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A Poisoned Chalice
Australia and the Kyoto Protocol

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Preface

The Kyoto Protocol agreed last December may well represent a watershed in modern history, for it could mark a decisive transition from the fossil-fuel based technologies of the industrial era to the renewable energy and energy efficiency technologies of the next century. It is also of historic significance because the nations of the world, after protracted and difficult negotiations, reached agreement on national actions to cut greenhouse gas emissions in an attempt to stabilise global climate change, the gravest environmental threat to the world.

While the world had something to celebrate after Kyoto, little honour attaches to Australia's part in the climate change negotiations. In the lead up to Kyoto, the Australian Government acted in a way designed to make agreement on mandatory emission reductions more difficult. It threatened repeatedly that it would refuse to sign any international agreement that did not meet its demands. Given that consensus would be essential to enforcing the terms of the protocol, and that subsequent rounds of negotiations would succeed in involving developing countries only if all developed countries had begun the emissions cutting process, it was apparent that the Australian Government placed all emphasis on protecting the coal industry, and its vocal ally the aluminium industry, and none on its international environmental responsibilities.

But while the Australian Government celebrated a 'victory' at Kyoto, more considered analysis suggests that it is a triumph Australians may come to rue. With savage accuracy, this Institute paper points out the devious strategies pursued by the Australian Government at Kyoto, the contradictions in its arguments at Kyoto, and the domestic and international implications of the 'Australian deal'. I am sure that impartial readers will conclude that the Government's 'victory' was in fact a defeat, both for Australia's economic future and for further global efforts to tackle the problem of climate change.

Readers will agree that the unavoidable anonymity of the authorship of this paper does not detract from the force of its arguments. The Institute's pre-Kyoto analysis of the Australian position – published as Background Paper Number 8, *A Policy Without A Future: Australia's International Position on Climate Change* – was read around the world and its arguments, and even its phrases, were quoted back at the Australian Government. The Government has accused the Institute of disloyalty, even 'treason', over its climate change research activities (including *ad hominem* attacks under parliamentary privilege) and will undoubtedly do so again in response to the present paper. But protecting Australia's interests, and those of citizens elsewhere in the world, requires that we identify the national interest, not with the short-term commercial interests of the coal industry, but with international efforts to minimise the potentially catastrophic effects of climate change.

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Executive summary

Australia's free ride

Australia was granted extraordinary concessions in the last hours of the Kyoto Climate Change Conference. In addition to an 8% increase over 1990 levels of emissions, Australia's base year emissions were inflated by 30% by the inclusion of net emissions from land clearing. The latter immediately became known as the 'Australian clause'.

However, land clearing emissions have fallen sharply since 1990; by 1995 they had fallen by 33% from 1990 levels, turning Australia's 8% target into a 'three-inch putt', as one observer put it. The cost of eliminating land clearing would be very low, especially when compared to the cost of reducing emissions from fossil fuels. If emissions from land clearing continue their natural decline and fall to zero, in accordance with stated Government policy, then Australia will find itself with surplus emission savings of 88 million tonnes by 2008-2012, a surplus it could sell to other Annex B countries.

Thus far from easing an unfair emissions reduction burden, the concessions won by Australia represent a substantial wealth transfer from other developed countries, a transfer to the country with the world's worst record of greenhouse gas emissions.

In per capita terms, the inclusion of land clearing emissions for Australia means that emissions per head in 1990 rose from about 21 tonnes per year to about 29 tonnes, officially making Australia by far the highest greenhouse emitter per capita. If the Government implements its pre-Kyoto policy of eliminating land clearing by 2010, emissions per capita from all other sources could rise from 21 tonnes in 1990 to 26 tonnes in 2010 while Australia remains within the Kyoto limit.

While the Australian Government celebrated a great victory at Kyoto, there is not the slightest evidence that other countries accepted the key contention of Australia that the cost of uniform targets would be unfairly high for Australia. It is apparent that Australia won concessions only by threatening to withdraw from the Convention if its demands were not met.

Australia therefore took advantage of the more responsible approach adopted by other countries and exploited the fact that consensus on mandatory targets by all Annex B countries was essential to obtaining agreement.

Implications of the land clearing clause

Without the 'Australian clause', the parts of the Protocol which deal with measurement of emissions in the base and the target years are reasonably consistent, reliable and rational. The ill-conceived inclusion of land use change – introduced at the last moment by Australia and at no stage subject to careful consideration – destroys the coherence of the Protocol and establishes destructive precedents for future rounds of negotiation.

Had they been aware of the facts about land clearing, the Kyoto negotiators would have demanded that Australia cut its emissions by considerably *more* than Europe,

Japan and the USA. Whereas Germany used the shut down of East German industry to increase Europe's emission cutting possibilities, and thereby to help lower global emissions, in Australia's case the inclusion of land clearing emissions will provide a cover to increase energy-related emissions.

Merely by following the Government's policies announced before Kyoto – an 18% increase in energy and other emissions and the end of land clearing – the Australian Government could have agreed to the biggest emission reduction of all Annex B Parties. If it had done so it would have been a world environmental leader rather than a selfish exception.

International implications of the Australian deal

The precedents established to keep Australia in the Kyoto negotiations will bedevil future negotiations. An 8% increase for a country that is wealthy and the world's highest per capita polluter will make it difficult to gain the agreement of developing countries to begin cutting their emissions, one of the Australian demands at Kyoto.

The land clearing clause may be even more damaging, especially as developing countries are brought into the target-setting process. Firstly, since land clearing in developing countries, as in Australia, will probably be declining for other reasons, the inclusion of land clearing allows emission cuts that would occur in the energy sectors to be 'transferred' to land clearing thereby delaying cuts in emissions from industrial processes in exchange for reductions that would happen anyway.

Secondly, there is a mismatch in the measurement of emissions sources in the base year and the target years which introduces a technical flaw into the Protocol.

Thirdly, the Australian clause opens up a large loop-hole in the Protocol because, unlike energy emissions which can be reduced only gradually, land clearing emissions can change sharply from year to year. It may be feasible to stop land clearing only for the target period 2008-2012, and then to resume it after the target is met.

In the longer term, the shape of global climate change controls after 2012, or perhaps sooner, has become clearer. The Kyoto conference foreshadowed a move towards equal per capita emission rights and the institutionalisation of the polluter pays principle. These bode ill for Australia, the country with the highest per capita emissions, and one now not obliged to begin purposeful action on emission reductions. The effect of using the Kyoto concessions will be to undermine greater energy efficiency and renewable alternatives, the only long-term solutions. The best course of action for the Australian Government would be to renounce Australia's Kyoto outcome and adopt more stringent emission targets.

The Australian deal at Kyoto was 'a poisoned chalice' both for those seeking a global response to climate change, and for Australia's economic future. For the former, pursuit of consensus has come with the destructive precedents established for future negotiations. For Australia, the pursuit of a lenient target will come at the long-term cost of being unprepared for much tougher targets after 2012. Australia's Kyoto win will be recorded in history as an embarrassing anomaly, one best renounced for Australia's sake and the world's.

1. The Kyoto Protocol

The Australian Government celebrated a victory after winning large concessions at the Kyoto conference of the Framework Convention on Climate Change (FCCC). The Prime Minister claimed that it was a vindication of the position his Government had argued internationally and that the outcome was fair because it recognised Australia's special difficulties in reducing emissions of greenhouse gases. This paper assesses these claims and considers the likely economic implications of the Kyoto Protocol and the Government's response to it.

