

The Kyoto Protocol

The Third Session of the Conference of the Parties to the Framework Convention on Climate Change (COP3) was held in Kyoto, Japan, in December 1997. The agreement known as the Kyoto Protocol placed climate change mitigation firmly on the international political agenda.

The conference was a difficult one for Australia because its circumstances required it to take a different position from most other developed countries. The outcome for Australia was generally regarded as a good one in the circumstances.

The collective agreement of the Kyoto Protocol was to reduce greenhouse gas emissions by 5.2% below 1990 levels by 2008-12. Individual countries or country aggregates were allocated different targets.

Australia's agreed target of limiting itself to an 8% per cent increase represents an estimated 30% decrease in business-as-usual emissions.

Australia's population is expected to grow by 30% from 1990 to 2020, compared with

3% in Europe. The achievement of Australia's Kyoto target will be a significant challenge, requiring the full implementation of existing and planned greenhouse mitigation measures.

Calculating the effects of land use change and the implementation of carbon sinks (such as forests that absorb carbon dioxide) is characterised by levels of statistical uncertainty that may reach plus-or-minus 80%. In contrast, estimating emissions from energy usage has high levels of certainty.

Forecasts show that to meet the Kyoto target of an 8% increase, energy and other emissions must increase by only 21% or less, compared with current projections of a 40% increase in energy emissions by 2010.

The rate of land clearing has declined because of changes in policy in most Australian states. The state that could be most affected as a consequence of the Kyoto Protocol is Queensland, which is clearing land at an estimated rate of 262,000 hectares a year.

In contrast, in the final result country B will be over its target by 5 units.

Trading in the 5 Assigned Emissions Units (AEUs) between Country A (as seller) and Country B (as buyer) brings both countries into compliance.¹ This is an example of permit trading. The size of the permit market is limited by the caps on emissions and on the technological limitations of emissions reduction.

It is expected that outside the permit market will develop the fully fungible credit market. Credits have the same effect as permits but they are external to the system. That is, they increase the supply of available emissions reduction mechanisms.

A good example of a carbon-credit generating mechanism is a Kyoto-compliant forestry project. In this case, emissions of a country may remain over the assigned baseline but

the credits from carbon sequestered from the atmosphere (eg, through tree growth) will offset the emissions above the target and bring the nation back into balance.

Because of the emissions-intensive nature of Australian energy production and the extent of our land resources, the federal government is an aggressive advocate of land-use change and forestry activities (LUCF) as a means of meeting emissions targets.

Three trading mechanisms have been identified under the Kyoto Protocol:

- International Emissions Trading (IET) — this is demonstrated in principle in the model in Figure 1.
- The Clean Development Mechanism (CDM) — emissions are reduced in a non-Annex B country (not a signatory to the protocol) and the credits are claimed by an Annex B country which has invested in the emissions-reducing project. The CDM

is, so far, unique among the mechanisms, in that credits accrued under the CDM will apply from the year 2000 onwards.

- Joint Implementation (JI) — two Annex B countries undertake emissions reduction activities and agree to share those emissions reductions as a part of meeting their targets.

It is the aim of the COP6 to reach agreement on the rules for the operation of international emissions trading, the CDM JI and LUCF.

Priority at COP6 is expected to be given to the CDM, as this will assist in bringing non-Annex B countries into the CO₂-reduction process.

CREATING A DOMESTIC TARGET

The problem of how a national emissions trading target is translated into an obligation of emitters within a country is the province of individual governments.

Two broad schools of thought have emerged:

The Umbrella Group of nations (including Australia, the US, the Ukraine, Russia, Japan, New Zealand and Canada) advocates full and open trading as a mechanism to meet the protocol's targets, with no limits on the amount which may be traded or the volume of credits to be obtained.

The European approach advocates that trading should be supplemental to actions taken domestically. It is likely that, if approved, this will significantly raise the costs of compliance.

Europe is currently proposing that buyers be limited to purchasing up to 36% of the gap between expected emissions and their Kyoto target. The European position is based on the theme contained in articles 6, 12 and 17 of the protocol (dealing with JI, the CDM and IET) that trading should be supplemental to domestic actions.

PRICE SIGNALS

It is often argued that there is no price signal available in the marketplace. This is certainly the case in the sense that there is no easily available price discovery mechanism for tradeable CO₂ instruments.

However, benchmarks are being set which enable two things: