

18 September, 2000

Mr Grant Harrison  
Secretary  
Joint Standing Committee on Treaties  
Inquiry into the Kyoto Protocol  
Parliament House  
CANBERRA 2600  
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Dear Sir,

Please find attached, AGL's submission to the Inquiry into the Kyoto Protocol and we thank you for the opportunity to state our views on this important matter.

We also appreciate that your office kindly granted AGL an extension of time to lodge our submission. As requested, we are forwarding our submission in electronic format.

Yours sincerely

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# **The Australian Gas Light Company**

## **Submission to the House of Representatives Joint Standing Committee on Treaties' Inquiry into the Kyoto Protocol**

### **Introduction**

Dealing with human-induced climate change is one of the biggest challenges of the 21<sup>st</sup> century. The consensus of informed scientific opinion is that atmospheric concentrations of carbon dioxide are increasing due to human activity and the balance of evidence indicates that increased concentrations of greenhouse gases in the atmosphere are having a discernable impact on global temperatures. AGL accepts the majority view that the climate change projected in the scenarios developed by the Intergovernmental Panel on Climate Change represents a threat to the environment and human well-being.

While all climate predictions have a degree of uncertainty, in view of the available evidence and the extent of possible harm, AGL supports the prevailing view that the precautionary principle should be adopted. The existence of uncertainty about human-induced climate change should not be used as a reason for failing to take action now to prevent climate change.

The Kyoto Protocol represents a critical first step in the process of reducing global greenhouse gas emissions and, as a wealthy nation with one of the highest per capita emissions, Australia has a responsibility to take a leadership role internationally. AGL therefore urges the Federal Government to develop and implement effective policies to reduce Australia's greenhouse gas emissions and meet our international obligations.

## **The Kyoto Protocol**

The Kyoto Protocol marks the beginning of a major transformation of the world's energy systems. It also shows the direction and extent of action that is required to reduce greenhouse emissions in the medium term. In the longer term emission reductions will need to go much further than those required in the Protocol's first commitment period (2008-2012) if the projected serious damage to the global environment is to be avoided. The IPCC has concluded that emissions will need to be reduced by 70% over current levels if change in the world's climate is to be stabilized. A British Royal Commission into environmental pollution recommended a 60% reduction in carbon dioxide emissions in the next 50 years. Emission reductions of this order over the long term will mean far-reaching changes to our economy, and we recommend that Australia should begin to build these predictions into long-term energy planning.

Recognising that, given its special circumstances, Australia secured a more lenient target than most other countries at Kyoto, an important first step would be the early ratification by Australia of the Protocol. Such a gesture would not only provide more certainty to Australian business but would be a sign of good faith to the international community.

Further, AGL is of the view that governments at all levels in Australia need to begin looking beyond the 2012 deadline for Kyoto and consider the kind of strategies that can be implemented to further reduce Australia's greenhouse gas emissions over the next decades. The long life of some power generation assets, combined with the long lead-time for the planning and construction of replacement facilities, requires a long-term plan for Australia's energy industries. Such forward planning will provide increased certainty in the investment environment and reduce the costs of greenhouse gas abatement measures.

If the recently approved new coal-fired power plants in Queensland are built they will severely constrain Australia's ability to meet its commitments. These approvals were

only possible because there is no clear commitment on the part of the Australian Government to a long-term emission reduction program. It seems that the implementation of binding policies to limit emissions over the next 30 years is necessary to ensure that the construction of high emission generation facilities is halted and to provide certainty for those seeking to build low-emission alternatives. AGL applauds the recent introduction in Queensland of a target of 15% for electricity generated from renewable and natural gas sources as a start in a longer term process of reducing greenhouse gases.

### **The role of gas in meeting Kyoto targets**

Natural gas has a critical role to play in meeting any international and domestic greenhouse gas reduction requirements over the next decades. The combination of lower carbon dioxide per unit of energy and greater thermal efficiency in converting gas to heat means that greenhouse gas emissions from a gas-fired plant can be less than half those of a coal-fired plant. Table 1 shows the extent of greenhouse savings associated with reliance on gas rather than coal-fired electricity. An Energetics' study estimates that, over the life cycle from extraction to end use, greenhouse emissions from a major gas-fired electricity generator would be approximately 50% less than the emissions from a Victorian brown coal generator and 32% less than the emissions of an average Australian black coal generator.

