

# Economic Issues with the Emissions Trading Scheme

Submission to the Senate Select Committee on Climate Policy

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## About

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## About the Author

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## Caveat

Please note that this submission is identical to [a submission](#) to the Senate Inquiry into Exposure Draft of the Legislation to Implement the Carbon Pollution Reduction Scheme (16th March, 2009).



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## Introduction

The purpose of this submission is to identify some key issues associated with the Carbon Pollution Reduction Scheme as it is currently proposed. I conclude the following:

- The proposed ETS is a landmark. It is a wide-reaching change in the nature of our economic approach to emissions and proposes the first ever reduction in Australia's greenhouse emissions. In that respect, the 5 percent unconditional reduction target by 2020 is appropriate and will allow the system to be implemented and refined with minimal economic cost.
- International agreement is the key and we should not bind ourselves to a low target in entering those negotiations.
- The ETS needs to provide for offsets so as to maximise the pathways by which carbon levels in the atmosphere are reduced.
- Based on the 5 percent unconditional target, trade-exposed industries require monitoring rather than free permits.
- Compensation to existing polluters should be limited so as to send appropriate price signals for abatement.
- The ETS is just the beginning on climate change policy and the Government needs to consider complementary policies most notably to stimulate innovation, as urgently as the ETS.

Given the time frame for submission, the comments below are necessarily brief but are made to identify key issues for the attention of the Committee.

## Having an ETS is a landmark policy change

The CPRS proposes to cut total carbon emissions to 95 percent of 2000 levels by 2020. Given population growth, this amounts to a per capita reduction of 27 percent below 2000 levels (or 34 percent below 1990 levels). This is no small feat for a country that has *never* cut per capita emissions, has one of the highest rates of emissions in the world, and is going to do this all without using agriculture, a proper offset market or an international agreement.

While some have called for a higher headline number it is important to note that this number outbids all European and North American commitments (to date and proposed by the Obama administration). To achieve it requires putting into place an apparatus for carbon trading and other policies the likes have never been seen in any economy. So 5 percent may not sound like much but it is a sea-change. Certainly it is enough to stimulate investment in the industries that will need to bear the brunt of this in curtailing emissions.

Some argue that we need to commit to more to be seen to be doing the right thing and for global leadership. That argument only makes sense if it will work. The alternative is to commit to a target we can credibly deliver. It appears that 5 percent is credible and a promise the country can keep.

This is even more critical when one notes that our emissions targets are themselves estimates. For example, our ability to commit to 5 percent reductions from 2000 requires us to know exactly how much was emitted in 2000. However, we do not know that number. Instead, we have an estimate based on coefficients based on energy

consumption, agriculture and what not. No one measured all of our emissions and what is more, no one is going to measure them in 2020.

All we know is that we are going to have that measurement for the Top 1000 companies from 2010 onwards and we are going to issue permits that are required to target what we think is a 5 percent reduction. It is a guessing game just as how much money we print determines the inflation rate.

## The International Agreement Target is Key

What will really drive things is not our internal policies (which can't easily be audited) but our international agreements (which will have audit arrangements as part of them). It is those agreements that will force our hand and will require adjustments to the number of permits we issue. And, in so many respects, that is exactly how it should be because this is a global problem. Whether Australia has a 5% or 50% reduction by 2020 will matter little for the total carbon actually in the atmosphere in 2020.

In this respect, I agree with those who are concerned more about what Australia's conditional targets are rather than our unconditional targets. What sort of thing are we willing to agree upon at the international level? My belief is that we should go there with the intention of advocating a global target and then agreeing to an individual target based on handling a fair share (where "fair" is complex notion) of the load for getting there. And in that respect, our load is not simply our target (or emissions consumption) but, for example, how many dollars we will put into R&D for environmentally friendly technologies.

Therefore, the Government should not limit the conditional target to its proposed 15 percent but, instead, leave it completely open as to how much it might commit to following any international agreements it might enter into. It makes little sense to go into a cooperative negotiation with our hands tied to a target that might limit the ability to achieve global agreement in the first place.

## The ETS needs provisions for offsets

Some commentators have noted that Treasury modeling indicates that, when carbon permits can be traded internationally (both sold and bought), Australia's 2020 emissions would *rise* by 5.8 percent above 2000 levels. However, this occurs because the scheme is working exactly as intended and as we should expect it to work to assist with the global problem at the least economic cost. It remains true that the permits issued will be 5 percent less than those in 2000 but that Australian industry will rather pay international prices for additional permits and deny polluters elsewhere the ability to pollute than reduce pollution itself. The key point is that we have taken 5 percent of our 2000 emissions levels out of the global pollution equation and that is why we are doing this.

