

Inquiry Into The Regulatory Arrangements For Trading In Greenhouse Emissions

Submission to the House of Representatives Standing Committee on Environment, Recreation and the Arts.

by
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I have a long term interest in environmental policy, going back to the early 1970s where I worked in the first Commonwealth Government Environment Department, and at the 1972 U.N. Conference on the Human Environment. I have held CEO roles in three public sector organisations concerned with the environment . I was a Special Adviser to the 1992 Earth Summit, the only Australian to hold such a position. In this work I was involved in all the programs of the Earth Summit including the development of the conventions on Climate Change and Biodiversity. I have just finished a book to be published by the Melbourne University Press in a few months. This book focuses on positioning nations and organisations for prosperity in the 21st century

I am Chairman of the Universal Greening Group, a new Australian group of companies concerned with the development of products and services for sustainable agriculture, ecosystem restoration and waste management. This group of companies plans to become a major global transnational company in next five 5 years. It has a vital interest in the issue of trading of climate change credits, because the company stands to benefit from the introduction of a Climate Change Credit market place. This will be discussed in detail in this submission.

My work at the University of Queensland is in both the Graduate School of Management and the School of Natural and Rural Systems Management, both of which have interests in issues related to ecological, social and economic sustainability .

I would appreciate being given the opportunity to appear before the committee, and I would like to bring with me two others from the Universal Greening Group

Introduction :

The issue of climate change is perceived, quite correctly, as an emerging global crisis. When the Koreans, Chinese or Japanese write down the word 'crisis', they use two characters to do so. One is the character for 'danger', the other is the character for 'opportunity.' This submission concentrates as much on the opportunity as it does on the danger posed by climate change.

The development of an international market for the trading of climate change credits will provide great opportunities for creative thinkers, innovators and entrepreneurs, provided of course they meet the challenge with long term strategic thinking, and provided they are given the opportunity by governments to participate in a climate change credits market place. The Australian culture tends to focus preferentially on the danger posed by climate change to Australian industry, rather than the opportunities for Australian industry.

The decision of the Australian Government to seek an exemption to reducing greenhouse emissions at the Kyoto Climate Change Summit was an attempt to react to the dangers posed to the coal industry and to fossil fuel power generators. There are three matters related to Australia's position at Kyoto that I would like to mention. These are:

- The reductions in greenhouse emissions of the order required of Australia by the global community are now achievable with the implementation of existing technologies and changes in land use, and could be achieved without significant damage to the coal industry in the short term,
- The models used to assess the cost to Australian industry of making the reductions of climate change emissions requested of Australia at the Kyoto Climate Change Summit did not include an assessment of the damage to agriculture and rural production generally, of continuing climate change emissions.
- There was no recognition of the immense potential of utilising a forward looking rather than a recalcitrant position on climate change position, to position Australia for success in marketing innovations to improve the overall global situation relating to climate change.

The early introduction of a national system of climate change credits would provide Australia with the opportunity to become an international leader in the climate change issue and to benefit economically from doing so. It is important to recognise the fact that the globalisation is working to reduce the capacity of governments to solve major environmental problems of this nature and correspondingly increasing the capacity of the private sector.

In most developed countries, environment policy has been dominated by the use of regulatory/legal instruments, by excessive faith in macro-economic instruments, and

by concentration on protection/conservation. Australia is no exception.

Most people think that the journey to sustainability must be guided by governments, and by the international system of governance such as the UN system. This view, while correct ten years ago, is no longer correct. The globalisation of world markets is changing everything. While governments continue to respond, in the main, to their own domestic public opinion, transnational corporations respond to global public opinion. Governments rarely will act as altruistic globalists and will only act if this is supported by a majority of domestic opinion. This situation has not substantially changed in ten years.