**Table 1 Typical Carbon Dioxide Emissions From Fuel Sources**

Fuel	Typical CO <sub>2</sub> per unit energy (Kt/PJ)	Efficiency of conversion (%)	CO <sub>2</sub> produced by 100 MW plant operating at 90% load factor (Mt p.a.)
Brown Coal	94	31	0.861
Black Coal	92	36	0.725
Base Load Gas	51	51	0.283
Renewables	0	Na	0

Source: Allen Consulting Group and McLennan Magasanik Associates 1999, *Energy Market Reform and Greenhouse Gas Emission Reductions*, A Report to the Department of Industry, Science and Resources, p. 88

For water heating the comparison is even more stark. Direct gas supply for water heating emissions range from 1.5 to 2 tCO<sub>2</sub> per annum. For electric water heating fueled by gas-fired electricity emissions range from 2 to 2.5t CO<sub>2</sub> per annum. These compare with 4 to 5.4t CO<sub>2</sub> per annum for coal-fired electricity fueled water heating.

If effective policies are introduced sooner rather than later, the costs of meeting Australia's Kyoto target will be much lower than many of the predictions based on economic models. In the longer term, the Australian economy will benefit substantially from diversification of energy sources. The greatest economic problems associated with meeting our Kyoto target will derive from poor planning and a confused policy environment, rather than from the costs of abatement measures themselves.

The economic costs of cutting emissions can be minimised by hastening the shift to low and zero-emission energy sources and energy efficiency. In our opinion the most important step would be to ensure that all new electricity generating plant be based on natural gas and renewables rather than coal. Since tougher international emissions restrictions are likely to be negotiated within the next several years, new coal-fired power

stations with long life-spans may end up as ‘stranded assets’ possibly imposing considerable costs on the community. Clear signals from the Federal Government can avoid this possibility.

### **Current constraints on natural gas**

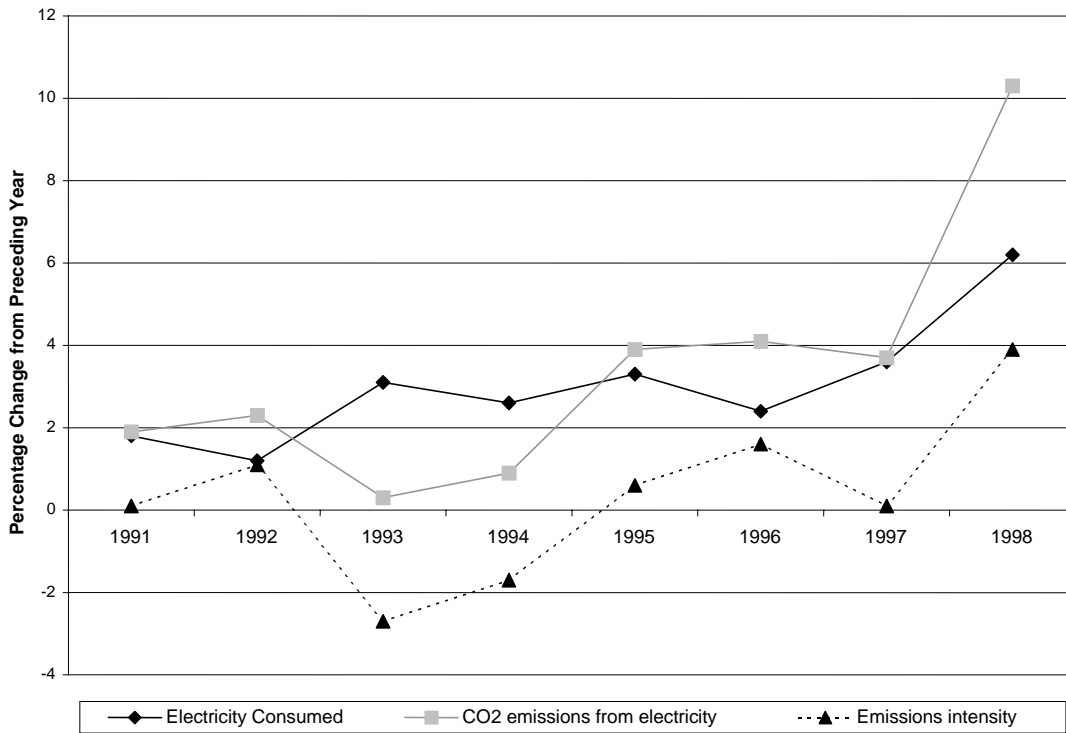
While supporting the introduction of the National Electricity Market (NEM), AGL is concerned that the introduction appears to have benefited coal at the expense of natural gas and has consequently led to an increase in Australia’s greenhouse gas emissions. The Commonwealth’s latest greenhouse gas inventory shows the extent of this increase – see Figure 1. Analysis by the Australian Greenhouse Office attributes this increase to the effects of competition policy.

