

A CARBON NEUTRAL COUNTRY

What would it take for Australia to become a leader in greenhouse?

- **A submission to the Garnaut Review**

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Carbon neutral is becoming the policy for innovative companies, individuals and even football teams. Can it be applied to a country? What would it mean for Australia?

The world tipped into carbon politics over the past year and is attempting to find the best models for how to reduce carbon whilst enabling the economy to thrive and develop around the new green collar jobs. There are economists who favour carbon taxes and those who prefer a hands off carbon market. Obviously elements of both are also being considered. This submission seeks to find another way to frame the approach by using the concept of carbon neutral which is rapidly becoming the basis for many businesses to frame their response to climate change.

The changed world.

The political climate has not only made greenhouse central to elections it has led to a bidding war between cities and states as to who can promise the most reductions and mandate the most renewables. In the US the biggest state, California, and the biggest city, New York, are both promising the most: California will reduce greenhouse gas by 25% by 2020 and New York 30% by 2030. Both were very popular politically and both have come from Republicans. The Democrat Congress have a series of Bills that are poised to restore global leadership for the US on climate change.

However there is little doubt that Europe has gone beyond the US and actually has begun the global greenhouse transition. The UK Climate Change Bill now presents what seems to me the next big agenda: Carbon Neutral.

The UK Stern Report has emphasized that we must begin to suck carbon dioxide from the atmosphere now. Carbon neutral has emerged as the policy that progressive groups want to see happen so that from here on we are not damaging the atmosphere. Thus New Zealand have announced they will become the 'world's first truly sustainable nation' and 'they will aspire to be carbon neutral'.

Innovative companies are becoming the first carbon neutral wine, paint, petrol, or even football team when the West Coast Eagles recently announced they would do this. News Corporation has been the highest profile company to announce that they will become carbon neutral and are turning the company upside down to see how it can be done. Airlines are now jockeying about how to make their travel carbon neutral; my recent round the world trip I paid an extra \$80 to ensure 33 trees were planted making it carbon

neutral¹. This made me wonder why we couldn't do the same for a country? What would be needed to carbon neutralize all Australian activity?

The UK has announced that they will require all new land development to be carbon neutral by 2016 ramping up the requirement progressively from 2009. Malmo in Sweden is claiming to be the first carbon neutral city in the world.

'Carbon neutral subdivisions' is on the agenda in Australia as well with progressive land developers seeking to be the first to show how this can be done. In reality its not straightforward how this would be done without some kind of broad national framework.

Targets

The first step in Australia to come to terms with climate change is to accept a target. Targets are a recognition that we cannot keep increasing our use of fossil fuel. They are an essential part of the process of dealing with the climate change issue. However they are not very useful if they aren't given substance in policy to ensure they are met. There are three problems in particular with the way we are going about policy to meet the proposed target: the problem with transport fuel, the problem with carbon markets and the problem of the transition to new technologies.

(1) The problem with transport fuel.

Despite being a third of the greenhouse problem and being the sector that is growing fastest, transport fuel is not part of the main policy thrust at present. The Kyoto mechanisms and the cap and trade processes being developed in Europe and the US do not include transport fuels. They are entirely about power production and industry energy. A policy process must be able to include transport fuel. The Garnaut process says that Australia's carbon-trading scheme will include transport but we will wait and see as its not easy to do – technically or politically.

(2) The problem with carbon markets.

Carbon trading is supposed to provide a market-based approach to greenhouse whereby those innovators who can save energy or introduce renewables can sell credits to those who cant. The track record of achievement does not inspire confidence that they would actually ever bring about the required changes. For example big coal producers can do very little to change and most are just prepared to pay for the extra carbon cost as it is a small part of their profits. They also have been very successful at getting exemptions as is planned in Australia in the state system. The European carbon trading scheme collapsed as there were so many exemptions that the price of carbon dropped to nothing.

Establishing a price for carbon is critical to whether this carbon trading will work or not. Some want it to be small at around \$5 per Tonne. Other economists say it should be over \$300 a Tonne before it will begin to cause changes in behaviour which are necessary - though almost certainly these will be regressive. Some scientists say it would need to be

¹ According to Carbon Neutral (the organization set up by Men of the Trees) 1 tonne of carbon dioxide is offset by approximately 5 trees grown over 30 years. The average Australian is responsible for **18 tonnes** of domestic carbon dioxide emissions per year and it costs \$13 per tonne to offset the emissions with tree planting.

\$200 per Tonne before it would make most renewables cost effective. The result is political uncertainty which is where the world stands mostly at present. These attempts to guess a price for carbon are not based on any scientific rationale. They are also going to be subject to large variations if allowed to float freely which will make it hard to plan for the necessary transition to new technologies.

(3) The problem of the transition to new technologies.

Even if carbon markets were working the possibility of them being able to transform how we power and fuel the economy is doubtful without a *transition strategy* to enable alternative technologies to perform. This is known as the Innovation Cycle and special funds are usually needed to get new technologies over the hump and into the economies of scale where they can compete. Solar systems especially need help in demonstrations before they can scale up to be competitive. This was demonstrated clearly on the Four Corners show on 16th April 2007 as it examined options for renewables.

These problems can be solved if we move to a Carbon Neutral policy.

Proposed Carbon Neutral Policy.

Australia should establish a policy to be CARBON NEUTRAL FROM 2010. This should be possible through the following steps.

