

SUBMISSION TO THE PARLIAMENT OF AUSTRALIA'S SENATE SELECT COMMITTEE ON CLIMATE POLICY

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1. Context (for a summary of the main points covered, see Conclusions at the very end)

I have a Bachelor's degree in mathematics, and Master's and Doctoral degrees in economics; a decade's experience as a government scientist and economist working on environmental issues; and then two decades (one since arriving in Australia from the UK in 1999) of experience as an academic environmental economist. All opinions below are mine alone, not those of the ANU or the ANU-based Environmental Economics Research Hub, which partly funded the research on which this submission draws.

The initial focus here is on basic, well-known but often overlooked arguments about how best to cut Australia's carbon emissions, which I think are worth restating.¹ Then I comment at a general level on selected aspects of the Carbon Pollution Reduction Scheme (CPRS, hereafter meaning the current, draft legislation form of the Scheme, unless otherwise stated). I have not analysed the CPRS Green Paper, White Paper or draft legislation in any great detail, and write little or nothing on some key issues, such as the emissions target level, whether the start of the CPRS should be delayed because of the global financial crisis, or issues of international permit linkage. For such issues and greater detail overall I refer to submissions by my colleagues Salim Mazouz, also partly funded by the Environmental Economics Research Hub, and Frank Jotzo, submissions which express similar though by no means identical views. The shortage of truly independent expertise on the CPRS is itself a policy issue, briefly touched on below.

For simplicity *carbon emissions* here means all the greenhouse gases covered by the CPRS (about 70% of total emissions in terms of CO₂-equivalence); and *a transition to an acceptably low-carbon economy* means government policy which cuts future Australian carbon emissions by whatever percentage below business-as-usual levels will be most in the country's interest, even though it is not yet clear what that will be.

2. Whatever target for Australian carbon emissions in 2020 is set as acceptable now, it must be capable of being varied later in the light of new information

The arguments below apply whether the target cut is 5% or 55%, and I offer no view of what that or any other future target should be. But it is vital that whatever target is set now can be adjusted later, to remain acceptable in the light of new environmental data (about the amount and impacts of climate change), new economic data (about the costs of

¹ Most of the arguments are given at more length in Pezzey, John C.V., Frank Jotzo and John Quiggin (2008), "Fiddling while carbon burns: why climate policy needs pervasive emission pricing as well as technology promotion." *Australian Journal of Agricultural and Resource Economics*, 52, 97-110. It and other papers cited below are available from my website, <http://people.anu.edu.au/jack.pezzey/>.

emission cuts), and new international agreements (the extent to which Australia's efforts are part of a significant global effort to curb greenhouse emissions). This means that both the quantity and price of Australia's carbon emissions must remain variable, within reason, over the medium and long terms. So if an emissions trading scheme (ETS) is used to create a carbon price indirectly, the scheme must be designed so that it's legally and economically possible to lower the cap on total emissions later — for example, without a huge blow-out in abatement costs. Likewise, if an emissions tax is used instead of an ETS to create the carbon price directly, it must be legally and economically possible to raise the tax rate if emissions do not fall fast enough. In either case, the economy will and must face some uncertainty about future carbon prices. This will make investment planning harder, but investors have always coped with almost all other future prices being uncertain. To try to make just carbon prices neatly predictable is bound to make climate policy ineffective, inefficient or unfair. For example, not having the right market signals about long-term carbon price risk will lead to inefficient investments.

3. How to make a transition to an acceptably low-carbon economy

To oversimplify, but not greatly, Australia has three basic choices for this transition. It will rapidly become clear that I'm arguing strongly in favour of the first choice, but it is important to explore the others as well to see why they're worse.