The rise in electricity demand, due to declining wholesale prices, and the rising share of brown coal, were both associated with the introduction of the national electricity market (AGO, *National Greenhouse Gas Inventory: Analysis of Trends and Greenhouse Indicators 1990-1998*, 2000, p. 35).

The 10.3% increase in emissions in the single year 1998 coincided with the first full year of operation of the NEM. The introduction of the NEM at a time of excess electricity generation capacity, and embodying rules that discourage new low-emissions entrants, has served to worsen Australia’s performance with regard to greenhouse gas emissions. The NEM has seen an unsustainable fall in electricity prices driven by short-run marginal cost pricing, which has excluded new entrants to electricity generation. In addition, the current regulatory arrangements do not allocate the full costs of transmission according to the location of generators and users. Rather, transmission losses are averaged, to the advantage of remote generators (and remote consumers) and to the detriment of gas co-generators. Such an approach prevents market pressures from encouraging electricity generators to locate near their markets, which would reduce both the total cost of generation as well as carbon dioxide emissions.

AGL suggests that a study be conducted of the cause and effect of these changes. The study should review the imbalance that exists in the generation and transmission sector, which is creating negative greenhouse gas outcomes. It should also consider changes to the structure of the market in order to reverse the current deterioration in performance and shift the industry onto a more sustainable basis in the longer term.

**Figure 1 Growth in CO<sub>2</sub> emissions from electricity and emissions intensity**



Source: Australian Greenhouse Office, *National Greenhouse Gas Inventory: Analysis of Trends and Greenhouse Indicators 1990-1998* (AGO, 2000), Figure 33

## Policy leadership

In order to achieve substantial reductions in Australia's greenhouse emissions, and in turn provide leadership to other countries on this important global issue, AGL supports the

introduction of a comprehensive domestic greenhouse gas emission trading scheme. Rather than waiting for all parties to agree to the implementation of an international system in the first commitment period of the Kyoto Protocol but subject to consideration of impacts on the Australian economy, emissions trading should be introduced as soon as practicable. This would have a number of advantages:

1. it would enable firms to be given credit for early actions that reduce emissions and benefit the climate;
2. it would allow Australia's emissions to be set on a path to meet our commitments smoothly and without major disruption to industry; and
3. it would provide Australian businesses with valuable experience in emissions trading that would give them a significant market advantage when the international system begins.

The early introduction of emissions trading would provide a strong stimulus to the development of low and zero-emission sources of energy in Australia.

Once emissions trading is introduced, AGL suggests that emissions permits should not be issued free to existing emitters but should be auctioned by the Federal Government. The revenue from sale of permits should be used to reduce other business taxes, such as company and payroll taxes. AGL would support the use of some of the revenue to allow accelerated depreciation for investments in new projects that exploit low and zero-emission energy sources since several major investments have been deferred or cancelled due to proposed changes to depreciation rules.

Many economic studies show that the 'recycling' of revenue through the business tax system would sharply reduce the costs of cutting emissions, and may even provide a positive boost to the economy. The proposed emissions trading scheme would focus the



power of market forces directly on the task of seeking more efficient ways to both generate and use energy in Australia.

