

Inquiry into the Kyoto Protocol

Submission to the Joint Standing Committee on Treaties



**The
Institution of Engineers,
Australia**

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Forward

The Institution of Engineers, Australia, (IEAust) represents all disciplines and branches of engineering in Australia, and has around 60,000 members Australia wide. IEAust promotes and advances the science and practice of engineering, ensuring that the community is well served by its engineering resources. It encourages the development of Australia's technological capacity in a way that ensures sustainability and maximises its contribution to the economic growth of the nation.

Matters of the environment are of significant concern to the members of IEAust. All members of IEAust are bound by a common commitment to facilitate the practice of engineering for the common good through a code of ethics. One of the tenets of our code of ethics states that members shall take all reasonable steps to inform themselves, their clients and employers and the community of the social and environmental consequences of the actions and projects in which they are involved.

The following submission outlines the views of IEAust members on the terms of reference of the Joint Standing Committee on Treaties Inquiry into the Kyoto Protocol.

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1. INTRODUCTION

The Joint Standing Committee on Treaties is inquiring into whether ratification of the Kyoto Protocol on climate change is in Australia's national interest.

The signing of the Kyoto Protocol following COP 3 in 1997 marked a fundamental shift in the international management of the global warming issue. Whilst it is still far from clear whether the Protocol will ultimately be ratified by sufficient parties to bring it into force, there is no question that addressing the greenhouse issue is firmly on the international agenda. It seems highly likely that the international trend will be toward increasing pressure on greenhouse gas abatement activities. As a consequence, it can be expected that there will be an increasing demand for abatement and renewable energy technologies and practices.

Australia's decision whether or not to ratify is important on a domestic level. This decision could materially affect the development of some existing sectors of the economy and either encourage or discourage new growth industries.

Australia is in a key position to be a leader in sustainable energy and environmental protection. This could lead to establishment of major new industries in renewable energy technologies both for grid connected and remote area power supplies and in environmental protection and remediation technologies. This will require strong and sustained leadership from the Federal and State Governments in the move towards a renewable energy based economy.

To achieve this position, Australia will need to accelerate the pace of industrial development of new energy sources and their introduction into the overall fossil fuel based energy economy. To this end, Australia must look seriously at the energy policy and planning currently underway in the European Union and the overall targets they have already set for renewable energy technologies for each decade of this century up to 2050.

Delay over the decision whether or not to ratify creates uncertainty for business and arguably slows abatement activity.

2. ECONOMIC, SOCIAL AND ENVIRONMENTAL OUTCOMES OF RATIFICATION OF THE KYOTO PROTOCOL.

The implications for Australia of any direction that it takes in relation to its assigned commitment to the Kyoto Protocol under the Framework Convention for Climate Change are extremely significant to our future. The implications of ratification (or non-ratification) of the Kyoto Protocol are broad. Clear definition of the implications depends on identifying of the likely scale of the response needed. It must also be stated that no current modelling technique can show the true costs and benefits from a social and environmental perspective.

IEAust recognises that there will be economic and social costs to Australia in ratifying the protocol. However, there will also be economic, environmental and social benefits from such a move that in the long term will outweigh those costs.

IEAust members have indicated their support for Australia ratifying the Kyoto Protocol and attempting to meet its 2008 target emissions for a number of reasons, based on:

- the future economic opportunities for Australia to become a leader in environmental technology;
- the need for Australia to be environmentally responsible for the benefit of future generations; and
- the need for Australia to be seen to be a credible member of the international community in terms of the environment.

The potential impact on Australia's competitive position is frequently discussed in relation to ratification of the Kyoto Protocol. However, gaining an accurate assessment of the economic implications of ratification of the Protocol is difficult. Clearly there is potential for Australia's international competitive position to be adversely affected with respect to our non Annex I trading partners in Asia, as well as Annex I trading partners that choose to ratify later than Australia (or not at all). At this point, it is not possible to determine whether this potential will be realised, or the extent of the adverse effect.