(a) ***Make a transition in the least-cost way.*** In practice, this means using as the main policy instrument a (carbon) emissions trading scheme (ETS), which creates a carbon price. To reach the target cut, this price must be *adequate* (high enough). To reach the target at anything least cost, the price must be *pervasive*, that is, borne equally by the vast majority of the millions of carbon emitters, both direct ones (power stations, industrial plants, vehicles) and indirect ones (Australian consumers of high-carbon products like electricity, aluminium and steel). Such carbon pricing will *necessarily* involve some temporary pain, such as job losses in carbon-intensive industries and distress to carbon-intensive households. For example, the least-cost transition almost certainly entails the eventual closure, or not building, of some major carbon-using power stations and industrial plants; and even though most evidence suggests that job losses there will be handsomely outnumbered by new, low-carbon jobs elsewhere because high-carbon jobs are also more capital-intensive than average, some high-carbon workers will undeniably find themselves in long-term unemployment. The least-cost transition also entails big lifestyle changes for households with cars and houses too big, or journeys to work too long, to be affordable given adequate carbon pricing, although many other households will gain, for example from better-insulated new homes or better public transport. Similar localised pain happened with Australian tariff and exchange rate reforms, and was endured for the sake of much greater national benefit.

The least-cost transition will also include inventing and deploying low-emission technologies such as renewable electricity, and there is some role for policy that supports such technologies, but it is only a secondary role compared to carbon pricing. In general, the cheapest emission cuts come from facing almost all highly carbon-intensive users with the same price as everyone else, and the government should leave most choices of technologies, consumption and production levels, and locations, to this created market force. To do otherwise would be inefficient, illiberal and liable to evasion, as the

government would need to interfere with millions of different choices in using carbon, an element which is an economic staple as well as a source of pollution. Broad compensation should be given to offset job and lifestyle losses, as money for retraining workers or income tax cuts for consumers; but such compensation must not greatly blunt the carbon price incentive, for example by being conditional on carbon production or consumption.

OR

(b) *Make a transition to a low-carbon economy in a way that avoids localised pain by somehow reducing the carbon price effectively paid by the most carbon-intensive industries and households.* The limiting case of this is the delusion that "technologies alone can achieve emissions cuts", so that no plant need close and no consumer need change their house, job or car. The price for such local pain-avoidance is *much greater total pain (cost) elsewhere in the economy*, because too little carbon reduction is happening where it would be cheapest, which is in the most carbon-intensive sectors. The pain elsewhere in the economy may not be so readily visible because it is spread more widely: most obviously by hurting the general taxpayer who pays for massive subsidies to government-selected technologies, and who pays higher personal tax rates than would otherwise be needed. It is an iron law of politics that great lobbying pressure will be exerted to move policy away from (a), the least-cost choice above, towards (b), this choice, or worse to (c) below. This is because pervasive carbon pricing causes much bigger costs *per person*, although much lower *total* costs, for carbon-intensive sectors than for taxpayers or consumers. So carbon-intensive sectors have the motivation and cohesion to lobby much harder against pervasive pricing than Jo Public does. Yet in terms of jobs and output, Australia is mainly a service economy, not a carbon-intensive one, and it is policymakers' job to put the national interest first, by resisting the inevitably over-amplified cries of pain from carbon-intensive sectors, and holding to the principle of pervasive carbon pricing.

OR

(c) *Pretend to plan a transition to a low-carbon economy, but enact policy which will mean, later or even now, that an acceptable emissions target will not be met.* There are various ways of arriving at this choice, of "much talk, little action" on emission cuts. Most could easily result from starting with choice (b), of trying to lessen the pain to carbon-intensive sectors, but later realising that either lowering Australia's emissions target, or even just sticking to the existing target, has become politically or economically impossible. Two key examples would be:

(i) Passing a CPRS which effectively gives away too many free (tradable emission) permits, which are moreover conditional on production. What if actual climate change and global climate policy negotiations later put great pressure on Australia to set a new, lower target, one actually below the level of free permits allowed by production levels? This would require imports of international permits so large that no government is likely to contemplate such a target, even though with more cost-effective overall emission control it would definitely be in the national interest.

(ii) Replacing the CPRS with a carbon tax. As explained below, this is likely to result in delay; and either a mess of inefficient exemptions, or tax rates much lower than the CPRS carbon price path and a resulting emissions cut much lower than under the CPRS.