1. ***Establish a carbon charge on each element of carbon in the economy equivalent to the cost of sequestering this carbon and place it in a National Carbon Fund.*** In Australia at the moment this charge would be between \$13 and \$26 per tonne of CO₂ (as provided by Men of the Trees in their Carbon Neutral program for the lower price and Greening Australia who charge this for fully accredited legally-based Kyoto compliant planting). This would make a scientific basis for a carbon price. The charge would be applied to each tonne of coal burnt in a power station, each cubic meter of natural gas delivered to a business or household, and each liter of petroleum delivered to a service station, i.e. it would be applied at the primary point of use to make Australia carbon neutral from its fossil fuels immediately it is introduced. Australians produce around 18 tons of greenhouse gas each per year. There are 20,804,000 Australians now so this would create a fund of between \$4.9 and \$9.8 billion per year (the Australian Federal budget was \$231 billion in 2006/7 with a surplus of \$10 billion). However the primary fuel users may not have to pay for all this carbon.
2. ***The primary users of fossil fuels (the power plants, industries, gas providers and oil companies) could reduce their usage, trade their carbon or pay the carbon charge.***

There would be an immediate incentive for fossil fuel providers to reduce their own consumption of fossil fuels rather than just passing on the extra cost. The more they could find ways of not passing on the charge the more they will be able to compete for Australian markets. Hence it will push these primary fuel users to immediately move into efficiency and non carbon fuels. BP found huge savings in greenhouse when they were structured to do so in the 1990's. If they want to trade their carbon at \$13-26 per tonne primary fossil fuel users can do this with

renewable and sequestration credits from firms that are ready to provide them at this cost. If not then they will need to pay the Carbon Charge into the National Carbon Fund.

- 3. The National Carbon Fund established for this charge would then be available for projects that can demonstrate zero or negative CO2 including carbon sequestration in trees, geo-sequestration, biofuels and renewable power.*** The Carbon Fund should be able to not only sequester carbon in trees equal to the amount of carbon produced, but it can act as a very substantial R&D program to create the new technologies and city infrastructure to demonstrate the transition. Both functions can be done immediately to make us carbon neutral and enable a transition, perhaps over thirty years to where no further carbon taxing would be required.

The Carbon Fund could be administered by a Government Corporation charged with a mandate of achieving carbon neutral each year. It would need to show annually that it is reducing the CO2 in the atmosphere equivalent to the amount being produced and creating new industries based around carbon neutral technologies. In order to ensure industry drove this it should be seen as a set of partnership projects with 1:5 funding from other levels of government and the private sector (as with the Better Cities Program which revitalized inner cities across Australia). In this way substantial change to the power and transport systems could be driven whilst revegetating vast areas of our landscape.

What will this approach do?

- 1. Establish a market for reduced greenhouse gas products, efficiency, renewables and reduced fossil fuel-based transport.*** As coal, natural gas and petrol would have the cost of the Carbon Charge added on to their retail use there will be an incentive for users to purchase products with less greenhouse gas. Thus power producers will seek to have more renewables in their mix as this would not be charged. People will move to areas where there is less car transport required as it will be much cheaper to live there. Developers would build green homes and offices as they will have less of the charge. Carbon neutral subdivisions will be marketable as desired places to live as they will cost less. Industry will find many ways to save energy and to move to low carbon or no-carbon activity.
- 2. Ensure that there is an immediate response to greenhouse that everyone can see will produce results.*** Australians want to see something done. We will be able to show that we are no longer polluting the atmosphere. This is immediate and can be seen. In particular there will be a huge increase in the amount of trees being planted in the Australian landscape. If all the carbon produced was sequestered by trees then it would need around 1.9 billion trees that would take up an area of around 100 km by 270 km of land (with each tree taking 5m²). This is a lot more land than we are placing into forest plantations at the moment (800 km² per year is the goal). There is more than enough land requiring trees in Australia or any other land we wanted to revegetate on the planet, if we were serious about replanting areas of agriculture. But the reality is that the amount needed would

- reduce with every step taken down the efficiency and renewables path. The trees would have multiple benefits.
3. ***Help rebuild agricultural landscapes and economies.*** The sequestering of CO₂ by trees can enable Australia to replant the agricultural regions in ways that can leave a long term legacy for reducing salinity and improving biodiversity as well as creating rural industries around the tree crops like with the Oil Mallee Project.
 4. ***Create a good competition between cities on greenhouse.*** The cities with least greenhouse now due to combinations of better efficiency and less intensive greenhouse fuels will be favoured as places to live, work and invest as they will pay less on the Carbon Charge. The more a city becomes innovative with renewables and efficiency the more it will attract development to it. Progress and development will be seen to favour the planet not to harm it.
 5. ***Regain some global leadership on climate change.*** Australia in the 80's and early 90's was a global leader in climate change politics. We became a laughing stock until the election of the Rudd government. Now we need to demonstrate that we mean business by creating an innovative approach to decarbonising the economy. This policy is heavily oriented initially towards tree planting which we can do and others can't (eg Japan can't on its own landscape) and is thus peculiarly Australian. But it would also set us amongst global leaders in the climate change agenda.

What will this mean to the average Australian pocket?

At \$13-\$26 per tonne this consumption tax would mean on average the Carbon Charge would be around \$234-\$468 for each Australian if the carbon charge was fully passed on by the power, gas and oil companies. Maybe only half would be passed on to the consumer, i.e. around \$117-\$234 each. It would of course be reducing each year as the economy shifted to being less carbon intensive.

I believe this level of tax will enable changes to begin in our behaviour but they are not so strong that they become a social justice problem and hence a political problem. The biggest change however will come through the Carbon Fund that will enable our power, heating and transport systems to innovate and become sustainable. It would be interesting to see how many Australians would see this as an unnecessary tax or as an essential way to make a national contribution to a major global problem. It would be my bet they would support Australia becoming a global leader in this area.