Conversely there is also potential for Australia to establish competitive advantage through development and export of abatement and renewable energy technologies and practices. For industry to adequately respond to this demand, a clear and unambiguous policy position is required. The ratification of the Protocol provides the basis for this policy position.

When discussing the short-term implications of achieving the targets set out in the Protocol, commentators focus on the costs. It must be noted that ABARE's modelling of the economic impact of greenhouse response in the lead-up to Kyoto showed that over 85% of Australian business activity would either not be adversely affected or would benefit from application of carbon taxes, even at relatively high levels.

It appears that some Australian business have made the assumption that compliance with Kyoto will increase business costs, and fail to acknowledge that many opportunities for improving efficiency are presented.

For example, MIM has reduced its greenhouse gas emissions per unit of output by around 50% since 1990. Participants in the NSW Sustainable Energy Development Authority's Energy Smart Business program are saving millions of dollars at internal rates of return of 40% per annum or better. Transfer of cement production from the old 'wet' process to the 'dry' process has halved energy consumption per tonne, while blending blast furnace slag and fly ash with cement (emerging) can again halve energy consumption per tonne of cement. A pro-active approach could well mean that most Australian business can gain advantage from compliance with the Kyoto obligation.¹

In the medium term, rising to the challenge and developing the appropriate technology will produce benefits which may well outweigh any costs.

¹ Sustainable Energy Industry Association, "Submission to the Joint Standing Committee on Treaties Inquiry into the Kyoto Protocol" 25 August 2000.

As a technologically advanced medium sized nation, Australia is seen as a technological leader in the South East Asia region. In this region, the consumption of fossil fuels in wasteful and low-tech forms is endemic and increasing. If Australia ratifies the Protocol and meets or exceeds the targets, Australia will be put in the position of being seen as a responsible social and technical leader in the region, with an outstanding opportunity to market our technology and expertise. If Australia does not ratify and/or exceed the targets, Australia will lose potential markets for advanced technologies. Ratification and early action will facilitate more rapid adoption of many cost-effective greenhouse response technologies, which will enhance Australian economic development. At present, lack of certainty and lack of focus on emission reduction are impeding progress on cost-effective emission reduction technologies in Australia.

Ratification of the Kyoto Protocol is essential to ensure the development of environmentally friendly technologies remain in Australia. We should be recognised as a lead country in applying solar power technologies, energy efficiency and water conservation. Australia is already falling several years behind some European countries in terms of the development of "green" exportable technologies. One example is Denmark, which leads the world in wind technology and the application of natural refrigerants (water, air, CO₂, hydrocarbons and slurry ice). The leading position of Denmark is a clear result of political will and foresight. Over the last decade, these have led to the development of leading edge environmental technologies that are being exported worldwide. Denmark's greenhouse gas emission reduction target under the Kyoto Protocol is -21%, while Australia's is +8%.

In Australia we have a great opportunity by way of engineering knowledge and skills to develop new technologies for renewable energy sources and energy conservation. If we embrace this opportunity early we stand to gain enormously from international trade in intellectual property and the new technologies that will emerge. The situation is analogous to that when globalisation of our economy was commenced with economic reform in the eighties. Some traditional industries will suffer but others will develop to more than compensate. If we do not participate vigorously we will be left behind.

Early action on greenhouse response will be important for the strategic positioning of the Australian economy. It seems increasingly likely that longer term efforts to limit greenhouse gas emissions will involve action much stronger than that proposed under the Kyoto Protocol. Countries that position themselves to capture low emission development opportunities and build industries that supply solutions for emission reduction will gain advantage. Australia's industry development strategies of the past few decades would, if continued, leave us disadvantaged in a post-Kyoto world.

In the long term, the cost of global climate change can be expected to be far greater than the cost of avoiding it. By not realising the actual cost of our current activities, we are generating a future debt that will need to be paid at some point.