Many observers doubted that any significant agreement to cut emissions could emerge from Kyoto. Given the call it makes on developed countries to be farsighted, the need for international cooperation, the immense complexity of the subject, and scientific uncertainty, the Kyoto Protocol represents a cautious but immensely significant change in direction by the whole world. Undoubtedly, the greatest political courage was shown by the US Administration, which now must convince the US Senate to stand up to tremendous pressure from US fossil fuel interests.

The Protocol requires an average reduction in emissions from the Annex B Parties (i.e. the developed countries) of 5.2% below 1990 levels to be achieved over the period 2008-12. This includes an 8% fall for European Union countries, a 7% fall for the US, and a 6% fall for Japan and Canada. Fourteen other European countries accepted reductions of between 5% and 8%. New Zealand, Russia and Ukraine accepted 0%. Only three countries were granted increases: Australia 8%, Iceland 10% and Norway 1%. However, a large number of significant issues still need to be better defined in a series of meetings over the next few years, beginning at the fourth conference of the parties in Buenos Aires at the end of 1998. These issues include details of emission trading schemes, details of the 'clean development mechanism' to involve developing countries, a commitment to reductions in the future, in some form or another, by developing countries, and technical definitional issues.

2. The Australian deal at Kyoto

2.1 What Australia won

The main outcomes for Australia at Kyoto were as follows:

- it was agreed that net emissions from land use change could be added to emissions from other sources to determine 1990 base year emissions measured in tonnes of carbon dioxide equivalents. The second sentence of Clause 7 of Article 3 of the Protocol immediately became known as the 'Australian clause'; and
- while most of Annex 1 countries agreed to cut their emissions below 1990 levels by the budget period 2008-2012, with an average reduction of 5.2%, Australia secured a target of 8% above 1990 levels.

Using the best current estimates of emissions, the effect of the inclusion of emissions from land clearing is to increase Australia's 1990 emissions from an 380 million

tonnes (Mt) of carbon dioxide equivalent to 496 Mt with the addition of 116 Mt from land clearing emissions (NGGI 1997a). The Protocol sets Australia a target of 8% more than this, that is, 536 Mt a year averaged over the period 2008-2012.

2.2 How tough is Australia's task?

In the lead up to Kyoto, the Government announced a package of energy measures that it predicted would limit emissions (excluding those from land clearing) to 18% above 1990 by the year 2010. Thus energy and industrial emissions were expected to rise to 448 Mt by 2010, a level even the Government conceded could be improved on.

This leaves room for at least 88 Mt to come from land clearing in 2010 in order to come in at the target of 536 Mt. However, according to the official greenhouse gas inventory, emissions from land clearing had by 1995 already *fallen* to 78 million tonnes from 116 Mt in 1990. Thus Australia could *increase* emissions from land clearing and still meet the Kyoto target. The situation is summarised in Table 1.

Table 1 Australia's emissions task

	Mt
Emissions in 1990	
Energy and other sources	380
Land clearing	116
TOTAL	496
Emissions in 2010	
TOTAL Kyoto emissions target	536
Expected emissions other than land clearing	448
Balance due to land clearing	88
Actual land clearing emissions in 1995	78

Sources: NGGI (1997a) and Government statements

If emissions from land clearing continue their natural decline and stabilise at around 48 Mt then Australia will have 40 Mt of surplus emission savings. Under the emissions trading system agreed by the Kyoto Protocol, these emission credits can be sold to other signatory countries. Thus far from easing an unfair emissions reduction burden, the concessions won by Australia probably represent a substantial wealth transfer from other developed countries, a transfer to the country with the worst record of greenhouse gas emissions.

In per capita terms, the inclusion of land clearing emissions for Australia means that official emissions per head in 1990 rose from about 21 tonnes per year to about 29 tonnes, making Australia officially by far the highest greenhouse emitter per capita. With an expected population increase of 23% between 1990 and 2010 (ABS 1996), it might be expected, in terms of either total emissions increased by the 8% agreed at Kyoto, or the Government's announced policy of an 18% increase in non-land clearing emissions, that there would be a fall per capita by 2008-12, in either total

emissions per capita, or non-land clearing emissions per capita. The impression might be given that we would show a moderate improvement in efficiency with which we use fossil-fuel energy.

However, land clearing emissions have already fallen by 33% from a net of 116 Mt in 1990 to 78 Mt in 1995 and are likely to continue falling without any actions by governments. Consequently there is ample scope for per capita emissions from energy related uses to rise within the total target allowed for Australia. If for instance net land clearing emissions were to disappear by 2010 – note that it is stated government policy to achieve this by 2001 (Hill 1997a) – emissions per capita from all other sources could rise from 21 tonnes in 1990 to 26 tonnes in 2010 while Australia remains within the Kyoto limit. We would therefore be increasing our emissions per capita from fossil fuels, the source of most non-land clearing emissions.

There is however even greater scope to increase our energy related emissions per capita because, within the non-land clearing emissions, there are significant elements which are not energy-related. Emissions from the latter (which are mainly methane emissions from agriculture) fell slightly between 1990 and 1995. If we assume conservatively that this will stabilise at its 1990 level, and assume the same for the other minor emissions, it is possible to see energy-related emissions rising an extraordinary 29% per capita between 1990 and 2010, from 17 to 21 tonnes per capita.

In any case, using almost any basis for comparison, the concessions made at Kyoto will see Australia become the world's outstanding per capita emitter. Previously it vied with the US and Canada for this title, but with the addition of land clearing emissions, and Australia's 8% growth versus their 6 or 7% fall, Australia's pre-eminence as a polluter will be unchallenged.

2.3 Did Australia win the argument?

To get the Australian 'win' into perspective, it is instructive to compare the outcome with the position put forward by the Australian Government in the period leading up to the Kyoto conference. Australia advocated the following:

- voluntary rather than binding emission limits;
- emission limits should be based on estimates of equal economic costs per capita between developed countries;
- rather than uniform targets, there should be differentiated targets between developed countries based on equal economic costs. While the actual degree of differentiation was not spelled out, the criteria put forward by Australia would have involved at least a 30% range above and below 1990 levels;
- differentiated targets should be based on five indicators – economic growth rates, emission intensities of the economy, population growth rates, exports of emission-intensive goods, and emission intensity of total exports;
- emission limits should apply to developing countries in any agreement; and

- emissions trading between countries should be adopted.

The unreality of the overall Australian position is shown by the fact that what the Government agreed to so eagerly in Kyoto accords with only one of these conditions, the adoption in the Protocol of emissions trading. Australia's advocacy of equal economic costs, the use of indicators, and voluntary rather than legally binding targets never looked remotely a possibility, while Australia was earnestly trying to sell them around the world. Developing country participation is still to be worked out, and almost certainly will not involve targets in the shorter term.

The idea of differentiation was the foundation stone of the Australian position before Kyoto. But before Kyoto and in the Protocol itself, differentiation was never accepted as a basic concept or major influence on targets in the way advocated by Australia. Almost every target was within the narrow range of 1% increase to 8% reduction, and 32 out of 38 countries (with widely differing characteristics) accepted cuts between 5% and 8%. Under any feasible differentiation criteria (including those put forward by Australia), Japan and the USA would have been given markedly different targets, whereas in practice they differed by only 1%. It was made quite clear by the Conference Chair, Raoul Estrada, that Australia would get nothing like the 'headline' increase it sought, with a maximum increase for any country of 10% at the very largest (*The Australian*, 4 December 1997, p. 6). The outcome was therefore very close to uniform reductions for almost all countries, with a few deviations of a few percentage points.

