

Climate Change and Carbon Trading

Predictions of global warming and its impact have become both more severe and universally accepted over recent months. Increasingly hard evidence over current and future trends and their causes has virtually eliminated doubt, except from a few blinkered flat-earthers. The debate has shifted to the action required both to counter warming and adjust to it, as current trends cannot be halted overnight even if unprecedented action is taken. It requires global effort, as action in one country or continent is pointless if another region continues business as usual (BAU), increasing carbon emissions.

The world's climate has been constantly changing naturally, but this is largely gradual. The rapid changes now occurring largely result from human actions, notably increased levels of greenhouse gases released into the atmosphere. Some greenhouse effect is necessary, providing a blanket retaining the heat necessary for most plant and animal life on this planet. However, since the industrial revolution commenced greenhouse gases in the atmosphere have increased by 150% and forecast to double by 2050. Global warming has been caused largely by industrialised nations with high consumption levels, but the rapidly emerging economies, such as China with its high dependency upon coal, are overtaking as major producers of greenhouse gases, though still lower on a per capita basis. Non-energy emissions, from land-use, including tropical deforestation, release one third of greenhouse gases. The impact of global warming will be felt most in poorer nations and those parts of the community least able to adapt or relocate, notably in low lying areas, including Pacific atolls.

Despite extensive scientific work, the world has been slow to recognise and address climate change, partly owing to concerted efforts from powerful vested interests with strong access to leadership, especially in the current White House, but also Canberra. In 1990 the UN's Inter-governmental Panel on Climate Change (IPCC) produced its first assessment, which led to the UN Framework Convention on Climate Change in 1992 and the Kyoto Protocol in 1997, which agreed to mandatory ceilings on greenhouse gas emissions and emissions trading.

As evidence mounted on man-made climate change, more countries ratified the protocol, despite the US withdrawal in 2001, and business also saw the inevitability of emission ceilings and opportunities for both innovations and emission trading, whilst many US authorities adopted their own measures.

Hard on the heels of the influential "Stern Report" late last year, on the severe economic impact of climate change and need for immediate remedial action to minimise future economic dislocation, the IPCC released its fourth scientific assessment in February, and last week its report on social and economic consequences. World scientists have confirmed temperatures to be rising at an increasing rate as a result of human action and will increase by up to 6.4% by 2100. Although a few may experience local benefits, the total impact will be devastating for many eco-systems and current and future generations, if not controlled. Even with drastic emission restrictions and investment in clean technology, warming cannot be halted overnight and the later it's left the harder and costlier to reverse, partly as the warming process is self-reinforcing as ice-caps and permafrost areas melt, increasing heat absorption and releasing extra gases from the soil.

There is an argument, often espoused from Washington and Canberra, that the market will address the problem, responding with investment in new technology and behaviour change. The market is indeed the best mechanism to generate invention, investment and meet changing demand, but the State and global community, have a responsibility to influence market conditions to promote change, in response to scientific evidence. Europe, for example, has long imposed higher fuel taxes to encourage its economic use (and provide revenue), whilst the US, Australia and OPEC members have maintained lower rates, encouraging relatively inefficient and carbon-emitting gas-guzzlers.

With scientists forecasting major sea-level rises and flooding, more extreme weather conditions, extensive areas becoming unsuitable for agriculture, greater prevalence of tropical diseases, loss of habitat, including coral reefs and a third of species, and severe impacts especially upon poorer countries and communities, BAU is totally inadequate. Economists are widely concluding that tackling global warming is necessary but also affordable, even providing economic opportunities. Some, including Stern, argue for major upfront investment to slash emissions and avoid spiralling costs from escalating temperatures. Others still argue that, with limited certainty, it's economically preferable to commit resources gradually.

Reducing emissions to acceptable levels requires full use of market mechanisms. Some see emissions trading as letting polluters off their responsibilities, but if it can be made to work in reducing overall emissions it's worthwhile, whilst providing valuable opportunities for investment in developing countries in clean energy, sustainable forestry and some crops.

Despite non-ratification by the world's current largest greenhouse gas producer and Australian recalcitrance, Kyoto remains the best (only) official mechanism at the moment. Inadequate and requiring a successor embracing the new industrial powerhouses of China and India, it provides valuable experience on greenhouse gas controls and carbon trading, with Europe's Emissions-Trading Scheme (ETS) the world's largest carbon market. That market is already big and growing fast, with purportedly 15 billion US dollars of carbon traded in the first half of 2006, partly buying credits from developing countries.

PNG was proactive in pursuing renewable energy till the 1980s, but subsequently allowed piecemeal investment in oil-fired power generation. PNG signed the Climate Convention, leading to the Kyoto Protocol, and made early commitments to carbon trading, with (now Governor) Mal Kela-Smith establishing a company, PNG Carbon Trading, in the 1990s, and various studies and policy drafts prepared in the late 1990s. Subsequently there has been little tangible progress.

Whilst hundreds of projects have been funded to reduce carbon emissions in a few developing countries, PNG has not had one project approved. The requirement is to replace existing emissions with cleaner energy, such as diesel generators with wind-power or hydro, or to sequester (store) carbon in sinks, such as trees. The prerequisites for carbon trading, like other investment, include secure title and guarantee of long term emission reduction, verified by an accredited auditor. One or two credible commercial projects, notably geothermal power on Lihir, are in the

pipeline, but other prospective projects are restrained by inadequate market framework.

Under Kyoto carbon trading is only allowed for new forestry plantings absorbing additional carbon from the atmosphere, although much larger areas are being cleared through logging and forestry conversion, releasing far greater quantities of long-stored carbon into the atmosphere. Providing incentives for PNG landowners to conserve their resources has long been sought, e.g under NFCAP in the 1990s. Establishing a successor or supplementary mechanism to Kyoto to sustain existing rainforest is now critical in countering global warming. The Prime Minister has taken the valuable step in promoting this initiative overseas, but within PNG it will only be applicable if forestry governance is firmly improved, and international credibility gained. The prospects for such credibility have been improved by the recent substantive appointment of a forester of considerable repute to head the Forest Authority, but he has a major task and will require firm backing but minimal political interference.

Farmers and coastal communities in PNG will be badly hit by global warming, but PNG also has a role in averting climate change and could gain direct benefits from such measures. Does it have the commitment and capacity to do so?