia University is one well known example of people that have serious misgivings about the effectiveness of *cap and trade* approaches. Hansen is not a

In January 2008, James Hansen in an open letter to the American President in Waiting Barack Obama suggested that:

"*Cap and trade*" generates special interests, lobbyists, and trading schemes, yielding non productive millionaires, all at public expense. The public is fed up with such business. Tax with 100 percent dividend, in contrast, would spur our economy, while aiding the disadvantaged, the climate, and our national security".

Hansen goes on to call for a *carbon tax* (on oil, gas, and coal) at the well-head or port of entry and then describes how the will then appropriately affect all products and activities that use fossil fuels. In making such a statement, Hansen is recognising the economy wide impact of a tax based system. He does not however acknowledge the constraints of a *cap and trade* system in destroying the efforts of an individual or business entity to bring down economy wide emissions through their actions.

On one matter I am not in complete agreement with Hanson and that is the idea that the tax will be returned to them as equal shares on a per capita basis (half shares for children up to a maximum of two child-shares per family), deposited monthly in bank accounts. I would like to see the tax returned to those that pay for it, but only in the form of low emissions energy, low emissions transport and efficiency solutions installed in households and businesses. Hansen's approach has merit in avoiding the need for large bureaucracy yet there would be considerable bureaucracy in shifting revenue back to individuals

Hansen's approach suggests that person reducing their carbon footprint more than average make money, whereas a person with large cars and a big house will pay a tax much higher than the dividend (indirectly). With Hansen's approach in the United States not one cent would go to or as Washington (Same with the Australian Government's CPRS) yet funds would not be returned to businesses as compensation and there would appear to be exemptions and thereby no support for lobbyists. Hansen suggests that unlike cap-and-trade, no millionaires would be made at the expense of the public.

### **4. TIM KELLY ON AN EMISSIONS TAX VERSUS *CAP AND TRADE***

In my personal submission on the NETs discussion paper in December 2006, I raised concerns that the proposed NETS would seek to create scarce emission permits whilst at the same time capping the costs. The difficulty with this approach is that this defies economic logic whereby scarcity should increase the market costs or else the

artificially constrained low price will lead to rapid depletion of all permits with limited market trading. This I said would “create enormous pressure to compromise one or more of the intended outcomes, such as over allocating short and long-term emission permits to existing polluters”.

The CPRS White Paper does indeed compromise every proposed aspect of the economic mechanism. It has gone to great lengths to control the price that the Government said the market would determine. The White Paper caps the cost and uncaps the emissions cap in any given year.

The 5% cap by 2020 (minimum Australian Government Guarantee), does not recognise that at such a small reduction, the impact of recession and uncertain measurement methodologies may cause reductions to be even greater than the reduction target. When this happens, the *cap and trade* approach stops working as an economic driver and there is a period of free floating until scarcity is re-introduced (as per the European experience) and when the economy picks up there will be enormous pressure to not let emissions restrictions stand in the way of economic growth.

Some argue that so long as this free floating occurs within the cap that the system is working as it is designed to, but it is also a lost opportunity as highlighted in McKibbin Morris & Wilcoxon paper of 2008: *Expecting the Unexpected*. The IPCC fourth Assessment Report suggests that we really don't have time to spare in changing to a truly lower emission economy.

In my submission, I suggested that “there might be valid reasons why a *Permit and Trade* NETS may be better than a carbon *Levy and Trade* NETS, or otherwise, yet it is not possible to quantify the differences as no alternative market or economic modelling was presented” There is still no detailed modelling provided which would have resulted in a value for money comparison of a compromised emissions trading scheme compared with what happens in voluntary markets when a tax on emissions is applied. This is a key difference between the two approaches that has not been fully explored.

In 2006, I suggested that “the complexity of a carbon permit and trade system that incorporates grandfathering and compensation is going to be overwhelming”. Just on the reports from the National Emissions Trading Taskforce, the main document is hundreds of pages long and supplementary documents such as the ‘*Further definition of the Auction Proposals in the NETT Discussion Paper*’ is another 74 pages. The current CPRS White Paper is around 850 pages long and this is without the suite of documents relating to complementary measures.

In 2006 I suggested that there is a risk that emission permits will be over allocated, or if they are not, that the costs will not be shared fairly because of too much grandfathering and compensation. I maintain these concerns.

#### **4.1. Simplicity of an Emissions Tax and Trade System**

A *carbon tax* applied broadly to the market could be described in a document of not more than 20 pages, and the legislation and regulations would also be much simpler.

All the other background and context covering the need to act should be properly covered in separate documents.

The same thresholds could apply and concessional tax rates could be granted to Energy Intensive Trade Exposed Industries (EITEIs) for a period of time (noting that this also compromises the Tax system). For a tax to work, it should be broadly based and include Energy, Transport, Industry, Forestry and land clearing sectors. The system could be administered through an Emissions Regulator and the levy collected through the taxation system. Revenue raised could then be directed towards establishing low cost, low emission sources of energy for trade exposed energy intensive businesses and helping sectors adapt to climate change.

#### **4.2. Can voluntary action make the difference?**

Some people have questioned whether issues relating to voluntary market mechanisms such as double counting or false and misleading programs are of material concern based on limited voluntary action to date. There is also a view that where activities are considered as inelastic voluntary actions would fail to deliver even if shortcomings were fixed. The logic suggests that because voluntary action has not reduced emissions to date that only a cap can make the difference. The matter needs to be carefully explored, and in the end it boils down to how well the introduction of a tax on carbon emissions which interacts well with complementary measures and voluntary actions can drive an economy wide change or whether a negotiated *cap and trade* mechanism can do it better.

Considering the example of personal transport, one view is that very few people would switch to pedal power, public transport or fuel efficient vehicles with a *carbon tax* so there will be little change. The alternative view is that a price on fuel **does** make a difference, combined with climate change awareness, compulsory vehicle charges, parking policies public transport standards and accessibility and support for cyclists and pedestrians. In 2008 when the price of transport fuels increased by approximately one third there was a dramatic response in National transport fuel use, many people switched to public transport, and there was a corresponding drop in sales of new vehicles, particularly those of poor fuel economy.

It is the combined effect of cost and choice that drives market change. A *carbon tax* can amplify such a market response whereby the cost of fuel would increase (as it would eventually under a CPRS) and in addition, individuals and entities could legitimately believe and claim their part in reducing emissions, and would feel confident in making choices to reduce emissions. The CPRS in comparison creates a carbon cost but virtually no choice for voluntary consumers.

Considering renewable energy, a *cap and trade* approach would increase the cost of fossil fuel produced electricity and constrain emissions causing energy producers, wholesalers and retailers to seek lower emissions technologies including renewables. The proposed CPRS however, contains such compromises with free permits, indirect price control and a price cap that the impact is unlikely to cause change. Furthermore, the combination of the CPRS with the NGERS Determination (2008) eliminates market choice for customers, and so the adoption of low emissions technologies to reduce National emissions is left largely in the hands of the fossil fuel generators.

The alternative *carbon tax* approach (with NGERs reform) extends the market influence of the carbon price into the decisions of ordinary individuals, households and businesses. A *carbon tax* would empower individuals to choose whether they pay a higher price caused by carbon permits, or a higher price caused by purchasing a renewable or low emissions energy product that also serves to legally reduce their emissions and reduce National emissions. As the price of carbon increases through time, the price of renewables would decrease in comparative terms and possibly in real terms as well, further justifying continued voluntary action.

In this way, where voluntary markets frameworks are set up correctly to incorporate a given cost of greenhouse emissions, that they can deliver a greater economy wide response and outcome compared with *cap and trade*.

### **4.3. A National Plan for Climate Change Defence**

Directing funds to particular areas (picking winners) is consistent with moves by both the Federal Government and Opposition which for example, both seek to directly inject assistance for carbon capture and storage technologies for coal fired power stations. More recently the Federal Opposition has released a storage focussed climate change plan to improve carbon in the landscape. Both major parties cannot refrain from picking winners due to concerns about protecting current jobs and current fossil fuel based domestic and export operations. So why not use the *carbon tax* to firstly push the market away from greenhouse intensive activities and secondly use the revenue to pull industries into adopting low emissions technologies in a positive way without penalty for many vulnerable businesses?

Using the tax revenue collected, the Department of Climate Change could be elevated to the status of a Climate Change Defence Force and operate in much the same way that our military defence forces act to get the job done using private industry to build and implement infrastructure and programs for National low emissions objectives.

The Department of Climate Defence would roll out and implement Nationally prioritised greenhouse reduction strategies and projects for both adapting to climate change and reducing emissions. In doing so there can be standards to ensure business transition rather than close. The point is not to protect say *brown coal fired generators*, but to help them change into *low emissions generators* whilst protecting their workers and shareholders as their businesses transform.

A system of checks, balances and reporting could be used to maintain accountability for projects to deliver a balance of investment across efficiency programs, fossil fuels, renewables and landscape based greenhouse programs. Key performance indicators such as \$/CO<sub>2</sub>-e captured or avoided and \$/carbon neutral energy achieved would be most valuable.

Unlike the CPRS model, most of the funding would go into transforming Australia to a low emissions economy. Some of the funds could go to reduce or eliminate other taxes that inhibit good business, and some of the funds could go towards climate adaptation.

There would be push and pull drivers in the economy, every individual and business entity can play a part and the tax rate is likely to be more effective at a lower price.

There should be no merry-go-round of funds that take revenue from a polluter and gives it straight back to the polluter. This creates a false carbon price, is inefficient and causes significant financial transaction and administration losses. If the Government intends to hand back revenue, it should not have taken revenue from business in the first place.