The only Australian position adopted was emissions trading, but this was the least emphasised Australian aim, with senior bureaucrats suggesting that emissions trading would take 20 years to implement. It is worth noting here that the Australian Bureau of Agricultural and Resource Economics (ABARE) had been an early advocate of emissions trading, but ran dead on the issue for the two years prior to Kyoto. The reason was that while the Government argued vociferously that Australia would suffer huge economic costs as a result of uniform emission targets, ABARE's own economic modelling showed that emission trading would reduce the estimated costs of emission reductions by around 75%. After Kyoto, ABARE is now attempting to take control of the emissions trading debate in Australia.

2.4 'Bubbles' are not differentiation

The Kyoto outcome finally puts to rest the Australian Government's contention that the EU arrangement of varying targets within the EU was equivalent to Australia's differentiation position, and that the Europeans were being hypocritical in pressing for uniform reductions for other countries. By the end of the Conference, most commentators recognised the conceptual equivalence of the 'EU bubble' and the 'emissions trading bubble' for Annex B countries generally. This acknowledged that the variations within the EU are essentially a form of emissions trading among those countries. Parties may emit more if they provide the wherewithal in a bargaining process with other parties to allow them to do so.

This is not the free-ride for higher emitters that was the essence of the Australian proposal. Appendix B of the Protocol shows each EU member, and the EU as a whole, committed to an 8% reduction. Increases will be allowed under the Protocol to EU countries only if other countries make up the difference. No country negotiating

an emission limit in the future can base a claim for a more lenient target on the EU position because any EU country increase is strictly within a trading 'bubble'. On the other hand, the 8% increase for Australia is a pure free ride and will undoubtedly be used by other countries in pursuit of lenient targets. Indeed, there is evidence that this is already the case.

How does Australia's 8% increase compare with increases for some other countries? Note first that the whole purpose of the Conference was to start *reducing* emissions from wealthy countries. Thus Canada, in many respects like Australia, but with a higher population growth, accepted a 6% reduction. New Zealand accepted 0%, even though it has far lower per capita emission levels than Australia (and hence *prima facie* will have greater difficulty reducing emissions proportionately, because fossil fuel use is more specialised), and similar population growth. The only two other countries to get an increase were Iceland and Norway. However, Iceland is a country with a population of 250,000, and Norway obtained an increase of only 1%, for a population of 4.5 million and emissions about half Australia's per capita. Australia's increase of 8%, not to mention the inclusion of land clearing emissions, is therefore the outstanding anomaly from Kyoto.

2.5 How did Australia gain its concessions?

There is not the slightest evidence that other countries accepted the key contention of the Government, that the cost of uniform targets would be unfairly high for Australia. How then did Australia win concessions if its arguments carried no weight internationally? The answer to this question is clear from a survey for this paper of 260 press reports published in Australian newspapers over a two week period spanning the Kyoto conference. On the basis of observations by members of the Australian delegation, the Conference Chair, the Secretary, and many delegates and observers from other countries, it is apparent that Australia won concessions by threatening to withdraw from the Convention if its demands were not met.

While all countries negotiated with the national interest in mind, none was quite so irresponsible in both threatening to withdraw, thus destroying consensus, and in seeking an increase. The Secretary of the Convention, Michael Zammit Cutajar, for instance, referred to every country except Australia being committed to its success (*Sydney Morning Herald*, 1 December 1997, p. 1). The Chair of the Conference, Raoul Estrada, stated that Australia had been allowed to have its way only in the interests of obtaining unanimous agreement (*Australian Financial Review*, 13 December 1997, p. 31). The Australian negotiating strategy was no surprise: the Howard Government had been making these threats like none other for some months. If any larger power, or a small number of countries, had acted like Australia, agreement would never have been reached. Australia therefore took advantage of the more responsible approach adopted by other countries and exploited the fact that agreement on mandatory targets by all Annex 1 countries was essential to obtaining a protocol.

3. The significance of the Australian land-clearing clause

3.1 Recognition of land clearing emissions

By far the most significant concession gained by Australia was the recognition of land clearing emissions in its 1990 base year figure. As we saw, on current estimates this expands Australia's 1990 base year emissions by about 30%. Thus if land clearing emissions were eliminated, or simply fell somewhat, there would be scope for huge increases in emissions from other sources while remaining within the agreed 8% increase in total emissions by 2008-12.

It is important to note two points about land clearing emissions in Australia.

1. They have already fallen well below 1990 levels (NGGI 1997a) and are likely to fall further without any actions by government.
2. Any remaining emissions from land clearing can be reduced at extremely low financial cost (and may in fact provide net economic benefits if the resource and environmental costs of land clearing in Australia are taken into account).

It has recently been estimated that the marginal abatement cost of eliminating land clearing varies between \$0.15 and \$1.64 a tonne of carbon dioxide emissions (WWF 1997), an extremely small cost when compared to ABARE's estimate of carbon taxes of (admittedly exaggerated) \$200-300 per tonne. Thus emission reductions could be achieved at an astonishingly low cost. They could be achieved by paying landholders a generous reward for not clearing, or by buying the freehold or leasehold rights to the land at prices well above their value if cleared, but at very low cost in terms of eliminating emissions.

3.2 Australia's negotiating strategy

The very low cost of eliminating land clearing emissions raises some serious questions about the honesty of the negotiating process carried on by Australia. Land clearing emissions have never been included in the official MEGABARE modelling of the costs of reducing emissions in Australia. Thus when Australia claimed that uniform emission reductions would cause disproportionate costs to Australia, land clearing emissions – one of the largest and certainly the cheapest source of emissions – were not included in the reasoning.

The Government and its economic modellers said that emissions from land clearing were excluded because of scientific uncertainty about their size. This exclusion continued right up to the Kyoto conference. In a press release of 26 September 1997, barely two months before Kyoto, the Minister for the Environment, Senator Hill, emphasised the high costs of emission reductions for Australia, and how this warranted special consideration for Australia at Kyoto. However, the press release stated 'The lack of certainty attached to the large fall in emissions from land use changes means that, responsibly, it is still best to treat them separately' (Hill 1997b).

About two days before the opening of the conference the public position of Australia suddenly changed so as to include land clearing emissions in the 1990 base (*Sydney Morning Herald*, 29 November 1997, p. 5). Despite this, the claims about the unfair

high costs to Australia of reducing emissions continued, even though they are manifestly untrue once land clearing emissions are included. In simultaneously arguing for an 8% increase to total emissions on the basis of high costs of emission cuts, and an expansion of base year emissions to include land clearing, Australia carried out a successful sleight of hand. The novelty and complexity of land clearing emissions, and the fact that for most developed countries land clearing is an irrelevant issue, explains why Australia achieved a ‘victory’ in the feverish final hours of negotiation at the Kyoto conference.

The plan by Australia to turn some of its land clearing emissions into energy related emissions is an inescapable conclusion from the fact that it plans growth of non-land clearing emissions by 18% from 1990 levels (which the Government claims is the lowest it can go), while it gained only an 8% overall increase at Kyoto. The difference must come from the additional emissions won at Kyoto by including land clearing sources in 1990 base year.

In a global agreement designed to reduce emissions, it is irrational and contradictory to allow one country (especially a wealthy country) not only to carry over from the base year to the target year a block of emissions that had already by 1997 fallen sharply, but to permit total emissions to increase by 8%. Had they been aware of the facts, the land clearing concession to Australia would have provided the Kyoto negotiators with the evidence to demand that Australia cut its emissions by considerably *more* than Europe, Japan and the USA. Land clearing emissions have thus become Australia’s equivalent to Russian ‘hot air’ – low cost emissions that have already fallen substantially below 1990 levels. Whereas Germany used the shut down of East German industry to increase the emission cutting possibilities and thereby to help lower global emissions, Australia will use the inclusion of land clearing emissions to provide a cover to increase energy-related emissions.

