

Summary

After a couple of decades of inaction, to quote from the interim report “only urgent, large, and effective global policy change leaves any hope of holding atmospheric concentrations at the 450 ppm or even the 550 ppm levels.” [p19] and ”waiting until 2020 (potentially the starting time for an agreement to follow the one currently being negotiated) would be to abandon hope of achieving climate stabilisation at moderate levels.” [p37]

Governments have a history of promoting activities that have later proved environmentally destructive and/or unsustainable – soldier settlements, cane toads, excess irrigation, land clearing, overfishing, a “large car” industry, fossil fuel consumption. Once the problem is identified, it traditionally takes a long time with often many rounds of structural adjustment subsidies or correctional activities – all of which probably cause more pain than an immediate drastic change. If we follow the same process with greenhouse emissions, pandering to affected interests, dangerous climate change is almost inevitable.

Due to the magnitude of the problem and the lack of progress on solutions, Australia should attempt to lead in altering the nature of our economy, try to influence and set an example for other countries, and dramatically increase funding for research on, development and dissemination of low emission technologies and improving knowledge of greenhouse gas cycles.

Emissions trading has some potential to reduce emissions but by itself is very unlikely to be effective or efficient.

Further delays make required changes more drastic, more painful and more difficult to achieve.

Emissions Trading, transitional measures

Although theoretically emission trading appears attractive, successful implementations are remarkably rare and failures all too common. Re US pollution trading, environmental lawyer David Doniger wrote in 1986 that ‘in practice...there has been far more innovation in shell games and sharp accounting practices than in pollution control technology’. The great difficulties of developing a good trading scheme indicate that it will take too long to achieve the required emission reductions and fail to quickly establish definite price signals to hasten investments in technological change.

Due to the inelasticity of much energy demand – cap & trade alone is going to be a poor implement for rapidly reducing emissions. However, as part of our high energy consumption comes from the high subsidies of the past (often calculated at \$10 billion per year), immediate action should be taken to remove these and reconfigure the economy - cap and trade can play a part. This will of course impact certain industries but higher costs will have some influence on world prices for their outputs and encourage competing countries to increase their own energy charges.

Investments in energy technology often last for decades. Price certainty is important. To spur an immediate change in decision making, a transitional carbon tax should be implemented to ensure a floor price for greenhouse emissions for the next couple of decades at least. This would need to be set at a level such that emission intensive investments are greatly discouraged (many commentators

have suggested \$A50 or more a tonne of CO₂ equivalent, for carbon capture and storage \$100-200 per tonne is usually considered a minimum). It would also provide a fund for the many billions of dollars of investment needed annually for research and development, education, monitoring and structural adjustment programs in the short term. A carbon tax also makes issues of initial distribution of emission allowances easier – they are not so valuable.

A domestic scheme for greenhouse emissions 'consumption' – where exports receive emission credits and importers are required to purchase emission permits for the embodied emissions of goods/services imported – is theoretically best and should be a long term goal. It may encourage recalcitrant trading partners to adopt emissions trading and maybe make (through embodied emissions labelling) consumers more carefully consider their purchases. It would however require a great investment of time and money in emissions accounting, would probably generate lots of trade disagreements and so would be even slower to implement.

Consideration should be given to specific sector approaches – an increasing emissions charge (for fossil fuel burning as proposed here) may actually accelerate land clearing with land owners trying to beat restrictions or higher prices. Curtailing land clearing as may require specific legislation – it is important if Australia is to have any influence on neighbouring country's land clearing.

Proposal: An emissions charge (carbon tax) in the vicinity of \$A30-50 per tonne of CO₂ equivalent (2008) for fossil fuel burning, increasing at a real rate of 5-10% per year for the next 20 years – with an emissions ceiling price set at perhaps 5 times the minimum.

Influencing other countries - Fossil Fuel exports

Australia exports large amounts of fossil fuel – the world's largest coal exporter by far – some 240 million tonnes of coal alone, responsible for over 500 million tonnes of greenhouse gases, as much as Australia's total domestic emissions. Perhaps the greatest impact we can have on world emissions (apart from finding ways to dramatically reduce land clearing in our near neighbours) is by influencing the markets for traded fuels. This would naturally be much more effective if done in cooperation with other large exporters such as Indonesia – an OPEC equivalent cartel. Encouraging a high consistent price is likely to encourage other countries investments to be in lower emissions technologies than otherwise and also make our coal last longer.