#### 4.4. Comparison between *Cap and trade* versus *Carbon tax*

I have entered my own assessment of the comparison between the two different approaches of *cap and trade* versus a *carbon tax*. For simplicity, I have not included the McKibbin Wilcoxon hybrid approach. I have also not fully reasoned my assessment within the table as this has been covered in the previous text and in some cases in other linked documents'

**Table 1: Comparison between *Cap and trade* versus *Carbon tax* for reducing emissions**

<b>Aspect</b>	<b><i>Cap and trade</i></b>	<b><i>Carbon tax</i></b>	<b>Winner</b>
Cost on business and community	For a given price on emissions the cost on carbon is has no influence for change in the broader economy where customers have no alternative.	The cost on emissions has a wider impact than just the covered emitters as the tax drives the broader community and smaller businesses to seek alternative low emission electricity, products and services that can reduce National emissions	Tax
Economy wide and community wide involvement	Destroys the ability for an individual or business entity from reducing economy wide impacts.	Drives action directly through emitters and in secondary voluntary markets as people use their choices to avoid the cost and contribute to national emissions reduction	Tax
Simplicity and bureaucracy cost	Terrible, complex documents, complex schemes, complex shifting of funds and compensation for little value, legal risks	Minimal Can be managed to charge only what is required to cause change, letting the market decide where the change would occur without the merry go round.	Tax
Encouraging innovation in the market	Rules out many offset products and as proposed, destroys the integrity of voluntary purchases of renewable energy	Drives innovation and a full suite of low emissions solutions and renewable energy solutions that can be led by market choice for genuine renewable energy	Tax
Need for non tangible	Creates perverse outcomes and	No need for weird reverse	Tax

offset frameworks.	the need for intangible concepts such as using permits as carbon offsets which do not directly link to low emissions solutions and may not indirectly drive low emission solutions and may not even cause economy wide reductions.	logic intangible offset concepts using permits to pollute as tangible market offset products and renewable energy choices would work to lower economy wide emissions.	
Price certainty	Requires massive free permit allocations to indirectly manage the permit price. Falls back on a <i>carbon tax</i> to ensure the price stays below \$40 even with many emitters paying nothing like this when grandfathered permits are factored in	Easily assigned and controlled by Government. Easily adjusted with new science and negotiations at regular intervals at markets transition.	Tax
Need for full information	Requires complex assessment of current emissions and forecasting of future emissions in five year blocks to seek to minimise over-allocation that would constrain progress or under-allocation that would cause mechanism failure and the need for review and intervention	Not required as the price becomes a constant driver in the economy throughout economic cycles	Tax
Certainty in achieving the greenhouse reduction objective	Unclear as to whether the CPRS could achieve certainty due to its compromises, measurement methodologies and the ability for Government to issue unlimited permits in a given year	Reduces emissions without direct control and necessarily requires reviews the economy transition to lower emissions and updates with science and negotiation.	Neither approach provides absolute certainty
Creating a difference between pollution costs and abatement for customers to decide on what products and services they would buy.	Buying and surrendering CPRS permits to reduce emissions causes <i>Siamese twinning</i> , locking the cost of abatement with the cost of pollution. (ultimately all other offsets form national and international sources would cease where all nations adopt <i>cap and trade</i> )	Increases the cost of polluting technologies and provides a relative benefit for other technologies to compete more fairly, letting the market decide what type of electricity, offsets and efficiencies they buy, knowing that these will reduce National emissions	Tax
International linking	Reduces options for trading offsets and low emission products	Increases opportunities to trade in offsets and low emission products	Tax

## 5. CONCLUSION

No system can be perfect a scheme to tackling climate change. There are no ‘silver bullet mechanisms’ just like there are no ‘silver bullet’ greenhouse solutions. For any mechanism to drive change, it must change the economy. When this takes place, there will be costs! For any working market mechanism to reduce emissions to safe levels these costs will be significant and will increase. There will be winners and

losers, and most importantly, some of our most vulnerable industries would change to become winners.

Mandatory systems should be developed in such a way that they do not eliminate the additional benefits of voluntary actions by organisations and individuals. The *cap and trade* approach fails this test and this was not made clear to stakeholders in either the NETT Review or the CPRS Green Paper.

It can be argued that there is a need for further debate on the benefits of a *carbon tax* versus a *cap and trade* system by our senior economists in Australia and overseas. Whilst the Federal Labor Government has virtually locked itself into its CPRS *cap and trade* approach, it is not too late for the Federal Opposition and minor parties to have a proper review of the merits on how effectively the two alternatives would drive greenhouse reductions throughout the entire economy.

Economic modelling on both approaches should be carried out in the context of the deeper cuts in emissions that will be required in the near future, not on 5% reductions that can occur naturally due to economic cycles of stability, boom and recession. Modelling of the cost effectiveness of the revenue raised should be for both approaches at 15%, 25% to 40% emission reduction range suggested as a guideline by 2020 at the UNFCCC Climate Conference in Bali, and at 80%+ as required by science in the longer term. Some argue that we should be preparing for much deeper cuts even faster and we need to watch this space and perhaps start modelling how Australia could contribute to extreme cuts.

The mechanism to achieve targets should however be separate from the process that determines the targets and emissions reduction pathways.

And finally, it is not sufficient to consider the schemes in isolation from economy wide processes. A *carbon tax* should be considered as part of the solution with its ability to interact well with complementary measures and to drive voluntary actions.