3.3 Opportunity missed

In getting land clearing emissions included in the Kyoto Protocol, Australia missed an opportunity to present itself as a global environmental leader at the Conference. If we had agreed to eliminate all land clearing emissions by 2008-12 (an objective to which the Government is committed already), and to stabilise non-land clearing emissions at 1990 levels, Australia could have claimed a 24% reduction target by 2008-12, far and away the greatest reduction agreed at the Conference. An 8% increase on non-land clearing emissions, with elimination of land clearing emissions, by 2008-12 could have been presented as an overall reduction of 18%, still the biggest reduction of all Annex B Parties. Even more to the point, an 18% increase of non-land clearing emissions, the Government’s announced target before Kyoto, with the elimination of land clearing emissions, also Government policy, would still have resulted in a 10% reduction, still the largest reduction mandated at Kyoto.

In other words, Australia gained at Kyoto the right to increase emissions by about 88 Mt on current estimates which it does not need to achieve its own unambitious target announced before Kyoto. Given the burdens which many other developed countries accepted for the global good at Kyoto, it is hard to see this excess of 20% over an already generous target as anything other than irresponsible and selfish. However, the opportunity remains for an Australian government willing to renounce the Kyoto outcome to gain great credit by adopting one of the world-leading reductions just

mentioned.

3.4 Negotiating tricks at Kyoto

The fact that other delegations at Kyoto had little or no understanding of the implications of adding land clearing emissions to the Australian total is apparent from the survey of 260 newspaper reports mentioned earlier. There is no evidence that any non-Australian delegation appreciated the fact that land clearing emissions had already fallen significantly or that the cost of eliminating the remainder will be extremely small. The Australian press noted the ‘seemingly innocuous’ concession granted to Australia (*The Age*, 12 December 1997, p. A8).

The Australian delegation in Kyoto took measures to ensure that the true significance of the land clearing concession remained hidden. In speaking to the Australian press, Senator Hill referred to the ‘reasonable cost’ of eliminating land clearing emissions (*Australian Financial Review*, 4 December 1997, p. 5). This is doubly misleading as emissions had already fallen substantially for purely economic reasons and because studies show that remaining emissions can be eliminated at zero or very small cost. The Australian delegation refused to brief the non-Australian press and only briefed the Australian press in a hotel room away from the conference venue, in a deliberate attempt to keep the rest of the world in the dark (*The Australian*, 8 December 1997, p. 5). In the final stages of the negotiations, the Australian delegation purposely held back the final wording of the land clearing clause from other delegations expressly to give them minimum time to digest the clause and its implications (*Australian Financial Review*, 12 December 1997, p. 12).

3.5 Escape from a political tight corner

An important part of the Kyoto story is that the Howard Government backed itself into a very difficult position in the lead up to the conference. It made increasingly strident statements about withdrawing if it did not secure a significant increase in emissions. Far-fetched statements were made about the threat to Australia, such as Senator Hill’s statement that the Australian economy would be ‘devastated’ by a 5% cut (*The Australian*, 6 October 1997, p. 6), a view quite unsupported by any economic modelling, including the Government’s MEGABARE model. At the same time, it was getting nowhere with its basic positions such as equal economic costs, use of indicators, large differentiation based on indicators, and no legally-binding targets.

Then just a week prior to the conference, opinion polls in Australia showed a surprisingly high level of support for signing an agreement involving mandatory emissions cuts (79%), even if it meant economic costs to Australia (68%) (*Sydney Morning Herald* 26 November 1997, p. 1). The Government was therefore extremely fortunate when at the last moment other delegates, through a mixture of weariness and ignorance, granted Australia two very big concessions.¹ The Government seized on these last minute concessions to announce a triumph for its diplomacy, declaring that it would join this now suddenly quite acceptable international agreement, despite the agreement rejecting almost all Australia’s previously announced key requirements.

¹ See for instance the analysis in the *Sydney Morning Herald*, 13 December 1997, p. 21; *Australian Financial Review*, 13 December 1997, p. 31, and the description of the final hours of conference proceedings in the Australian Conservation Foundation’s magazine *Habitat*, February 1998, p. 8.

3.6 A diplomatic victory?

In reality the targets agreed at Kyoto reflected a political bargaining process resulting in close-to-uniform reductions with concessions to a very few awkward participants in order to keep all Annex 1 Parties in the Protocol. However, a number of key parties resented the Australian outcome. Environmentalists from Australia and international organisations were bitter (*Sydney Morning Herald*, 13 December 1997, p. 21). More significantly, the chief European negotiator, Ritt Bjerregard, said that the outcome for Australia was a mistake, that Australia had made a misleading case and ‘got away with it’, and that this would not be forgotten (*Sydney Morning Herald*, 12 December 1997, p. 1, *The Age* 12 December 1997, p. A8). The EU’s spokesman on environmental policy, Peter Jorgensen, said that the Australian increase was ‘wrong and immoral. It’s a disgrace and it will have to change’ (*Sydney Morning Herald*, 19 December 1997, p. 10). Some US and Canadian commentators asked why their countries had not won such concessions (*Sydney Morning Herald*, 18 December 1997, p. 13), thereby jeopardising international support for the Convention. Leading developing countries were reported to be preparing to use the Australian precedent as the basis for a refusal to cut their emissions (*Sydney Morning Herald*, 19 December 1997, p. 10).

Clearly the Australian outcome is not going to be quietly accepted and forgotten. As the full implications of the Australian concessions sink in, it may well come to be seen as ‘too clever by half’ (*Sydney Morning Herald* 18 December 1997, p. 13). In fact a few ‘diplomatic victories’ such as this could see Australia losing future diplomatic wars. Certainly in the long process of global cooperation on climate change it will likely prove a defeat for Australia rather than a victory.

In a curious footnote, while Senator Hill seemed jubilant about the ‘Australian clause’ on land clearing immediately after the event, in later comments on what happened at Kyoto he seemed reluctant to mention it, to the point of being misleading. In a letter published in *The Australian* (31 December 1997) and in a speech on 30 January 1998 to the Committee for the Economic Development of Australia, Senator Hill did not mention land clearing *at all*, but stated simply that Australia had been looking at emission increases of 43% and was now looking at an 8% increase, a difference which he said would be challenging. This observation is quite misleading as it compares emissions from sources other than land clearing with emissions from all sources.

In fact a proper comparison is that previously the Government anticipated a 43% increase in non-land clearing emissions, rising from 380 Mt in 1990 to 543 Mt in 2010. Including land clearing emissions, an 8% increase sees Australia permitted total emission rights of 536 Mt, an almost identical figure. If emissions from land clearing can be eliminated – a very low cost task and one that was government policy before Kyoto – almost the same non-land clearing emissions as before (43%) would be allowed. The ‘challenge’ Senator Hill refers to is hard to find, and his comments should be seen as a gloss on the Kyoto outcome designed to mislead the Australian public.

4. The international implications of Australia's 'victory'

As the Kyoto protocol is analysed, developed and implemented, the Australian anomaly will be understood in ways that were not apparent in the immediate aftermath of the Conference, when delegates and commentators were preoccupied by the broad outlines of the Protocol and the fact that an agreement had been reached at all. However, the precedents created for Australia will be a source of growing global embarrassment.