Meanwhile, for global corporations, there has been a big change in circumstances. A couple of per cent change in global market performance represents a huge change in absolute market size. A large global market for a new sustainable product or service would exist, even if this consisted of the sum of many small minority markets in individual countries (say five per cent) in each country, which would not be sufficient to motivate a government to change policy. In other words, the factors which operate on transnational companies begin much earlier than those which act on individual governments. Global markets are currently shifting toward greenness at a faster rate than governments are reacting. Market success will go to companies who are able to become early suppliers of this emerging greener global market place. Therefore, the next stage of the greening of the planet will be more driven by the greening of global markets and the rapid response to these changes by global companies than by governments. One of the reasons for the relative lack of success of the UN Environment Program (UNEP) over the past few years is that it has depended too much on the actions of governments to be the vehicles of global change.

Governments can best assist the greening of the Planet by encouraging the development of innovations which produce sustainable approaches to production, development and consumption. If industry policy is directed to greening domestic markets ahead of global markets, then new innovations will be able to utilise greener domestic markets first to launch their innovations, and then export afterwards. On the other hand, if industrial policy ensures that domestic markets remain 'brownier' than global markets then the domestic markets will not be able to be utilised by innovative businesses to develop their products.

This is what is worrying about the decision of Australia to tip the playing field in favour of fossil fuel producers at home through the outcomes at Kyoto. The result could be that Australia's domestic markets will green more slowly than global markets, rather than faster.

The introduction of a global market in climate change credits could provide Australia with an exciting opportunity to position itself for success in the early 21st century and to make Australia an industrial leader in the development of innovations to deal with climate change. Australia has the opportunity to do economically well by doing ecological good, by promoting the development and global marketing of innovations which help to reduce the impact of climate change. A slow tightening of the global regulatory regime against greenhouse emissions will continue. Therefore those innovators who develop products and services to reduce the impact of human

activity on climate change can expect increasing global markets for their products and services. On the other hand, those who produce products and services which increase the impact of human activity on climate change will find world regulatory regimes tightening against them

Developing A Nation Policy On The Trading Of Climate Change Credits

It is recommended that the Committee consider replace the term 'trading in greenhouse gas emissions', with 'trading in climate change credits', which is a somewhat broader concept, and which focuses on encouraging the development and marketing of innovations which produce a net reduction in climate change, rather than only those which reduce the emissions of greenhouse gases . There is a difference between developing a system of trading in greenhouse emissions and one in climate change credits. Some proposals, for example, involve the provision of carbon sequestration and sinks to directly offset the emission of greenhouse gases. Others however, are equally as important. They do not involve the creation of carbon sinks, but they produce significant climate change reduction benefits. These include measures which replace the emission of methane with the emission of carbon dioxide, which has only one thirtieth the impact on climate change, carbon atom for carbon atom. They include the harvesting of methane from landfills for the generation of power, and the replacement of landfills with measures which aerobically compost organic matter into soil organic matter.

When most people can look at the issue of climate change credits they tend to consider the benefits which this provides for large greenhouse gas emitters, such as large coal fired power stations. In other words it is considered in terms of helping Australia present itself to global community public opinion in a more acceptable light, because Australia is currently so fossil fuel dependent compared with other countries, and it will not be able to change its long term strategic direction quickly. This mindset tends to dominate Australian policy making.

However the other side of the equation is even more important. This is the provision of a new form of incentives for the innovation of products and services which reduce climate change overall.

A regulatory regime to establish a market place for the trading of climate change credits should be based on the following policies:

- It should encourage the development and marketing of products, services and technologies which decrease greenhouse emissions from existing greenhouse emitters;
- It should encourage the development and marketing of products, services and technologies which avoid the emissions of greenhouse gas emissions altogether, particularly when they replace existing products, services and technologies which emit greenhouse gases
- It should encourage the developing and marketing of products , services and technologies which result in the replacement of one kind of greenhouse gas with

another greenhouse gas which is less deleterious to climate change. For example it could involve the placement of activities which emit methane with activities which emit carbon dioxide.

