



## Australian ITER Forum

Dr Matthew Hole,  
Chair, Australian ITER Forum,  
<http://www.ainse.edu.au/fusion.html>

The Secretary,  
Senate Select Committee on Climate Policy,  
PO Box 6100,  
Parliament House  
Canberra ACT 2600

8<sup>th</sup> April 2009

### **Submission to Senate Select Committee on Climate Policy**

In this submission to the Senate Select Committee on Climate Policy, the Australian ITER Forum focuses on long-term incentives for investment in clean energy and low-emission technology, which contribute to a global solution to climate change. Nuclear fusion for energy production requires committed multilateral programs to realize the potential of this technology. ITER is the only viable global program to achieve this objective.

The Australian ITER Forum is a network of scientists, engineers, research administrators and policy specialists advocating sustainable Australian engagement in ITER, the experimental fusion reactor that will be built in France over the next 10 years. Fusion is the process whereby lower atomic weight elements join to form a heavier element. This is the fundamental process that powers the Sun and the stars. Fusion energy offers millions of years of baseload energy generation, with almost no greenhouse gas emissions and very little radioactive waste compared to nuclear fission energy and coal.

Strong progress has been made over the decades towards viable energy production using fusion. ITER marks the next step. ITER, one of the world's largest science projects, is a strong example of a technology that is being developed with substantial international support, including support of developing nations. The seven ITER parties include two developing countries, namely the People's Republic of China and India, as well as the EU, Japan, the Republic of Korea, the Russian Federation and the USA. The research outcomes of ITER will guide design of a prototype power plant, and design roadmaps envisage that fusion will become a commercial technology in the second half of this century. Although Australia is not yet a party, there are clear and established means of participating in ITER and these linkages maintain, for Australia, the option of fuller engagement in the future. Australia has a respected position in some focused aspects fusion research.

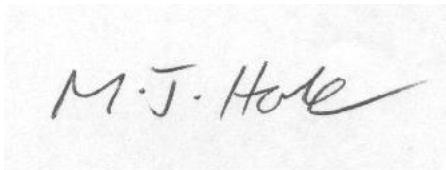
The terms of reference of the select committee include the choice of emissions trading as the central policy to reduce Australia's carbon pollution. One possibility that the Senate Select Committee might consider is that investment in R&D itself could form a type of carbon credit, to encourage increased investment as well as take-up of lower emissions technologies. Fusion energy research would be treated as a climate change amelioration measure, enabling companies to reduce their liability to carbon taxes or obtain carbon credits by funding fusion-related research. This may be quite attractive where the research is 'dual use', such as materials research for a steel manufacturer. Alternatively, funding for fusion research could come from a carbon tax.

The Australian ITER Forum believes, from its knowledge of the energy policies of parties to the ITER

Agreement, that policy measures complementary to emissions trading will indeed be needed. Most notably, the European Union (EU) has an emissions trading regime, yet it is also making a substantial investment in ITER, via Euratom. The ITER Forum respectfully suggests one example of a complementary policy measure could be support for Australian engagement in ITER, as outlined by the fusion science strategic plan. The Chief Scientist recently linked fusion energy research to the pressing issues of Climate Change in the Science Meets Parliament meeting on the 17<sup>th</sup> March.

We would be pleased to provide the Committee with more information on fusion energy and our activities. More information on the Forum can be found at [www.ainse.edu.au/fusion.html](http://www.ainse.edu.au/fusion.html) and on ITER at [www.iter.org](http://www.iter.org). If requested, we would be also willing to speak to the Select Committee.

Yours Sincerely,

A handwritten signature in black ink on a light-colored background. The signature reads "M. J. Hole" in a cursive, slightly slanted script.

Dr M. J. Hole  
Chair, Australian ITER Forum  
<http://www.ainse.edu.au/fusion.html>