



Australian ITER Forum

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The Secretariat,
The Department of Resources, Energy and Tourism,
Canberra ACT 2600

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Submission to Energy White Paper Consultation Process

The Australian ITER Forum is pleased to have this opportunity to provide this submission to Energy White Paper secretariat. We believe that it will be important for the White Paper to take a long term view of energy issues. In particular, it should focus on long-term policies to encourage investment in clean energy and low-emission technologies. Realising the potential of nuclear fusion technology for energy production requires long term commitment to multilateral programs designed to carry out the necessary R,D&D. ITER is the only global collaborative program pursuing 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 is now being built in France. The Forum agrees with the discussion paper “maximising the value of technology in the energy sector” that Australia is fortunate to be blessed with a wide range of energy options. However, we believe that the energy White Paper should be expanded to include consideration of longer term options. Specifically, we suggest that:

- The White paper not be limited to short term renewable energy sources but include other longer term energy options such as nuclear fusion. Inclusion of these other options can be thought of as form of risk insurance, providing options should alternative sustainable energy solutions prove to have technical or economic barriers.
- Energy security and environmental degradation are global problems that require a concerted and coordinated global response. In broadening the scope, we recommend the White Paper recognise the need for Australian involvement in coordinated world sustainable energy research initiatives, such as fusion.
- The market alone cannot support long-term future energy solutions such as fusion. In this instance, government policy intervention is required. We recommend that the government consider regarding investment in R&D itself as a type of carbon credit, with some weighting to reflect the very long term benefits that would arise from realisation of fusion power.

The Australian ITER Forum has a strategic plan for Australia’s fusion future: “A strategy for Australian fusion science and engineering: Through ITER and into the future”, available from the Australian ITER Forum website www.ainse.edu.au/fusion.html. The strategic plan was developed over a 12 month period, drawing input from the international and domestic research communities,

as well as government departments and industry. The plan articulates the opportunities and benefits presented to Australia by joining other nations in the development of fusion power, and proposes a new, multi-faceted Australian Fusion Initiative (“the Initiative”) that spans the innovation system as it pertains to strategic research, innovation and industry involvement.

This Initiative, if supported, secures Australian scientific expertise with a targeted fellowships scheme, provides appropriate support for Australian fusion science infrastructure, and advances Australian industry capabilities through a formal engagement with, and a contribution to, ITER. To date, public letters of support for the strategic plan and Initiative have been received from the ITER organization, the Australian Nuclear Science and Technology Organisation, the H-1 Board, seven Australian Universities, and five Australian learned societies and Academies. We recommend that the government consider this Initiative when formulating the White Paper.

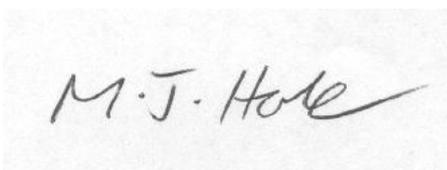
We thank the Government for this opportunity to comment, and add that we are willing to discuss or provide additional information to the Secretariat upon request.

Fusion and ITER

Fusion is the process whereby lower atomic weight elements join to form a heavier element. This is the 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 developing nations. The seven ITER parties are the People’s Republic of China, India, the EU, Japan, the Republic of Korea, the Russian Federation and the USA. Of regional interest to Australia, we note that fusion research has received significant investment in the Asian region, with next generation experiments in the Asia-Pacific region totalling more than \$3bn.

The research outcomes of ITER will guide the design of a prototype reactor, and seek to ensure that fusion will become a commercial technology in the second half of this century. With established credibility in a number of areas relevant to fusion science, potential Australian involvement in ITER has been encouraged at the highest levels of the ITER Organisation. Although Australia is not yet a party, there are clear and established mechanisms for participating in ITER that remain open to Australia should it choose to engage.

Yours Sincerely,

A handwritten signature in black ink that reads "M. J. Hole". The signature is written in a cursive style with a long, sweeping tail on the letter 'e'.

Dr M. J. Hole
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<http://www.ainse.edu.au/fusion.html>