- It should encourage the development and marketing of products, services and technologies which encourage the sequestering of carbon into solid materials. This should encourage forms of sequestration which ensure the long term sequestration of carbon, for example into limestone rather than into living material (organic matter). Greater credits should go to those approaches which sequester carbon for geologically significant time periods.
- It should encourage the formation of businesses concerned with climate change in Australia, rather than drive these businesses to other countries. For example if a nation such as the United States provides an early commencement of date for the implementation of a domestic Climate Change Credits market place, this will encourage new innovators from all over the world to relocate to the nation offering early commercial advantages to them. This would result in the pillaging of global intellectual property relating to climate change. On the other hand a nation with a high proportion of domestic production dependent on fossil fuel can turn an apparent disadvantage into an advantage, by encouraging new innovators to remain in or migrate to Australia, because domestic fossil fueled power producers would be required to purchase greenhouse emission credits. Such a proposal would of course raise power production costs at the point of introduction. However the current oversupply of electricity in Australia would ensure that price increases would be at least partially absorbed by power producers rather than being passed on to power consumers, thereby minimising increases to production costs.
- It should apply equally to all sources of greenhouse gases, both point and diffuse sources, and it should concentrate on the major three greenhouse gases, carbon dioxide, methane and oxides of nitrogen, while embracing all greenhouse emissions over time.
- It should promote practices which not only reduce the emissions of greenhouse gases or offset the emission of greenhouse gases, but produce other environmental benefits as well, such as reforestation, waste abolition or reduction, topsoil production or coral reef protection. Measures which produce other environmental costs while producing climate change benefits should not be rewarded to the same degree.

Introducing a national program for the trading of greenhouse emissions.

This submission makes the point that Australia should not wait for a multilaterally negotiated international market in greenhouse trading to begin, before implementing a domestic programme. On the contrary it should implement a national program in the shortest possible time. In the current low inflation regime, there is now an ideal opportunity to do this. If it does this it will quickly repair the considerable damage done to Australia's global environmental standing because of its position in Kyoto,

while at the same time positioning itself for leadership in zero greenhouse emissions energy development, and in the marketing of products, services and technologies to reduce climate change.

Policy should use both the 'stick and the carrot' of encouraging innovation in climate change reduction measures and at the same time punishing those who are recalcitrant in meeting their planetary responsibilities. Of course the planetary wicked have to be punished. However a regime which seeks to require greenhouse emitters to meet regulatory standards, will achieve compliance but there will be no incentive to do better.

The polluter should pay for climate change damage and be required to reduce its net impact on climate change by both reducing the emissions of greenhouse gases and by offsetting climate change damage against climate change credits obtained from innovators or organisations who are able to acquire climate change credits. A climate change credit accrument program should operate as early as possible in order to both attract to Australia international innovators in climate change reduction and to keep Australian ones here. Australia should seek bilateral agreements with large greenhouse emitters such as the USA or the Peoples Republic of Chinato enable Australian innovators to gain access to markets in other countries through a climate change credit 'common market' organisedby bilateral agreements, ahead of global multilateral process. The early adoption of the process could provide Australia with the opportunity to become the world climate change credit trading exchange centre, which would initially operate in a few early adopter nations and eventually in the whole world.

It is recommended therefore that the policy for the trading in climate change credits observe the following policy directions

- The climate change trading system should reward climate change credits to those who sequester carbon, with an additional reward for long term sequestration. For example the creation of soil organic matter provides a 5 - 10 year sequestration, afforestation provides a 50 –80 sequestration period , while the sequestration of carbon dioxide into limestone in coral reefs provides a sink for thousands of years. The rates of sequestration into limestone are slower but their long term benefit is great. It should be possible to multiply the basic short term rate to give recognition to a tonne of carbon sequestered as limestone (say) ten times the recognition given to that produced as soil organic matter, with sequestration in forest being given three times to rate of carbon sequestedas soil organic matter.
- It should reward those who reduce net climate change by substituting a greenhouse gas with a less deleterious one. For example a tonne of carbon as methane should be give thirty times the credit rating recognition of a tonne of carbon as carbon dioxide. National policy should recognise all efforts to offset climate change including the slowing down of land clearance, reafforestation, and the sequestration of carbon into limestone into coral reefs and through aquifer injection. Australia could submit that the sequestration of carbon into its coral reefs should begiven credit by the global community. Nations of the South Pacific could also earn international credits for maintaining and protecting their coral reefs. All could be encouraged to develop artificial reefs to

sequester carbon of a longer period of time. Although the rate of sequestration is slow these systems are effective over long periods of time