This highlights a deficiency with the proposed ETS, however. While an international agreement may permit country-to-country offsetting whereby we can draw on a larger pool of permits (hence, expanding permit supply beyond the cap), it does not provide for internal means of doing this. At the moment, there are no incentives to engage in carbon sequestration, tree planting and any other means of extracting carbon directly from the atmosphere. The ETS will provide that incentive for 'within firm' abatement schemes. However, there are plenty of proposals for the development of technologies that will do this directly from the atmosphere and not at the point of pollution itself.

**The ETS should include provisions for offsets.** This would allow entrepreneurs to invest and deploy technologies that pull measurable carbon from the atmosphere and then to sell the credits from this on the emissions trading permit market. The price in that market generates an incentive to produce such technologies and actually reduce carbon in the atmosphere but without an ability to create permits on the basis of that, there

is no incentive for such activities. The world climate problem is too significant for us to cut off a potentially important and economically low cost option. There is nothing to lose. If those technologies cannot draw measurable carbon from the atmosphere in an economic way, they won't be developed. But to presume that they will never exist is foolish and economically irresponsible.

## **Trade-Exposed industries require monitoring**

There has been much discussion about trade-exposed industries. However, Treasury modeling indicates that these are unlikely to shut down with the modest unconditional target in the CPRS. Consequently, the issue is whether they should be granted the free permits they are being given; something that I will return to shortly.

Nonetheless, this is something that will require close monitoring. It may turn out that Treasury assumptions are incorrect and so the government may need to act to provide protection for those industries until an international agreement can be secured.

## **Compensation should be limited**

From an economic perspective, it is appropriate to compensate the losers from a policy if those agents undertook actions and were 'surprised' by a policy. However, in the case of climate change policy, it has been on the cards for many years and so investors -- in both trade-exposed and high emitting sectors -- have known that carbon prices of some form were coming. In that situation, the case for compensation is limited indeed.

The key issue with the ETS is that we get certainty and send signals to investors that incorporates the fact that they will be responsible for paying for future emissions. In electricity, the Government effectively proposes that we should give coal-fired plants free permits to compensate them for being in the wrong place in the wrong century. It is not at all clear that this will send an appropriate signal nor actually change anything in terms of emissions from that sector. What we need is for investment in capacity to take place that is above coal in the merit-order — of which plant gets to run or not in a given time period. The higher you are in that order, the more likely you are to run.

We will get coal lower in that order by either increasing the marginal cost of coal (which requires them to feel emissions costs) or getting investments that have lower costs — most likely wind and solar but there could be others. The problem is that free non-tradable permits will keep coal where it is and that is bad.

A better way forward is to raise the regulated price cap to final consumers by 20 percent over the next few years. In return for that, retailers will have to put in smart meters into households. The twin effect of that will get some behavioural changes at the user end. But the short-run effect will be to see more money available in the electricity sector and so a big incentive to move quickly on new investment. And what new investment will that be: ones that economise on emissions in the long-term.

It shouldn't be hard to get effective environmental policy but these exceptions and compensation mechanisms can stand in our way. We need to get rid of them.

## **The ETS is just the beginning on environmental policy**

To be sure, market-based interventions, like emissions trading, are elegant and when they work, they can really work. What worries me more is that there are some real risks associated with making it all work. And I wonder, therefore, whether we need to hedge our bets and not rely on a single policy.

Here I outline some risks and associated policies where a hedge might be worthwhile even if it undermines or is potentially less efficient than a pure market based solution.

## 1. Measurement

An emissions permit is a right to release a certain amount of CO<sub>2</sub> into the atmosphere. Its beauty is that it defines something that looks like a property right. Now think about what a property right is. It is a right to use something and to exclude others from using it. So when it comes to emissions, it is a right to emit that no one else can utilise.

When stated like this the problem is obvious: our emissions rights are only partly exclusionary. For starters, they are rights to emit that no other large company can utilise. Consumers can emit as much as they want and, indeed, people emit carbon continuously. Moreover, even for those companies, it all relies on accounting. For different industries, unmeasured emissions are likely to be differing problems. What is more, if companies can substitute production from CO<sub>2</sub> emissions to the emissions of other pollutants, are we really doing our job?