The view of IEAust members is that any short-term economic harm will be more than offset by the improved environmental benefit for future generations. The probable environmental outcome of not ratifying and meeting the Kyoto targets is potentially devastating for future generations.

It is essential that Australia be seen to be a credible member of the international community in terms of the environment. A clear message from IEAust members is that if Australia does not ratify the Kyoto Protocol, there is a very real chance of Australia facing political isolation from the international community.

The ratification of the Kyoto Protocol should be viewed in the context of Australia's other international obligations. Australia has received some criticism regarding our treatment of aborigines and some States' mandatory sentencing laws. The Government's response to this has been to review treaty arrangements. However, this recent criticism should not be the underlying reason used to back away from Australia's obligations to its future generations. If we turn our backs on Kyoto we will be abandoning the moral leadership that we have shown in other areas, such as East Timor.

3. CURRENT SCIENTIFIC THEORIES ON GLOBAL WARMING

IEAust considers that there is adequate evidence to support current scientific theories on global warming. The balance of scientific opinion is that significant warming is already occurring and will continue. A wealth of data supports this view.

Arguments against global climate change seem to be limited to citing lack of proof, and refusal to consider anecdotal evidence. This is because current scientific theories are just that – theories. They can not be tested in the real world on a laboratory scale. They can be tried only once on a global scale, with no known practical way of reversing the process if we get it wrong. However, while the theories can not be proven, they are soundly based.

Among respectable scientific circles there really are no conflicting current theories. The IPCC made up of 2000 eminent scientists from around the world, including Australia's CSIRO and Bureau of Meteorology, is quite unified in its views. The only conflicting views are from a few scientists outside the IPCC.

In its 2nd Assessment Report of five years ago, the IPCC stated that human activities have been responsible for rises in atmospheric carbon that are projected to result in increases in global mean surface temperatures of 1 to 3.5 degrees Centigrade. Robert Watson (Chair of the IPCC) states that in the 3rd Assessment Report due out next year:

*"model calculations show that the SRES emissions scenarios would result in projected increases in global mean surface temperature of about 1-5 degrees Centigrade by 2100, higher than previously projected. These higher projections are a result of the lower projections of sulfur emissions which tend to cool the climate, thus offsetting the warming effect of the greenhouse gases."*²

Climate change science will continue to evolve, and it is unlikely that there will ever be complete consensus. Underlying scientific principles may be well understood, but there are many unknowns. Computer models of the global climate are simplifications, based on incomplete data. However, the predicability of global warming models is constantly being upgraded, so that accuracy is increasing.

² Report of the Chair of the IPCC (June 2000)

The fact that predictions have not proved absolutely accurate to date does mean that caution should be taken.

The current science is adequate up to the point of strong probability, at least sufficient to justify acting on the probability of its correctness. Most critics of the "not proven therefore do nothing" school of thought have a vested interest in short term gain.

Despite all the arguments that either support or discard global warming, it is certain that industrialisation, the use of fossil fuels and large population of the planet have resulted in the release of a lot of man-made chemical compounds, which have a detrimental effect on the environment. In any case, the precautionary principle applies: if we think something has the potential to wreak havoc on the earth's ecosystem (on which we depend to survive) we ought to seek to minimise that impact.

4. IMPLICATIONS OF THE INTRODUCTION OF AN EMISSIONS TRADING SYSTEM

Emissions trading is one of the possible control mechanisms that might be adopted to address the problem on a macro scale. According to some, the emissions trading system will produce a reduction in greenhouse gases. However, there is also the possibility that the trading system will become a rather convenient way for the industry to avoid been penalised for producing greenhouse gases. To avoid this, emissions trading system must be managed carefully if it is not to develop into a game of thimble and pea. It would be easy to shift emissions from one area to another without significantly reducing overall levels.

