Friends of the Earth Australia

Suite 15/104 Bathurst St
Sydney
Ph 02-9283 2004

Submission to House of Representatives Standing Committee on Environment Recreation and the Arts Inquiry into the Regulatory Arrangements for Trading in Greenhouse Gas Emissions

By Dietrich Willing
Spokesperson on
Climate Change

Introduction

Friends of the Earth considers that a tradeable emissions scheme in Australia for greenhouse gases is a tenable policy option under particular conditions. Such a scheme must not be applied to both the energy/manufacturing and the natural resources sectors, as the impacts on carbon dioxide are different.

Responsibility for owning carbon credits should be at the retailer/wholesaler level rather than the producer level. Carbon dioxide producers have shown themselves unable to meet consumer expectations for non carbon dioxide products even though technologies exist for the production of goods using non-fossil fuel resources.

Carbon dioxide credits should be auctioned, the proceeds going to expenditure necessary to facilitate easy and inexpensive transaction costs for exchange of carbon credits (part of the stock exchange?) and to provide a renewable energy fund that would help stimulate creation of renewable energy industries.

Such a tradeable emissions scheme should aim to reduce carbon dioxide levels by 5.2 percent of 1990 emission levels in the energy/manufacturing sector rather than the 8 percent increase agreed to in the Kyoto Protocol.

A Tradeable Emissions Scheme

Economic theory suggests greater economic efficiency using tradeable credits compared to regulatory mechanisms. The extent of reduction of greenhouse gases is determined by the quantity of credits available on the market and the penalties incurred for not abiding to the scheme. A precise definition of the item to be traded is also required.

The methodologies for Australia's greenhouse gas inventory vary in their estimate of error from two percent for the energy sector to 56 percent for the land-use change and

forestry sector (55% for land-use change and 149% for forestry). So, the carbon dioxide emitted from a power station could be estimated with a 98% certainty, but the carbon dioxide from a managed forest would be entirely uncertain. Trading in carbon dioxide credits between the natural resources sector and the energy sector would be untenable.

The aim of the Protocol is to reduce the rate at which fossil fuels are oxidised to form carbon dioxide. Globally, tropical deforestation generates about 1.6 GtC/yr (GtC = billions of metric tons of carbon) whilst fossil fuel oxidation accounts for about 5.5 GtC/yr.

In Australia, energy production and use contributed 78.9% of total net emissions in 1995, agriculture 21.7%, whilst land use change and forestry absorbed 6.9%.

Whilst increased vegetation cover in Australia is commendable, a result where fossil fuel oxidation was traded for greater vegetation cover would

1. entail high monitoring costs
1. be limited by land capacity
2. only delay the time when fossil fuel use must be reduced
3. not deal with the immediate increase in carbon dioxide due to the delay between production of carbon dioxide and its absorption by, say, a tree.

Thus, discrepancies in the description of carbon credits between the energy sector and the natural resources sector make trading between these two sectors inviable.

Credit Use

Who should have responsibility for matching carbon dioxide credits to their carbon dioxide producing activities?

Producers

Producers (eg. electricity suppliers, oil producers/importers) have shown negligible interest in providing non-carbon products, primarily because they consider it to be a different industry. The well-known exception to this is British Petroleum with their subsidiary, BP Solar. Thus their capacity to expand into non-fossil fuel products within an emissions trading scheme must be questioned.

Their capacity to reduce the carbon intensity of the electricity and petrol they produce is also slight. Coal technologies in the past have focussed on sulphur reduction (“clean” coal). While this may be valuable to increase the competitiveness of exported coal, it does nothing to reduce carbon dioxide emissions.

Efficiency of burning technologies have reached their peak but further efficiencies such as the production of useful steam has not taken place because the coal-fired power plants

are not situated close to industry or residential areas that might use it. Technologies to absorb the carbon dioxide in the smoke stack are extremely energy intensive, using more energy than the amount released in burning coal, a result that is in accordance with the Second Law of Thermodynamics. There is research in Japan, which uses Chlorella bacteria to absorb carbon dioxide, but its ability to reduce carbon dioxide emitted is limited by the surface area of the smoke stack.

Retailers

Wholesalers/Retailers are best situated to decide what products are produced. They are the intermediaries between the consumer and the producer. By making them responsible for the carbon dioxide produced from the product(s) they sell, they can reflect the demand pattern of consumers by buying products from producers providing non or low carbon emitting products.

