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The Secretary
Senate Select Committee on Climate Policy
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Senate Select Committee on Climate Policy

Dear Senators

I wish to comment on Australia's climate policy. As a Professor of Forestry who lectures in natural resources policy, I have given this matter considerable thought, and have several concerns:

1. In a perfect world where all players are equally informed and equally empowered, there is no doubt that an emissions trading scheme (ETS) is an ideal way to reduce carbon emissions. However, we live in an imperfect world, where players differ in their access to information and power, and in our world, I fear that the principal beneficiaries of an ETS would be the traders and brokers, not the environment.
2. The proposed Australian implementation, with many large emitters receiving free permits, makes me think that the proposed Carbon Pollution Reduction Scheme will be worse than useless, distracting from more serious efforts to reduce fossil emissions.
3. I consider it important to focus on fossil emissions, because different forms of carbon are unequal. Unequal, because current reserves of fossil fuels hold about twice the carbon in the biosphere (atmosphere + plants + soils); more than can possibly be sequestered (see diagram in appendix). Unequal, because carbon in the biosphere tends to turn over about once a century (think of Victorian bushfires), whereas fossil carbon is secured for millennia. We delude ourselves thinking that we can continue to use fossil fuels unabated and sequester emissions in forests, and we must make sure that an ETS does not foster this delusion, and focuses firmly on fossil emissions.
4. Although the focus of our climate policy must be on fossil fuels, we need not cease using fossil fuels, we merely need to moderate it in an achievable. For every ton of fossil carbon currently emitted, one-third is sequestered by vegetation, and one-third is taken up by the oceans. So an immediate one-third reduction in fossil emissions can stop the problem getting worse. It won't solve the problem completely, but is achievable and will stop things getting worse.
5. The alternative to an ETS is a fossil carbon tax. Taxes have a reputation for being regressive, but this can be overcome by making a carbon tax revenue neutral, by reducing other forms of taxation (e.g., by reducing company tax and raising thresholds for income tax). There may be other benefits in such an approach, as the transaction costs in collecting taxes from a small number of fossil carbon miners are far lower than those involved in taxing most citizens directly.
6. Trade-exposed industries may fear a fossil carbon tax, but inequalities can be resolved with adjustments to account for embodied fossil carbon, with exporters credited and importers taxed for embodied carbon in much the same way as GST.

7. Critics of a carbon tax may argue that only an ETS specifically identifies and works towards a target, but my response is that the proposed Australian emissions target is inadequate, has no scientific basis, and may not be realized through the ETS. And in any case, carbon taxes may be increased if the desired emission reduction is not achieved with a revenue-neutral tax, thus raising additional revenue for further investment.
8. Obviously, CO₂ is only one of many green-house gasses, and a climate policy should cover all greenhouse gasses. However, fossil carbon is one of the 'low-hanging fruit' in terms of reductions and regulation, and I propose a staged approach in which we deal first with fossil carbon, and subsequently cover other greenhouse gasses in a comparable way.
9. Australia's policy should not be confined to a fossil fuel tax (or an ETS), but should also foster alternatives directly. Much attention has been devoted to solar and wind energy, but further incentives for such renewables should be encouraged – and domestic initiatives such as solar hot water and electricity, and passive solar house design remain important.
10. One area that warrants specific attention is the use of plant residues. While the net uptake of carbon by plants remains at about one-third of our emissions, the annual 'ebb-and-flow' of carbon into and out of vegetation is considerable (about 60 billion tons/year), and there is scope to utilize some of this natural turnover as an energy source. Biochar has already received excessive attention – while it is a good soil improver, if it was as good at fixing carbon as some have claimed, it could replace coal. But there is scope to use plant residues to create transport fuels, using a range of biomass-to-liquids processes. Much attention has been devoted to ethanol, but the real issue for Australia is diesel (and avgas), because alternatives will be found for personal transportation (e.g., electric cars, etc), but agriculture and heavy transport will continue to rely on diesel. Much attention has been devoted to energy crops, but it is inevitable that these will compete for prime agricultural lands, and our emphasis should be on the use of crop residues (e.g., sawdust, etc). The Fischer-Tropsch process is one proven technology that allows waste biomass to be converted to diesel, and warrants further attention.

I urge the Senate Select Committee to consider seriously the benefits of a revenue-neutral carbon tax, and the need for investment in manufacture of transport fuels from crop residues.

Yours faithfully

Jerome Vanclay

Annex: A highly simplified diagram of the global carbon cycle to emphasize the magnitude of the various sinks, and of the annual fluxes.

Summary of net Carbon flows (units approx 7 billions of tons/year)