As calculations of world coal reserves continue to decline and the likely life of coal is probably rather more limited than even recent assumptions, Australia should ensure that we receive a good price for it, aside from any climate considerations. We should ensure that exported coal to countries not involved in an equivalent emission trading/taxation scheme, is subject to either a floor price or a levy equivalent to the emissions cost that would apply if the coal were consumed in Australia.

A levy would lower returns to exporters but would tend to increase world prices, encouraging less emission intensive fuels as well as efficiency measures. A floor price would tend to stabilise world prices where exports from Australia would be subject to a minimum contract price level.

Proposal: Incorporate some sort of emission charge for fossil fuel exports to non-participants in equivalent emission trading/taxation schemes and work towards a 'fossil fuel exporters' cartel.

Transport

A carbon charge at a level still considered acceptable for electricity generation is unlikely to be particularly effective in itself at greatly reducing transport emissions. Transport fuel prices are

already at fairly high levels compared to possible greenhouse gas emission charges. Even \$1000 per tonne may not necessarily reduce emissions dramatically – increasing per passenger costs by 20c a km (most motorised forms of transport generate 150-200g of emissions per passenger per km, AGO 1990-99 statistics). The obvious short term solution is to reduce the vehicular movement of people and goods, and improve load factors.

Current international airline agreements appear to prevent direct taxation of international air travel but requiring purchase of emission permits for the emissions (and additional radiative forcing of high altitude emissions) may well be possible.

Public transport in Australian cities has not had much lower emissions than private cars, presumably due to low load factors in off peak times. If rush hour peaks are the limiting factor for public transport, encouraging staggered working hours and differential pricing for non-peak hours are likely to have greater benefits from higher public transport utilisation than the extra energy consumption of longer operating hours of offices. Anecdotally, load factors around peak hours in Melbourne and Sydney are higher than 10 years ago but off peak loading seems still remarkably low. Cities require a concerted effort to reduce the number and size and use of private motor vehicles in use for moving people.

Cycling and walking should strongly be promoted and company cars strongly discouraged.

Heavy transport pricing appears qlow, being substantially less than enough to recoup all road damage (much less for example than in New Zealand) in addition to greenhouse emission charges.

Proposals: Incorporate air transport, including international flights, into emission trading. Promote staggered working hours and differential peak hour pricing for public transport where peak hour loading already at capacity. Continue to improve the safety and convenience of walking and cycling, set goals for increased walking/cycling. Remove heavy transport subsidies.

Technological change

Technological change appears to be the most promising long term solution to greenhouse emissions on an overcrowded planet.

Australia should at least play its part in contributing toward the probable \$10s of billions of dollars of research required annually for the next couple of decades. The rate at which technologies are developed can only be moderately influenced by Australia as only represents a very small part of the world's research budget. Perhaps the best chance is the purchase by governments of any very effective new technologies and placing them in the public domain for worldwide use.

A significant budget allocation is required to educate people and businesses about available technologies.

Encouraging the purchase of efficient cars (for example) could be through a Rocky Mountains Institute style 'fee-bate' system where purchasers of new cars less efficient than average are charged a fee and purchasers of more efficient cars receive a rebate. This can help capture at purchase, the life cycle costs of different products and over an admittedly long period lead to improved average efficiencies.

Proposals: Government “emission savings consultants” to advise businesses, households on available technologies and costs. “Fee-bate” systems to incorporate a part of life-cycle emissions into purchase price of goods.

Population

Basing emission goals on current populations per capita averages may tend to encourage countries to ignore or even encourage population growth, increasing absolute emissions while reducing per capita emissions, hardly a desirable outcome. Instead per capita could be based partly on 1990 populations and partly on current population size.

Reference

David D. Doniger, 'Point ... And Counterpoint', *Environmental Forum* 4, 29, 1986, p. 34.

AGO, Australia's National Greenhouse Inventory, 1990, 1995 and 1999