In New South Wales, the government introduced electricity laws, which required reductions in carbon dioxide from the electricity that electricity retailers sold. This included energy efficiency gains from demand-side management plans. Whilst the reduction objective was set, one retailer, Integral Energy, was considering giving away solar-powered hot water systems and receiving revenue from the amount of hot water used. When a 5% reduction per capita target was set (equivalent to a 5% increase in emissions by 2000), consideration of this option was dropped.

It could be expected that coal-fired electricity producers would also buy credits, knowing that this would make their electricity more attractive to retailers.

In the oil industry, service station owners would be encouraged by a tradeable credits scheme to press vehicle manufacturers to produce cars running on gas. It would introduce greater price competition for automotive gas, as well. The result would be a reduced barrier to the use of gas-fired vehicles.

Auctions

Grandfathering and auctioning off credits are the two most recognised methods of starting a tradeable emissions scheme. Grandfathering gives credits to industry players in the same proportion as their historical use. No benefits accrue to the government.

An auction, on the other hand, produces an income stream to the government that it can use to ensure low transaction costs once the scheme has begun. Sufficient funds should be raised to provide for a renewable energy transition fund that would encourage the market penetration of renewables.

An auction would provide the scheme with excellent publicity and would encourage the Australian population to use its sovereign consumer power to buy non or low carbon products and take up energy efficient services.

Penalties

Penalties for not owning sufficient emission credits for the carbon dioxide caused to be produced must be heavy and automatic. Without sufficiently high penalties that retailers know they would incur, a tradeable emissions system will not work. A penalty of five to ten times the market rate for emission credits with a minimum penalty of $100,000 should suffice.

"Green" Energy

To provide confidence in the market-place that renewably-sourced electricity is being produced in the same quantity as it is demanded, the NSW Government has developed a green energy scheme run by the Sustainable Energy Development Authority. It audits the claims of electricity retailers for renewable energy and certifies the use of the green energy logo. The federal government should encourage SEDA to take up the role of auditing and certifying green energy retailers for the whole of Australia.

What Target?

Although Australia agreed to a target of 108 percent of its 1990 emissions by 2008-2012, Friends of the Earth recommends the tradeable emission target of 94.8 % of 1990 emissions. This equates to reducing carbon dioxide emissions to the country average of the Kyoto Protocol, disregarding land-use change and forestry.

Although a differentiated target was struck in Kyoto, it was a target based on politics, not economics. Other countries will require further measures to meet their targets. Australia will only need to fulfil the Prime Minister's promises of November 20 to meet its 108% target.

So why develop a tradeable emissions scheme? and why a figure lower than that agreed at Kyoto?

1. The target may well be changed in the intervening period. In the energy sector, there really is not much difference between the U.S., Europe and Australia. They may be using nuclear-powered electricity, but they don't intend to increase the amount from this sector because it is uneconomic. All three depend on coal for their energy production. Thus, pressure will be mounted on Australia to renegotiate its target at subsequent Framework Convention on Climate Change Meetings of the Parties.

2. Competitiveness of the Australian economy will fall further behind our trading partners without strong measures to improve energy efficiency. Although energy costs are usually a small part of the total costs of production, energy efficiency will increase price competitiveness and encourage the development of an energy efficiency industry domestically.

The domestic industry can then serve as the basis for an export industry, exporting energy efficiency. As has been recognised, carbon dioxide emissions from non-Annexe 1 countries are liable to match Annexe 1 countries by 2020 under business as usual conditions. Already Asian countries are importing energy efficiency from the U.S. and Germany. When will Australia export energy efficiency techniques?

Australia has been a leader in the invention of new products but a failure a taking them to market. So, although Australia might be able to claim the most efficient solar cell (Martin Green at University of NSW), it is Germany that has the lion's share of the export market for solar cells.

Conclusion

A tradeable emissions scheme will increase competition in the Australian energy sector if retailers and wholesalers must have the emission credits for the carbon dioxide the products they sell have caused to be emitted in their production. In the case of the oil industry, the emission credits wholesalers/retailers must have will equate to the carbon dioxide produced on oxidation of the oil product by the consumer.

A tradeable emissions scheme will also increase the economic efficiency of the Australian economy, thereby increasing its competitiveness internationally.

The scheme should not be extended to the natural resources sector as the definition of a credit cannot be accurately given and the aim of such a scheme is to reduce fossil fuel use, not to trade fossil fuel use for increased vegetation.