To: Legal and Constitutional, Committee (SEN);
Subject: Why nuclear is not an option
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The following extract from a booklet on Global warming published by NWTP Tasmanian Project was authorized, before publication, by Professor Lowe.(Pub 2007) In any event his 2006 address to the National Press Club is a matter of public record. Professor Lowe is well equipped to have a learned view on nuclear issues. He is by no means the only physicist who has recognized that the nuclear path is a path that further endangers our planet and that it is not a viable proposition in either economic or ecological terms.

"We need to accept the fact that renewable energy sources can meet this challenge: there are now 40,000 MW of wind power around the world, while renewables supply (e.g.) 32%, 53% and 74% of energy in Sweden, Norway, and Iceland respectively. Global growth rates are 30% and 22% for wind and solar energy, compared to 1% and 0.6% for coal and nuclear. In the year 2000 60,000 Japanese roofs had photovoltaic solar power installations. And 1,500,00 are planned by 2010. Even the Zwitkowski report cannot hide that nuclear power growth will be negligible compared to these. Further the costs of renewables will be considerably less than nuclear options.

Addressing the National Press club in 2006 as National President of ACF and referring to his personal experiences Prof. Lowe gave five reasons why he changed his earlier view and now rejects the nuclear option he said, *"as a young physicist, I saw nuclear power as the clean energy source of the future. I want to tell you today why my professional experience has led me to reject that view."*

A brief summary of Lowe's five reasons for rejecting the nuclear path follows

"The first point is that the economics of nuclear power just don't stack up. The real cost of nuclear electricity is certainly more than for wind power, energy from bio-wastes and some forms of solar energy. ... In the USA, direct subsidies to nuclear energy totalled $115 billion between 1947 and 1999, with a further $145 billion in indirect subsidies. In contrast, subsidies to wind and solar during the same period amounted to only $5.5 billion. That's wind and solar together. During the first 15 years of development, nuclear subsidies amounted to $15.30 per kWh generated. The comparable figure for wind energy was 46 cents per kWh during its first 15 years of development.

We are 50 years into the best funded development of any energy technology, and yet nuclear energy is still beset with problems. Reactors go over budget by billions, decommissioning plants is so difficult … and there is still no solution for radioactive waste. So there is no economic case for nuclear power. *...investors have turned their backs on nuclear energy. The number of reactors in western Europe and the USA peaked about 15 years ago and has been declining since. By contrast, the amount of wind power and solar energy is increasing rapidly*

The second problem is that nuclear power is far too slow a response to the urgent problem of climate change. Even if there were political agreement today to build

nuclear power stations, it would be at least 15 years before the first one could deliver electricity. Some have suggested 25 years would be a more realistic estimate, … wind turbines could be delivering power within a year and efficiency can be cutting pollution tomorrow. These are much more appropriate responses.

The third problem is that nuclear power is not carbon-free. Significant amounts of fossil fuel energy are used to mine and process uranium ores, enrich the fuel and build nuclear power stations. … building nuclear power stations would actually increase greenhouse pollution in the short term, and in the long term they put much more carbon dioxide into the air than renewable energy technologies like solar and wind power.

The fourth, related, problem is that high grade uranium ores are comparatively scarce… ***Let's not forget, uranium, like oil, gas and coal, is a finite resource. Renewables are our only in-finite energy options.***

Lowe continued *"The fifth problem is that nuclear power is too dangerous. There is the risk of accidents like Chernobyl … Insurers are reluctant to insure the nuclear industry without government guarantees because of the risk of such accidents. The very existence of the nuclear industry is only possible because of significant government subsidies and intervention to underwrite the risk to insurance companies."*

If the world suffers another Chernobyl, taxpayers, not insurance companies, will foot most of the bill.

Then there is the increased risk of nuclear weapons or nuclear terrorism." (For more on this and associated issues see another physicist who rejects the nuclear option, Dr John Greenhill's address to our seminar and Ian Lowe's slides on www.nowwethepeople.org/tasmania.)