4. What is wrong with the current design of the CPRS, and can it be fixed?

The focus here is on this selection of four common but not necessarily consistent criticisms of the CPRS:

- too small a proportion of emission permits would be given away free if carbon leakage because of loss of competitiveness by Emission-Intensive and Trade-Exposed (EITE) firms is to be avoided;
- the overall 5-15% target range for cuts in national emissions by 2020 is much too low to be environmentally effective;
- the CPRS should be modified so that voluntary emission cuts, such as consumers choosing and paying extra for renewable electricity, also cut total Australian emissions, rather than allow others to emit more within an unchanged total;

and hence, for some critics,

- the CPRS as proposed is worse than nothing, and should be voted down and replaced by a (carbon) emissions tax designed from scratch.

My comments on these issues in turn are:

(a) ***Allocation of free permits, especially on EITE grounds.*** The CPRS proposes to give away about 25-45% of total permits to so-called EITE firms, and about \$4 billion as so-called transitional assistance to coal-fired electricity generators. Moreover, the CPRS gives out EITE permits only on condition that recipient firms keep producing, and with no limit on the total share of permits given away. As Salim Mazouz's submission shows in detail, the size and method of this free permit allocation has hugely distorted the CPRS away from an ETS that could be the basis of a least-cost transition, into a high-cost transition as in 3(b) above, or maybe little transition at all as in 3(c). Because of the proposed method, the most carbon-intensive sectors of the Australian economy will face far too weak an incentive to cut emissions by cutting their output, or cutting their consumption of carbon-intensive inputs. So carbon-intensive sectors' total emissions will *grow, not shrink relative to the rest of the economy*, which would then face far too high a unit cost of cutting emissions, forcing costly extra imports of permits instead. This will make any future, tighter target for national emissions vastly dearer than it should be, because carbon-intensive sectors are not bearing their economic share of emission cuts.

This situation has arisen mainly because the intense lobbying efforts of the last year or so have massively distorted the EITE provision, far beyond the very limited role it should have in protecting from carbon leakage those small sectors which are truly Emission-Intensive *and* Trade-Exposed. Companies' exaggerated claims about EITE-induced carbon leakage (job losses resulting from an inability to pass the costs of carbon pricing on to customers) have been challenged far too little, because of the proprietary nature of the data used, the lack of truly independent professional expertise in bodies like ABARE and CSIRO, and firms' sheer political power: in short, because of threats by the greenhouse lobby, conveyed by generally uncritical media to an under-informed public. A contributory reason has been the technology delusion mentioned in 3(b): a delusion that, for example, a sufficient solution to excess CO₂ from carbon-intensive sectors is

new technology, rather than there also being a need for higher product prices, and lower outputs and production capacities.

Changing the allocation of free permits into something that won't wreck the CPRS's cost-effectiveness is fairly straightforward, with possibly the simplest option being:

- (i) cap the total proportion of permits given away free initially, for example to 30% of the cap for all permits, as proposed in the Green Paper;
- (ii) share out this cap of free permits in proportion to the allocations currently proposed under the CPRS;
- (iii) greatly increase the rate at which the total proportion of EITE free permits declines over time, i.e. the efficiency increase required from such free permit recipients;
- (iv) spend the resulting greatly increased revenue from permit auctions on more direct assistance for unemployed workers, support for low carbon technologies, tax cuts, and other worthwhile goals.

(b) **5-15% target for total emissions.** Much as I think there are strong arguments in favour of a higher (tighter) target range, as set out in Jotzo's and Mazouz's submissions, I don't think the current 5-15% range is a reason to vote the CPRS down, especially if the free permit allocation is changed as just recommended. Such a change means that tightening the target in future — in response to rising climate change and international pressure, or to the surprisingly low carbon prices that I believe are likely to result from a 5-15% target range with pervasive pricing — will not incur huge obligations for extra permit imports as described in 3(c)(i) above.