4.1 The 8% precedent for developing countries

Australia is a wealthy country with very high emissions per capita, yet was given an 8% increase while other countries agreed to cut their emissions. Every developing country entering into subsequent rounds of negotiations on what its emissions should be will be entitled to say: 'Why can we not have an increase when the one of the wealthiest and highest emitting countries got an increase?' The only answer will be: 'Well, Australia, unique among developed countries at Kyoto, would only agree to enter the agreement and allow the desired consensus if it got its increase. We allowed it because only one country acted in this way. It's an anomaly: other countries cannot expect to be allowed the same latitude again, even if they are far poorer than Australia, or we will get nowhere in cutting global emissions'. Strenuous efforts will be needed therefore into the future to discount this embarrassing anomaly if any progress is to be made with further targets. For this reason alone a future Australian government should renounce its 'win' at Kyoto.

It is worth noting that a major reason given by Australia for having a generous increase was Australia's relatively high population growth rate. However, among developed countries, the US and New Zealand have similar population growth rates, while Canada, which agreed to a 6% reduction, has a much higher population growth rate than Australia (ABS 1996). More to the point, however, is the fact that most developing countries have much higher population growth rates than Australia. If Australia has justified its increase because of its population growth rate, how can developing countries be asked to reduce or even stabilise their emissions?

4.2 The land clearing precedent

Recognition of land clearing emissions as part of total base year emissions is an even more unfortunate precedent. Among developed countries land clearing emissions are significant only for Australia. But they are significant for a number of developing countries where land clearing and deforestation continue. The Australian precedent will enable developing countries to increase their base year emission tonnages from land clearing. As land clearing slows due to other causes, like Australia these countries will be able to transfer these tonnages to energy emissions thereby relieving them of the need to cut energy emissions.

The situation is therefore similar to Australia – a no cost or low cost form of emissions reduction can, if it is eliminated, be translated into higher emissions from energy sources that will be more expensive to eliminate, thus creating a much greater obstacle to emission reductions. This right to 'translate' into more valuable emissions is in fact an incentive to clear land at a high level in anticipation of a base year figure. As it stands therefore the land clearing provision for Australia is a damaging

precedent for future negotiations involving developing countries and for this reason also Australia should renounce its ‘win’ at Kyoto.

4.3 Scientific uncertainty

An issue of some interest is the measurement of emissions from land clearing. These are subject to major uncertainties caused by a number of factors including measurement of soil carbon content, decay rates below ground, areas of uncleared land, above ground biomass before clearing, and decay rates above ground (NGGI 1997b). Australia is the world leader in the measurement of this form of emission. There will be further clarification and agreement on additional protocols on the measurement of these emissions, and environmental groups have already said they will be watching this closely to minimise the size of the concession to Australia.

This scientific uncertainty compared with other emission sources is a major reason to treat them separately and with caution. This was the view until recently of the Australian government (described as the ‘responsible approach’ by Senator Hill only two months before the conference), and remains the view of many, including Professor Bert Bolin, formerly head of the Intergovernmental Panel on Climate Change (*Sydney Morning Herald*, 16 January 1998, p. 7). If land clearing emissions had been treated separately at Kyoto, but in a way which still leads to a commitment to their reduction, as proposed below, there would be no need for the early focus on their accurate measurement. The urgent need for accurate measurement has only arisen because emissions from land clearing have now been lumped together with other more easily measured emissions.

4.4 Mismatch in base year and target year emissions

There is a further technical issue with the concession to Australia on land clearing emissions that may give rise to problems. This relates to a mismatch between the definitions of base year emissions allowed for Australia and the permissible sources of emissions in the target year. The base year emissions now included are ‘emissions minus removals in 1990 from land use change’ (Article 3, Clause 7). However, the equivalent net emissions that must be included in the target for 2008-12 are limited to ‘afforestation, reforestation and deforestation since 1990’ (Article 3, Clause 3). Consequently some emissions from land clearing counted in the base year may not be included in the target because they are not defined as ‘deforestation’. In other words land use change is wider than ‘deforestation’.

It is true that there is currently an extraordinarily wide definition of ‘forests’ in Australia’s technical workbook on the subject, *Carbon Dioxide from the Biosphere*, which includes areas which are ‘dominated by trees’ which need only have a *potential* height of 2 metres and a *potential* overstorey cover of 20% (NGGI 1997b, p. 5), and which therefore covers areas which may not remotely resemble the usual conception of a forest. Curiously, ‘forestry’ in the official inventory only covers commercial forests, plantations and revegetation activities, and not land clearing. Rigidly adhered to, this definition of a forest may mean that there may not be significant emissions missed in the measurement of Australia’s target year emissions. However there is at least in principle a mismatch in base year and target year terms, and the ‘Australian clause’ offers a precedent which will have to be avoided for countries where there are land use change emissions which do not fit into this extremely wide definition of

‘forest’. Change will also be needed if Australia’s very wide definition of ‘forests’ is not found appropriate for the rest of the world.

4.5 Conceptual flaw: stock of uncleared land matters

There is also a conceptual flaw in the last minute inclusion of land clearing emissions. This is because cleared land directly exacerbates the effects of climate change, such as through hotter microclimates, stressed plant and animal communities, greater flooding and greater soil erosion. Uncleared land is a valuable buffer mechanism to help cushion the impacts climate change. Furthermore, much land clearing throughout the world is for the purposes of beef cattle grazing, which is a heavy contributor to emissions of methane, the second largest greenhouse gas. For these reasons, it may be appropriate to take a sterner view of emissions from land clearing than for other greenhouse gas emissions. The size of the stock of uncleared land should be considered as well as the emissions from it. A modest aim for a wealthy country should be to stabilise the stock of uncleared land, rather than stabilise the emissions from it. It should be noted that the outcome of allowing continued emissions from land clearing is, over time, the total disappearance of the stock of uncleared land, the worst possible outcome. In addition, measuring the stock of uncleared land is far simpler than measuring emissions from its clearing.

The Australian government has said that its aim is over time to end net land clearing. However, this will be at a stock level lower than in 1990 or now. Also, this is a voluntary matter for Australia and does not remove the precedent that the ‘Australian clause’ provides for future negotiations with developing countries with significant land clearing. They too will demand the right to increase their target by the size of their total base year emissions from land clearing (and perhaps demand an increase of 8% on top of this, as Australia was granted).

4.6 An Australian loophole in the Protocol

A further loop-hole arises from the emphasis on flows of emissions rather than stocks of uncleared land. Unlike emissions from burning fossil fuels, which can only be reduced gradually over several years in response to major programs, emissions from land clearing can change sharply from year to year in response to policy measures or economic conditions. Land clearing is a relatively simple operation which can be delayed for a time and then recommenced. Thus emissions from land clearing could without difficulty be temporarily halted or slowed just prior to an emissions target period like 2008-12, and then speeded up again later. By contrast, other emissions which are tied to far more costly and complex economic processes would be much more difficult to manipulate.

As a result it is possible that a government unwilling to introduce serious policies to cut energy emissions will simply wait until the target period approaches and if need be sharply reduce land clearing activities in the target year in order to meet its international obligations. This loophole would be avoided by taking a different approach from the ‘Australian clause’, to focus on maintaining a stock of uncleared land, not measuring emissions from it in the target year period.

5. International climate change policy after Kyoto

In order to assess the significance of the Kyoto outcome in the longer term for Australia, it is necessary to look at the likely course of global actions on greenhouse beyond 2012. Kyoto is only the beginning: far greater cuts in emissions, especially by developed countries, will be needed in the future. Some believe that tougher targets will need to be renegotiated even earlier than agreed at Kyoto (for instance, Professor Bolin *Sydney Morning Herald*, 16 January 1998, page 7). Once the Kyoto Protocol and its additional clauses are adopted and put in place, negotiations will begin on new, unquestionably much tougher targets for developed countries. According to the Protocol this will begin by 2005 at the latest (Article 3, Clause 9), and possibly sooner. The long term probability of tighter targets must soon be obvious to all, particularly large firms which invest in activities that emit greenhouse gases. The longer term implications of Kyoto are now beginning to be realised even by Australian business (for instance, see 'The next industrial revolution' in *Business Review Weekly*, 9 February 1998, p. 6). We briefly discuss some of the key developments.