The anticipation of carbon trading already appears to be having impacts on rural Australian communities. International companies are reportedly buying comparatively cheap land in rural Australia for the development of commercial forestry operations with the potential of carbon credits acquisition. Australia is likely to benefit significantly from expenditure on this by the Japanese and others, who are under much greater pressure to reduce net greenhouse gas emissions. However, there are also some negative factors to be considered. Some of the reported impacts of this are:

- social dislocation of rural communities and an increase in "absentee land management"; and
- the proliferation of non-endemic but fast-growing tree species, with little or no long-term management. This may provide an environment in which diseases and pest species can flourish and fire management will be of concern.

IEAust members have expressed the view that an emissions trading system must be implemented on a global scale. If it is not, it will be in the interests of heavy energy users to "outsource" energy consumption to other countries (for example have Australia produce hot briquetted iron for their steel production to reduce energy consumption in the USA) while still maintaining unacceptably high levels of implied energy consumption.

Another example of where Australia could be penalised for contribution to greenhouse gas volumes is for extracting natural gas from our North West Shelf whilst counties such as Japan reap the benefits. A trading credit system would need to take into account factors such as these.

5. NATIONAL EMISSIONS TRADING SYSTEM

IEAust members have expressed guarded support for the introduction of a national emissions trading system on the basis that it is one tool that can be used to reduce emissions. Trading will put a price, if not a value, on emissions, and is supported as a short-term measure. It is also seen to be necessary to adopt a national emissions trading system in order to remain part of the global market.

Some other matters that the Committee might like to consider are the desirability of limiting emissions trading to those who actually use them, rather than having an open market for speculators. As well, consideration needs to be given to allowing trading in lower emissions and/or better efficiency industrial processes, which would encourage investment slanted toward business activity with sustainable outcomes.

6. DEFINITIONS AND CRITERIA FOR A NATIONAL EMISSIONS TRADING SYSTEM

Sequestration seems to be of limited value. Reforestation seems to be the only really practical form of sequestration, and this can only compensate for a small percentage of total green house gas produced. Reforestation should be considered as providing a base for a future sustainable forestry industry, rather than for any reduction of CO₂ in the atmosphere. Carbon credits are appropriate, but can never provide the main tool for controlling carbon emissions. Trading of carbon credits should be facilitated in order to develop synergies between the energy industry and other interests, such as the timber industry, agricultural land management, erosion control, soil salinity control, riverine environment, etc.

With respect to “grandfathering”, IEAust believes that this adversely affects new industries, and dilutes the signals sent to existing emitters. It would seem more appropriate to address the broad issue of transition, and to consider the full range of options in managing it.

All the previous attempts at getting community and company support at energy initiatives have only been partially successful. It would be useful to look at strategies that have been successful, decide why they were successful and expand these strategies. Some specific actions that can be taken are as follows:

- Keep the national emissions trading system simple for companies, and limit the complexities of implementation.
- Continue selling "green" to the public and encourage the existence of green groups to ensure continued community awareness.
- Target selected companies (eg the top 1000 energy users in Australia) and enlist their support to reduce their energy usage.
- Support new or existing energy efficient technologies that are having difficulty penetrating the market, eg high efficiency motors, new fluorescent lamps and new light sources.
- Assist companies deciding the most efficient/ economical energy source for a process eg gas/ electricity/ cogeneration, etc.
- Establish a benchmarking regime for commercial buildings, warehouses, processes, hospitals, etc. and publish this to identify "bad" energy users.

7. CONCLUSION

Humans draw their spiritual, physical and economic succour from the environment, and that the various needs are more often than not, in conflict - sometimes violently.

In the past, the need to develop seemed paramount and a great deal of environmental degradation occurred as a result. Today, "thinking" people realise that there is a cost to progress which, while not evident in dollar terms, still places a burden on the general community. However, it is precisely because the dollar amount of such a cost is not readily calculable that some individuals are able to convince their peers that there is nothing to worry about. It is necessary for Government to provide leadership based on philosophical rather than economic principles.

IEAust recognises that there will be economic and social costs to Australia in ratifying the protocol. However, there will also be economic, environmental and social benefits from such a move that in the long term will outweigh those costs.
