

6 March 2007

Secretariat to the Task Group on Emissions Trading  
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## Submission in response to the Task Group on Emissions Trading Issues Paper

In this response to the Issues Paper from the Task Group on Emissions Trading, the Australian ITER Forum focuses on the fourth question raised on page 8, that is:

“What other steps could Australia take...to encourage the commercial deployment, in Australia and overseas, of low emissions technology?”

This submission also addresses the discussion that appears at various points in the Issues Paper regarding research and development (R&D).

The Australian ITER Forum’s particular area of interest is R&D in the most promising emerging low-emissions technology, namely fusion energy. Energy is released when 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.

The Australian ITER Forum is a network of scientists, engineers and research administrators advocating Australian engagement in ITER, the experimental fusion reactor that will be build in France over coming 10 years. Strong progress has been made over the decades towards viable energy production using fusion. ITER marks the next step. The research outcomes of ITER will guide design of a prototype power plant. It is envisaged that fusion will become a commercial technology in the second half of this century.

The Issues Paper notes that one of the foundations for the success of an emissions trading system is that “industry uses the open market to discover the lowest cost ways of reducing emissions.”<sup>1</sup> R&D is essential to developing ways of reducing emissions and to enabling businesses to absorb them. The Issues Paper however questions whether emissions trading will facilitate further investment in R&D and demonstration of low emission technologies,<sup>2</sup> and notes that a carbon price is not necessarily sufficient to deliver an appropriate level of R&D.<sup>3</sup>

One possibility that the Task Group 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, the 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

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<sup>1</sup> Page 4

<sup>2</sup> Page 9

<sup>3</sup> Page 4

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. A strategy plan for how such engagement might be undertaken is currently in development and will be discussed with Government in coming months.

It is likely that Government and public sector institutions will need to take a leading role in R&D in low-cost large-scale power systems, as individual businesses will lack the ability to capture the economic benefits of such R&D investment. While emissions trading will encourage firms to examine ways in which they can reduce their own emissions, the difficulty for businesses when it comes to large-scale energy systems will be establishing a direct connection between the business's investment in R&D and the offset to that business's emissions permits.

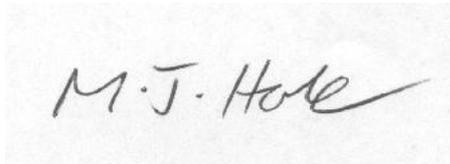
The Forum would also like to highlight ITER as a strong example of a technology that is being developed with substantial international support, including support of developing nations.<sup>4</sup> The seven ITER parties include two developing countries, namely the People's Republic of China and India, as well as the EU, Japan, the Republic of Korea, the Russian Federation and the USA. ITER is thus a model for the "politically acceptable" criteria identified in the Issues Paper.

The Task Group might also want to consider the longer term implications for an emissions trading model of the introduction of a major new energy form such as fusion.

The Government's efforts to address climate change through reducing emissions are greatly welcomed by the Forum: the prospect of using fusion energy to reduce emissions is a strong motivator for our membership.

We would be pleased to provide the Task Group with more information on fusion energy and our activities, if that will assist the Task Group in its activities. More information on the Forum can be found at [www.ainse.edu.au/fusion](http://www.ainse.edu.au/fusion) and on ITER at [www.iter.org](http://www.iter.org).

Yours Sincerely,

A handwritten signature in black ink that reads "M. J. Hole". The signature is written in a cursive style and is centered within a light gray rectangular box.

Dr M. J. Hole  
Chair, Australian ITER Forum

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<sup>4</sup> Page 5