5.1 Emissions trading means polluter pays

Firstly the Protocol endorsed emissions trading between Annex B (developed) countries. This will ease the way for countries such as Japan and the US to meet their targets in the immediate future, at what is expected to be an international price of about US\$30 a tonne of CO₂ (*The Age*, 12 December 1997, page A8). The US insistence on this mechanism reflects its desire to make it somewhat easier for its major emitters to reach their targets, and at the same time bring in a financial incentive to reducing emissions without imposing anything that smacks of a carbon tax.

This is a positive move in the long term, because it is a first step towards the polluter paying for the right to pollute. Once firms begin to face a financial cost of emissions, no matter if it is initially low, they will begin to be more efficient in ways they had not considered before. The initial low cost of emission permits does not matter greatly, because firms will also begin to ask themselves 'what if future permits cost much more?' and they will have no way of assuring themselves that it will not be much higher. In fact, it is highly likely that in time the price of emission permits will rise, as part of increasing action on climate change. This would be consistent with the general experience with permit trading systems for emissions and natural resource use, where the first 'grandfathered' permits tend to be superseded by more restrictive issuance of permits. There is no sense in the long term in granting an arbitrary gift to particular countries at the expense of firmer action on emissions. Emissions trading in the meantime, however, and to the extent that it is allowed, will help to bring in an entirely new approach, one that is consistent with the profound change of direction initiated by the Kyoto Protocol.

A second valuable development was the recognition in principle of credits to be granted where developed countries finance the transfer of energy efficient technology to developing countries – under the 'clean development mechanism' of Article 12. This too will speed up technical progress, and will be another form of the polluter paying for the right to emit.

5.2 Equal global per capita emission rights

A third and very significant development was the emphasis by India and China, little noted in the immediate aftermath of the Conference, that in future developments under the FCCC when developing countries are brought in, a guiding principle will be the objective of equal global per capita emission rights (*The Age*, 1 December 1997, p. 10, *Canberra Times*, 7 December 1997, p. C3 and 20 December 1997, p. C6). The implementation of true global equity and the polluter pays principle in relation to greenhouse emissions is likely to be ultimately unavoidable. The same general approach under the term ‘convergence and contraction’ has already been endorsed by the European Parliament.

All three developments strengthen the application of the polluter pays principle to greenhouse emissions. In time, countries that emit greater than a very low average per capita level will have to pay for the privilege, via carbon taxes or purchase of emission rights. Thus countries that have high emissions per capita should be shifting out of industries and activities which will not be able to survive in a world of very low per capita greenhouse emission rights.

5.3 Misconceived policy

The difference between these long-term interests and the Australian policy position suggest a profound misunderstanding by the Government and its advisers of the long-term nature of the climate change issue. The long-term need to shift away from fossil fuels, the desirability of being a first mover in the most important area of technological development, Australia’s very strong position in most of the alternatives to fossil fuels, the growing importance of environmental credibility, the responsibility on wealthy countries to lead the way, our future relations with Asia-Pacific countries (which supported far tougher targets at Kyoto than the Europeans) – all of these seem to have been seriously discounted in the attempts to defend one small sector of the Australian economy, the sector based on burning fossil fuels to refine metals for export.

It should be noted that some fossil fuel developments such as natural gas will be more likely after Kyoto. Also, ironically, the largest part of the coal industry, that for exports, will be disadvantaged by the Government signing up to the Kyoto Protocol because the Protocol mandates reduction targets for export markets in developed countries. Furthermore, the position that Australia took to Kyoto, of tough targets for other developed countries and of targets of some kind for developing countries, would have been worse for coal exports.

The importance given that part of the economy based on burning coal for power to refine metals for export indicates a mindset which sees this as the key to Australia’s economic future. This thinking permeates Australian policy documents on greenhouse. However, this view ignores the very small employment generated by these highly-capital intensive industries; the poor terms of trade outlook for standard commodities such as metals, the lack of sophisticated value-added in such products, and the lack of any great comparative advantage that Australia has in this activity. On this last point, the main requirements for development of this kind are ample coal reserves (shared by many countries), investment funds, and electricity generation and bulk metal refining technology. Investment funds and technology are globally available. This view fails to recognise Australia’s real comparative advantage, which is not coal but in human capital and social capital in all its forms. The whole process

of policy development on the climate change issue over several years, culminating in the conduct at Kyoto, will in time be seen as one of the least perceptive cases of policy development within an Australian Government in the post-war years.

5.4 The EU position

An outstanding example of the Australian Government's lack of understanding of the issue was the portrayal of the EU position as little more than a disguised trade attack, aimed at Australia in particular. 'European' became a term of abuse. The European call for large emission cuts was portrayed as a cynical attempt to capitalise on falling emissions from East German industry and the switch to gas in the UK. This was really a case of interpreting other people actions through one's own frame of mind. Use of our own 'East German industrial shut-down' – falling land clearing emissions – to increase rather than decrease emissions, shows who is more cynical. In fact, no attention was paid to the enormously strong political pressure from green opinion in Europe to act on greenhouse, nor to energy efficiency and alternative energy measures in place or being developed in parts of Europe. No attention was given to the obvious fact, well recognised by European governments, that East Germany and UK gas will provide just a starting point for a very long journey which will be more challenging for Europe than Australia. In fact, history will record with admiration the role taken by the leading European countries on the climate change issue.

6. The long-term implications of the Kyoto Protocol for Australia

In judging the longer-term effects of the Kyoto outcome on Australia, we need to consider likely developments in Australia and other developed and developing countries. One outcome is that by 2012 there will be much lower per capita emissions in every developed country other than Australia. Where prior to Kyoto we were officially comparable with the US and Canada, the reduction in emissions agreed to by Canada and the US, combined with the increase allowed to Australia, greatly amplified by the emissions from land clearing, will mean that Australia will greatly exceed them.

6.1 The rest of the world will change

As a result of Kyoto the US, Canada and other leading industrialised countries such as Japan, Germany and the UK will have to embark on a purposeful path of gradual emission reductions, while Australia, with its 'win' will not have to take this path. Indeed it would make nonsense of Australia's whole position at Kyoto if it did so. Other developed countries will take up alternative energy sources and greater energy efficiency which they will find often easier than they thought, once research and development, public opinion, economic incentives, and other public policy measures are firmly turned in that direction.

Unfortunately Australia's Kyoto 'win' could hardly be worse as a preparation for this coming scenario, of huge pressures for more demanding targets for all developed countries. After 2012 we could face very steep reductions in emissions, with other developed countries below us, and already heading further downwards. These steep reductions will involve greater costs in restructuring if we take full 'advantage' of the Kyoto outcome now, and put off action, rather than acting earlier. In its own long

term interest, therefore, Australia would be well advised to renounce its 'win' and work to quite different targets.

6.2 No special treatment next time

In the lead up to 2012, with the memory of how we conducted ourselves at Kyoto, and with the much greater international experience of emission controls by then, Australia will not be able to negotiate another 'special circumstances' deal. Emissions at 1990 levels will no longer be the baseline, but attention will have turned to per capita emission levels and polluter pays. We will only have ourselves to blame for our high emission levels and claimed high emission reduction costs, because that is what we specially sought for ourselves at Kyoto.