- It should encourage the development of new innovations which result in the replacement of greenhouse emitting technologies and approaches with ones which emit no greenhouse gases. For example motor vehicle manufacturers who develop hydrogen powered or electric vehicles, provided they also develop a means of utilising solar power to produce electricity, or split water into hydrogen and oxygen, should be rewarded. They should be able to develop their innovations knowing that there will be significant climate change credits accruing to them if they are able to replace fossil fuelled vehicles with climate change friendly ones. The same applies with producers of agricultural machinery.
- Electricity producers should be able to acquire climate change offsets by introducing renewable energy resources such as hydro, OTEC (ocean thermal), windpower, wave and tidal power, solar / electric systems into their grids.
- Timber producers should be able to acquire climate change credits for establishing plantations of slow growing cabinet timber species. This could produce a significant change to the economics of timber production, particularly for slow growing furniture species, and provide an additional benefit through the revitalisation of a high quality furniture making industry.
- Innovations which are marketed to replace the emission of a more deleterious climate change gas with a less deleterious one should be rewarded. This includes innovations which reduce the production of methane by landfills or by ruminant animals, by converting it to carbon dioxide.

In summary a national climate change credit trading system, should:

- Provide incentives for the development and marketing of new innovations which reduce climate change.
- Make Australia a world centre for innovation in climate change reduction.
- Convince the world that while Australia is seeking to reduce its dependence on fossil fuels and it is serious about being a good planetary citizen because it is seeking to reduce its net contribution to climate change by the early adoption of a climate change credit trading system, ahead of the adoption of a global system.
- Work as well for both point source and diffuse sources of greenhouse gas emissions.
- Reward those who are early innovators and not only be used to facilitate the compliance of greenhouse gas emitters to regulated levels of emissions.

A Case History of Innovation: the Universal Greening Group

The Universal Greening Group was created in 1991. It was established to create topsoils and organic fertilisers, promote sustainable agriculture and horticulture, and restore degraded land and ecosystem. It has developed technology which is now patented in 106 countries to convert organic waste, including Municipal Solid Waste (MSW), sewerage sludge, tannery and wool scouring water, pulp and paper waste and food processing waste, into soil organic matter. It is just about to commence building in its first two commercial plants at Morwell in the LaTrobe Valley and at Melton. At Morwell the company is joint venturing with the Hazelwood Power Corporation, which is interested in gaining access to tradeable climate change credits.

In the next few years the company plans to build plants in all parts of Australia and in all continents. Its success would be greatly enhanced if it were able to gain access to tradeable climate change credits early. On the other hand the adoption by another country, such as the USA, of a system of climate change credits, would provide a considerable incentive to the Universal Greening Group to move its headquarters to a country offering early access to a climate change credits market.

Universal Greening is able to produce four major environmental benefits from its innovative approach to waste management and soil organics manufacture.

- it reduces the disposal of domestic waste into landfills by more than 95%, thereby making possible the realisation of the target for the year 2000 adopted by the Australian and New Zealand Environment Council to reduce waste going to landfill by 50% and, also making need for landfills redundant within ten years.
- It manufactures topsoils and organic fertilisers for sustainable agriculture /horticulture, land restoration and landscaping, thereby making the quarrying of topsoils unnecessary,
- It reduces the eutrophication (nutrient pollution) of water resources because it will be marketing slow release organic fertilisers which will replace water soluble chemical fertilisers. These slow release fertilisers provide plant nutrients just-enough-in-place-and-time for plant uptake, with no excess being available for leaching from the soil during rain events. It is eutrophication which causes algal blooms in rivers and lakes.
- It eliminates methane entirely from landfills, thereby potentially making a very large contribution to climate change reduction. Universal Greening wishes to ensure that its technology is utilised in waste management and reprocessing throughout the world, and hopes to accumulate climate change credits in Australia for sale to international markets through a single integrated international market of climate change credits.