The way to hedge measurement risk is, of course, to move away from relying only on trading for reaching any international obligations on emissions. That means more heavy-handed regulations that I will come to in a moment.

## 2. Politics and macroeconomics

Climate change policy and the state of the macroeconomy were linked. The current political traction from environment policy is related to the long economic boom and the fact that the environment is a normal good. People are happy to spend money preserving the environment when economic times are good.

The flip side is obvious. When those times turn bad it is a whole other matter. We can call it emissions trading but in terms of the economy right now, the scheme is a tax with potentially restrictive fiscal policy and dead-weight losses (neglecting the future environmental benefit). We would be naïve to assume that a world-wide constituency to do something will hold water in this environment.

So how do we hedge against the political and macroeconomic risk here? One way is, of course, to turn threat into opportunity. Beyond the ETS, many environmental policies could simply involve large government expenditure. We could have a New Environmental Deal that puts the emissions revenues straight back into the economy through infrastructure investment designed to directly reduce emissions. True, it is not necessarily market-based, but it could be a way of maintaining momentum through bad economic times.

Consider an example of this: Smart meters. Few people can tell us where their electricity meter is where they are living let alone how much they are consuming. The total costs of implementing smart meters that provide real time information on electricity use are estimated by NERA (and others) to be between \$2.5b and \$4.3b so they are not cheap. But the benefits in terms of energy efficiency alone are \$4.5b to \$6.7b. Aside from environmental issues, this might be worthwhile anyway.

But consider this: give people information and some social pressure and that can be more important than pricing. What if the meter was installed right at people's front door. As soon as you or anyone else comes in, they will see it and be able to form an opinion on your energy efficiency. You can come home and see what power you are consuming when you leave computers and DVD players on. This information alone could lead to large reductions in usage.

## 3. Innovation

Which brings me to innovation. There are some who argue that 'getting the prices right' through emissions trading should do the job. That will provide incentives to develop technologies that economise on emissions.



The problem is: what are those technologies? For instance, make a more fuel-efficient car and it is not necessarily true that the amount of petrol use goes down by much. In contrast, a solar powered car would reduce it to nothing. Basic economics suggests that getting the prices right will stimulate fuel-substituting rather than fuel-augmenting technologies.

But there is a caveat: with the money flowing out of the 'real' economy due to emissions trading, there is less money for R&D. My own modeling shows that both types of R&D efforts would go down. That is not good news and suggests that by 'getting the prices right' we have to re-double our R&D efforts and not rest on our laurels.

One area however where R&D would be stimulated is in offset technologies – stuff that pulls carbon from the atmosphere. However, that will only be stimulated if you can earn permits by deploying such technologies: something that sadly is currently not on the cards.

Garnaut's approach here is to put \$3 billion per annum of newly found emissions revenue into R&D. The amount comes from contributing our share to world efforts on environmentally friendly technologies and that alone is a welcome change in perspective.

The point here is that we cannot leave innovation to the market. Indeed, the case for public action is stronger as a result of an ETS being put in place.

#### 4. Science

Finally, let me comment on the scientific risk. While the overwhelming consensus is that climate change is here and caused by human action, even the scientists admit that there is some probability that it is neither of those things. This is not a denialist statement, just a statement of scientific uncertainty.

The issue is that we may get information that revises our probabilities downward of the risks being faced. For many business people this is enough to create calls to wait.

For me, the issue is that we are too focused on emissions and not focused enough on pollution per se. Fossil fuels pollute as does traffic. If we dealt with emissions from electricity generation and from traffic congestion, we would get far along our emission task quickly. But what is more, if it turned out that the climate change risk was far lower, we would still have the benefit of reduced pollution and old-fashioned externalities.

For too long, we have focused only on greenhouse gases and not broader externalities. This has meant that we have not really factored in opportunities for 'two fors' in our environmental policy. This would lead us to a far more targeted approach than is currently being pursued.

### Summary

In summary, the ETS is not a diversified strategy and that is a problem. We need to cover measurement and political issues by investing in other direct ways of reducing emissions. We need to deal in a price-sensitive manner with trade-exposed industries rather than industry-by-industry. We need to cover innovation directly as the economy under an ETS cannot be guaranteed to do so. And finally we need to seek broader pollution abatement opportunities and target them.