We need therefore to prepare ourselves for this scenario, and in this light what was gained at Kyoto looks increasingly like a dangerous delusion. Danger that while the rest of the world marches off in a new direction, we will be left enjoying our 'breathing space', to pay later in larger restructuring costs and lost technical and industry opportunities. The Kyoto outcome was a godsend for a government without the political will to make real change, but it has thereby stored up trouble for future governments.

6.3 Selling Australia's surplus emission allowances

An emissions scenario based on the Kyoto concessions, and assuming a continuation of the Howard Government's policies, would see an 18% rise in non-land clearing emissions from 1990 to 2008-12, from 380 m tonnes to 448 m tonnes. Let us assume a gradual falling away of land clearing emissions to a level of nil net emissions by 2008. This leaves about 88 million tonnes which can be used for new emitting activity, or could be sold as permits on the international trading market for emission permits.

One option for using this 88 million tonnes is to sell it on the international emissions trading market arising from Kyoto. At an expected price of \$30 a tonne (*The Australian*, 16 December 1997, p. 13) Australia could apparently gain about \$2.6 billion a year in foreign exchange. However there is a qualification to this figure. Under Article 6 of the Protocol, emissions rights sold must arise from 'projects' aimed at emission reductions or sink enhancements 'additional to any that would otherwise occur'. Such trading activity will be subject to verification and reporting. It seems therefore that Australia will not be able to sell emissions rights from reduced land clearing that has just happened so far, or in the future, not arising from a verified project. This should greatly reduce the selling scope.

Whatever the level of selling of these rights, the fact of Australia gaining wealth from their sale is likely to cause great resentment, due to the fraudulent way this arbitrary financial gift was won at Kyoto. A generous target, based on adding land clearing emissions and an 8% overall increase due to claims about high costs to Australia in reducing emissions, leads to a situation where Australia has ample emission rights to sell after reducing land clearing emissions at very low cost. The only honourable thing for Australia to do if it did sell these rights would be to devote the funds as aid to developing countries to address climate change. A benefit to Australia could still be gained if the funds were wholly or partly tied to purchase of alternative energy

products from Australia.

6.4 Attracting new energy-intensive industry

The alternative use of the 88 million tonnes of surplus emission allowances would be to use them in the way intended all along under the Australian policy of seeking high emission targets: to use them to attract to Australia new industries and plant above those we already have, which would face restrictions in emissions in other developed countries with tougher targets. In those circumstances, Australia would intensify even further its specialised global role in burning coal to generate electricity to refine metals. With the adoption of the Kyoto Protocol there should now be industries which would face costs in other developed countries, which will come to Australia to use the 88 million tonnes of emission allowances. To give some perspective on this figure, it is calculated that 12% of emissions (17% of CO₂ emissions) are CO₂ from export industries with significant energy costs, in other words which might be vulnerable to indiscriminate CO₂ restrictions. These industries therefore emit about 46 million tonnes. Therefore we could therefore add enormously to our world specialising emissions, to the benefit of the economy and jobs, it could be argued.

However, there are some major flaws in this argument. Firstly, such developments are very capital and energy intensive but provide very few jobs for the level of emissions, so that even on the most optimistic assumptions they would make little impression on unemployment figures. The main problem with this scenario, however, is that prospective industries are long term investments, and upon making their calculations about emission controls in Australia beyond 2012 they would come to the unavoidable conclusion that Australia's privileged position was not going to last. A government could give no guarantees beyond 2012. Multinational firms looking at investing in billion dollar projects would need to factor in future global control systems, and they would draw the conclusion that there was a strong enough probability that beyond 2012 there was no escaping the global 'polluter pays' approach outlined above - that there would be no more privileged sanctuaries, and certainly not Australia.

It must be remembered that major projects are years in the planning and construction, that negotiations for the years beyond 2012 are specified in the Protocol to begin in only seven years time, and a new emissions regime in only 14 years' time (at the latest). Consequently there is a very limited window of opportunity for new projects not yet commenced to take advantage of the current target. Another factor casting a shadow over this window of opportunity is the scientific uncertainty in measuring emissions from land clearing. There could be some years of scientific dispute in this measurement, especially given its contentious nature following Kyoto, so that the government will be even less sure about what it can offer. In short, the Kyoto 'win' is basically useless for the long-standing basic objective of Australia's greenhouse policy. Resource developments of all kinds will still occur in Australia, but the drawcard will not be 'free' emissions.

It might be argued that firms will accept the chance of paying for emissions after 2012, but will be attracted by 'free' emissions up to that date. Against this however is the fear that their adjustment costs might be all the greater after 2012, having set up in an Australia which faces relatively much harder reduction targets after 2012 than other countries, and is unprepared.

6.5 End of the Government's previous policy

Kyoto has brought more sharply into focus the longer term futility of the Australian Government's basic aim, to specialise in energy-intensive high-emissions manufacturing industry. Of course even before Kyoto the Government could never have given guarantees of long term generous emission rights, and the Government's aim of attracting industry in this way was never really believable against the long term greenhouse problem, but prior to Kyoto it looked less incredible. Agreed targets seemed remote, and the expected target year, where considered, was 2020. Since Kyoto however the period of opportunity will finish at 2012, and future emission rights scenarios are clearer and grimmer for free ride emissions in developed countries.

The end of the 'free emissions for Australia' policy has been signalled in effect by Senator Hill himself when he said that the Kyoto outcome gives Australia '10 to 15 years to restructure' (*Australian Financial Review*, 12 December 1997, p. 12) which can only mean that he does not see Australia being quite the 'fossil-fuel intensive economy' it has been. The problem with this '10 to 15 years breathing space' view is that the Kyoto win is so generous for existing activities and investments which are the source of most emissions that, if the 'win' is to be used, it directly undermines restructuring. It is almost impossible to see a program of purposeful restructuring, with the political cost that this requires, if we have such a generous emissions allowance on hand, which is only 'useful' to make things easier for current activities. Those being restructured will ask: 'Why do we have to go through this when we have got ample emission rights? Aren't we going to use them?' Restructuring needs a meaningful target to drive it, not more emission rights than we can use.

6.6 Recent Government measures

The main use made of the Kyoto concessions will be to allow emissions from current non-land clearing emissions to grow by 18%, consistent with Government policy. However, the Government's recently announced measures to reach this figure are weak and largely of a voluntary nature (Hill, Moore and Parer 1997) and seem inadequate to meet the 18% target.

The significance of the Government's measures can be gauged from the cost to revenue of \$180 million over five years, or the price of a bus ticket for each Australian each year. Even assuming massive leverage from funds spent, this is small. The new Australian Greenhouse Office is just an agglomeration of existing functions currently in three separate departments. The plan for motor vehicle emissions standards is an example of how weak these measures are. It is proposed to negotiate with the car industry with the object of achieving a 15% reduction in emissions from new vehicles by 2010. Yet right now the Japanese and US car firms are unveiling the 'hybrid' car which has a reduction of 50%, and the technology is already in existence for the 'hypercar' (Manins 1997) which could reduce emissions by 90%. Any idea of Australia achieving market leadership, or even keeping up with the global average, in fuel efficiency technology and car design is clearly quite beyond government thinking.

A revealing example of how little is likely to be achieved in energy efficiency improvement is the statement by the Electricity Supply Association of Australia

(*Sydney Morning Herald*, 11 March, 1998, p. E4) that between 1998 and 2010, taking into account the latest initiatives, demand for electricity (which provides about half of all our greenhouse gas emissions), will grow conservatively by a staggering 37%, which with a population growth of about 14% means a per capita rise in electricity use of about 20% in only 12 years. Moreover, of significance for Australia's policy stance that we needed generous emission rights because of our world specialisation role in using electricity to refine metals, the dominant uses of electricity are commercial and residential, and the fastest growing sector is commercial. Between 1990 and 2010 commercial use of electricity is expected to grow by an amazing 97%, or 60% per capita.