(c) **Effect on voluntary action.** The voluntary action issue is a *minor* one in the change from a no-carbon-price to a carbon-price economy: a change which is essentially designed to eliminate the need for voluntary action! This issue has recently been blown up out of all proportion to its real importance, and also has ignored the longer term. For example, the low-carbon electricity used under various Greenpower schemes in 2007, though rising rapidly, was still less than 1% of total electricity use, a figure rarely mentioned in this debate. In any case, voluntary action has already and will continue to reduce total emissions in the longer term, even if only indirectly. By reducing the future demand for and hence price of permits, voluntary emission cuts make emissions control cheaper for the whole economy, and thus justify higher future targets for cuts. And because of inherent difficulties in identifying a voluntary emission cut, trying to design a scheme that maintains the effectiveness of voluntary action could be inefficient, and a dangerous, time-wasting distraction from tackling the more important issues (a) and (b).

(d) **Is the proposed CPRS worse than nothing? Would a carbon tax be better?** I agree with my colleagues that rejecting the proposed CPRS would risk a prolonged period of delay and uncertainty, and send a deeply negative signal internationally about Australia's resolve to tackle climate change. The best path to get underway a transition towards a low-carbon economy, and for Australia to help advance meaningful climate policy internationally, is to improve on the CPRS as far as possible and get it in place soon. Key flaws should be fixed now, especially by curbing free permit allocation, and by providing for more ambitious near and medium-term targets.

To add to the reasons why the CPRS should be improved, rather than thrown away in the misguided belief that the Australian political process can start again and get a better result with a (carbon) emissions tax, it remains to explain *why an emissions tax would be either messier than any politically realistic ETS, or environmentally ineffective*. The reason is institutional and political, not economic, as follows. To make an environmentally effective tax rate (say \$25/tCO₂) politically acceptable would need some of any emitter's emissions to be free of tax by using emission *tax thresholds*. These work just like free permits, except that the emission price is the tax rate, rather than by the market price of a permit. However, such thresholds are unfortunately only an academic idea so far,² and would in any case be subject to the same arguments and lobbying as free permits (should thresholds be conditional on production or not, who should get how much, etc).

Assuming that instead of using thresholds, an emission tax would be charged on *all* an emitter's emissions, the resulting tax scheme would in practice probably end up worse than any ETS, as follows. Without thresholds, a \$25/tCO₂ tax rate (say) on all emissions would raise the same huge revenue as an ETS with 100% permit auctioning and a permit price of \$25/tCO₂.³ Emitters' intense lobbying opposition to such large revenue-raising could therefore not be bought off in the way that free permits clearly have been used (badly and excessively, though it need not be that way, as argued above) to buy off opposition to the CPRS. The only politically likely outcomes would then be *either* a mess of exemptions (which remove the cost-effective price incentive altogether) and delays for carbon-intensive sectors; *or* a much lower tax rate, which simply fails to achieve even a 5-15% cut. For this reason, and also because an emissions tax would be harder to make compatible with the existing global dominance of ETSs, talk about abandoning the much-developed CPRS for some vague carbon tax idea is another dangerous distraction from much more important issues.

5. Conclusions

I have given reasons above why the Senate should, among other changes,

- improve the CPRS so that any free permits (or cash-equivalent transitional assistance to emitters) are effectively given away as shares, with the total free permit share capped as some fixed percentage (say 30%) of the total permit cap;
- improve the CPRS so as to make adopting more ambitious near and medium-term targets without insurmountable economic or political obstacles as at present;
- not worry about amending the CPRS to recognise voluntary action, since this is almost impossible to identify in practice and is in any case a very minor issue;
- not vote down the CPRS in the misguided belief that a carbon tax could be a superior alternative, as in practice it will probably turn out worse than any ETS.

² I suggested it in Pezzey, J. (1992), "The symmetry between controlling pollution by price and controlling it by quantity," *Canadian Journal of Economics*, 25(4), 983-991; and in Pezzey, J. (2003), "Emission taxes and tradable permits: a comparison of views on long run efficiency," *Environmental and Resource Economics*, 26, 329-342. The idea is academically respectable but has been ignored by almost all policy debate.

³ Because thresholds were excluded, the European Community carbon tax proposed in 1990 would have raised just such a huge revenue, which is one reason why it eventually failed and ended up as the current EU ETS.