Key aspects of the structure of a domestic emission trading system need to be determined, but in our opinion the system should be consistent with other flexibility mechanisms in the Kyoto Protocol including opportunities to generate Certified Emission Reductions for sale to other Annex B parties and credits under the Clean Development Mechanism. In addition, a domestic trading system should allow banking of emission permits for use in subsequent years, including the Kyoto commitment period, thereby providing a financial incentive for emitters to reduce their emissions in early years.

A comprehensive emission trading system would render most other greenhouse policies redundant. The 2% renewables measure is a significant small step in the right direction, but a greater stimulus to the development of renewable energy in Australia would follow the introduction of emissions trading. AGL supports the inclusion of a 'greenhouse trigger' in the Environment Protection and Biodiversity Conservation Act, but believes that under a comprehensive emissions trading system very few, if any, projects would have levels of emissions high enough to trigger intervention by the Federal Government. The proposed trigger should therefore be seen as a useful interim measure that should be used to prevent the development of any new high greenhouse gas emitting power plants.

### **The need for a framework**

Over the last 15 years, Australian business has supported major reforms to the structure of the economy and successive governments have prided themselves on pushing change through. From the floating of the Australian dollar to the introduction of the GST, Australian business and consumers have been told that some short-term pain is worthwhile in order to secure long-term gains. The long-term gains from preventing climate change are potentially huge, and AGL urges the Government to act quickly in order to minimise disruption from continued uncertainty.

Australia has the potential to reap many benefits from the shift towards low and zero emission energy sources. The benefits of aggressively pursuing new energy industries, rather than attempting to delay action, were set out last year in a high-level report by the Prime Minister's Science, Engineering and Innovation Council. Entitled *From Defense to Attack*, the report argues that

Australia can now move from a defensive position to one of attack, to take advantage of the opportunities created by new markets, as its trading partners work towards greenhouse emission targets and identify related opportunities enhancing sustainable development (PMSEIC 1999 p. 8).

The report noted that Kyoto is a watershed in the global greenhouse debate and argued that it is a powerful instrument of change that is ignored at great cost. It drew an analogy with earlier industrial and social movements.

In each, attitudes changed from defence and denial, to recognition of opportunities, and ultimately to the realisation that what is right for the community in the long term can be good for the growth and profits of industry .... If we wait for ratification while other countries act, Australia runs the risk of missing out on global opportunities, and may be left behind in terms of greenhouse compliance. (PMSEIC 1999 p. 3).

AGL agrees with the report's observation that 'Kyoto has created a new business environment in which new industries, markets and technologies can flourish' and supports its recommendation that the Federal Government adopt policies, including emissions trading, that would see Australia capture at least 5 per cent of the huge world market for greenhouse technologies.

Such opportunities need to be embraced early if Australia wishes to avoid being locked out of the energy industries of the future. AGL recommends that the Government should act quickly on this matter. While existing schemes such as the Greenhouse Challenge

Program have been important in raising awareness of both the need for, and benefits of, increased energy efficiency, voluntary schemes alone may not provide sufficient stimulus to generate the level of emission savings required to meet the Kyoto targets. Australia is in urgent need of policy leadership on this issue, and AGL calls on the Government to implement market-based schemes in order to provide firms with real incentives to achieve our national and global greenhouse objectives.

Australia's national interest could be enhanced by the introduction of measures to reduce greenhouse gas emissions. Not only would such a change improve our international standing, but it would also be in the long-term economic interests of Australia. Australia is well positioned to lead the world into a new era of increased reliance on low-emission and zero-emission energy sources. While such an approach will require strong political leadership and the willingness of business to accept and implement fundamental change, significant benefits would flow to both the national economy and the global environment.

In summary AGL:

- Accepts the scientific evidence that human activity is likely to have a substantial impact on the global climate this century;
- Urges the government to ratify the Kyoto Protocol without delay in order to provide both certainty and leadership;
- Requests the Government to review the impact of microeconomic reform on greenhouse emissions; and
- Advocates the introduction, as soon as feasible, of a domestic emissions trading scheme for carbon dioxide.

In our view, the Australian business community can meet the challenge of greenhouse gas reductions, but at present real costs are being imposed on Australia by continued uncertainty and delay.

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