These figures show how small is the energy efficiency improvement expected under present policies. Emissions from electricity are expected to grow by 24%, or 6% higher than overall greenhouse gas emissions under the Government's policies. This itself casts a question mark over the 18% objective because the other half of emissions must be held down to 12 % to achieve it. Emissions at 24% will be lower than the 37% rise in electricity supply due mainly to a large program of investment in natural gas and co-generation, a program which is not, it should be noted, a specific part of the Government's greenhouse actions and certainly not mandated by the Government. It is very easy to see therefore slippage from this program of investment to see emissions growing by well above the forecast 24%.

6.7 Slipping back on technology and energy efficiency

It could be argued that, even if the Australian gains at Kyoto are bad for the rest of the world, at least Australia did well for itself. The argument could be that Australia will not have to go through the costly process of developing and trialing new non-fossil fuel energy technologies, and that when tougher targets do arrive after 2012, these technologies can be bought off the shelf from other countries at lower cost. However, this view ignores important features of the energy economy.

Firstly, it ignores the whole side of the equation concerned with efficiency in energy use. Efficiency in energy use arises mainly from long term capital equipment of all kinds being designed for this purpose, whether it is office buildings, houses, the national car fleet, electric motors or appliances. The later that changing these forms of capital equipment begins, the greater will be the cost of meeting unavoidable future targets. The weakness of the policy measures referred to earlier will perpetuate energy inefficiency on the demand side years into the future unless expensive retrofitting is done.

Secondly, this is a recipe for technological backwardness, to the extent that, in some alternative energy areas where Australia could expect to lead or be competitive, we will lose the invaluable impetus to research, development, demonstration and operational experience arising from a vigorous domestic demand, while other countries create such a demand. The experience with environmental technology generally is that demonstration projects at home are vital to exports. We will be going backwards in terms of sophisticated, value-added manufacturing, while at the same time becoming increasingly tied to buying new technology from others.

Thirdly, using new generating technology is not a matter of just buying off the shelf; it is a matter of developing whole energy systems, and the earlier that operational

experience and development of all the other aspects of the system is begun, the better. In summary, the government's measures announced in November 1997, unless drastically improved, virtually ensure that Australia will have the wrong capital stock, and will have inadequate technological development, in 2012. The approach of waiting for other countries to take the first steps is a disastrous laissez-faire argument that even the Government rejects in principle, as illustrated by Senator Hill's views on the need to begin restructuring now.

6.8 Likely emissions scenario

As Australia's Kyoto deal provides no incentive to do otherwise, overall emissions from sources other than land clearing will in all probability grow by more than 18% to the year 2010. It will be claimed that this will protect existing export industries based on energy use that would otherwise have to close down. However, any emissions program from Kyoto could have been managed to avoid the closure of particular vulnerable plants.

A likely variation on the above scenario therefore is for emissions from non-land clearing sources to rise by something like the pre-Kyoto estimate of 28%, due to lack of urgency for change, the pressures of population increase, and increased use of fossil fuels while the opportunity exists. The Kyoto target of 536 million tonnes could therefore be made up of non-land clearing emissions from current activities and investments of 380 plus about the current growth of 28%, giving 486 million tonnes, with the remainder of 50 million tonnes being allocated between remaining land clearing emissions, sale of emission credits internationally, or even higher current emissions than the 28% rise, in proportions which can only be conjectured. This margin may also be reduced somewhat by scientific research which reduces estimated 1990 land clearing emissions and hence the size of emissions allowed in 2008-12. Whatever the final outcome, the generous allocation at Kyoto is more likely to be a long-term cost rather than of long term benefit to Australia.

6.9 Employment impacts of Kyoto

Prior to Kyoto the Government made repeated and increasingly strident claims about the employment costs of proposed emission limits. But now it must be asked what the employment implications of the post-Kyoto emissions scenario mapped about above are likely to be. The main effects would be:

- despite Government hopes, Australia's lenient target is very unlikely to lead to new industry being attracted to Australia;
- employment in existing industries and current activities will be unchanged;
- there will be some loss in employment from falling overseas demand for Australia's coal exports arising from the Kyoto targets in other developed countries;
- there is unlikely to be any significant new employment from new energy efficiency or new alternative energy investment;
- employment arising from the selling of emission rights will be limited because

windfall financial gains for a few years generally do not generate employment.

In summary, the effect on employment will be neutral in the shorter term and negative in the longer term because, in the absence of incentives, Australia will fall behind in new technologies and sunrise industries. A more demanding target from Kyoto would be similar in effect in most respects to the above in the short term, except that there would be some additional employment generated from investment in new sources of energy and new technologies that responding to the target would engender.

This additional employment would not come without a price: the price would be less profitable outcomes for a period for holders of existing capital, such as existing energy suppliers, and existing owners of energy inefficient equipment. For instance, the electricity supply industry would for a time be less profitable, as it would be forced to invest in new technologies which it would otherwise defer, and some existing generating capacity would be used at less than optimal levels. Owners of large buildings would need to go somewhat beyond immediate 'no-regrets' measures as they refurbished for energy efficiency. However, such temporary readjustment losses are always the case when there is a boom in a new form of capital investment. In the longer term the economy will be far more resilient because it has embraced new technologies and energy efficient methods. In brief, the Kyoto outcome was worse, not better, for jobs in Australia especially in the longer term.

7. In conclusion: the way to the future

The extraordinary concessions to Australia at Kyoto – both the 8% increase and the treatment of land-clearing emissions – establish a damaging precedent, especially for negotiations with developing countries.

For Australia, domestically, it was a hollow triumph. If Australia exploits the concessions it has 'won', the costs to will be greater than would be those under a more stringent target, certainly after 2012. When economic progress depends on moving in a new direction with the rest of the developed world, it is a 'breathing space' we can do without.

The 'win' was no more than of short-term political value for a Government that had painted itself into a corner. In the face of public opinion that took a very different view, the Howard Government needed to justify its rhetoric of 'emission cuts equals job losses and the economy will be devastated'. It wanted a breathing space because it does not have the political will to do more than take the timid steps it had already announced before Kyoto.

However, as the full implications of the win sink in – of lost credibility for Australia in future negotiations, of the embarrassing precedent it sets for further climate change negotiations especially for developing countries, of how poorly it positions us for the tougher challenges after 21012 – it is almost certain that, formally or informally, the Kyoto win will be renounced. The huge strides which will begin to be made as the world changes direction will ring alarm bells in Australia that we are being left behind. Industry as well as public opinion will insist on a change of course.

Future Australian governments will work towards different targets which prepare us

better for the world after 2012, especially as the useless or dangerous nature of the Kyoto concessions are understood. In the much longer-term, when Australia's huge potential comparative advantage in a wide range of energy alternatives becomes evident, Australia will be one of the countries pushing hardest for deeper emission reductions, although we may have to wait 15-20 years for this.

The Kyoto outcome for Australia was a poisoned chalice both for Australia and for those seeking a firmer global response to climate change. For the latter, the desire to achieve consensus among all developed countries may come at the longer term cost of destructive precedents for future negotiations. For Australia, the temptation was an over-generous target with the likely long term cost of being ill-prepared for much tougher targets after 2012. Australia's Kyoto win will be remembered in history as an embarrassing anomaly, best renounced for Australia's sake and for the world's.

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