

Australian ITER Forum: News & Media Log 2006

Note: Links were functional at time of conversion to PDF

News & Media Log 2006

December

Media Release 6 December 2006

- [Media Release](#) - Planning Australian engagement in ITER fusion experiment (PDF)

Australian Parliament discussion on fusion, Senate, 01 December 2006.

These extracts are taken from Hansard,

http://parlinfoweb.aph.gov.au/piweb/view_document.aspx?TABLE=HANSARDS&ID=2398233

<http://parlinfoweb.aph.gov.au/piweb/Repository/Chamber/Hansards/Linked/5158-2.PDF>

ENVIRONMENT AND HERITAGE LEGISLATION AMENDMENT BILL (NO. 1), 01 December, 2006 In Committee Speech

Senator IAN CAMPBELL (Western Australia—Minister for the Environment and Heritage) (2.50 p.m.) ...

This is a terrific debate to have. You have to deal with the facts. If you are serious about climate change you have to look at the real world. I had a terrific meeting with Dr Llewellyn from the United Kingdom fusion project. Europe, America, India and China are getting together to develop

this new fusion technology to produce energy, fundamentally from hydrogen. It is a \$5 billion investment. It is an international collaboration, and he is saying: 'It may not work. It's a multibillion dollar investment but it's got the potential to provide baseload power with no emissions.' He also said: 'All we've got at the moment is coal and nuclear power. We've got to solve the climate change problem or we have to make this investment in fusion. It'll take 10 years. We're going to build this massive plant, and America, China, India and the European Union are investing. It's a

massive project to develop a whole new power source. It requires a nuclear process, and I think Australia should be involved. It would be very good to get Australia involved.' ...

You have to invest in all of these different technologies, and carbon capture and storage is one of them. We know that there has to be an expansion in nuclear power, we know there has to be an expansion of solar energy and we know we have to be pushing for geothermal. We need to do all

of those things, and the government in Australia is investing very heavily in each one of those technologies in a technologically neutral way.

Senator MILNE (Tasmania) (3.05 p.m.)

... what I particularly wanted to address was fusion. I heard the minister talk about fusion. I too went down to the fusion laboratory a while ago only to discover that, whilst it is true that all of those other countries are putting a huge amount into fusion, Australia is not. In fact, the concern is that Australia is again going to lose some of its best and brightest because the excitement in physics around the world is in the fusion experiment that is being conducted by these other countries. Unless Australia has some role in that global fusion project, we will in fact hollow out the physics departments in Australian universities because there will be no excitement about physics here.

In fact, it was put to me that Australia would in no way realistically be able to match what other countries are putting into the fusion project. But it was argued that Australia should go into partnership with one of the countries involved in the fusion project so that we can develop a

collaborative relationship, and Australian physicists and people in the physics departments would be able to benefit in that way. I think that is eminently sensible. I would be interested to know how the minister is going to advance Australia's involvement in that particular technology and

keep that university capacity that we have in Australia. I think that issue is important.

On Monday, 4 December 2006, the House Standing Committee on Industry and Resources tabled its report on the Parliamentary Inquiry into developing Australia's non-fossil fuel energy industry "Australia's uranium: Greenhouse friendly fuel for an energy hungry world."

<http://www.aph.gov.au/house/committee/isr/uranium/report.htm>

The Standing Committee reported findings on fusion are detailed in 12.165 – 12.189. In summary (12.189),

"Finally, the Committee is persuaded of the immense potential benefit that fusion energy represents for the world and, specifically, the potential benefits for Australian science and industry from involvement in the International Thermonuclear Experimental Reactor (ITER) project. The Committee believes that involvement in this experimentation is simply too important for the nation to miss, even if the introduction of fusion power is indeed many decades off. Accordingly, the Committee recommends that Australia secure formal involvement in the ITER project and seek to better coordinate its research for fusion energy across the various fields and disciplines in Australia".

As such, the Standing Committee has recommended (recommendation 14) that the Australian Government

- negotiate an appropriate subscription for Australia to the International Thermonuclear Experimental Reactor project on a whole-of-Government basis;
- support the establishment of a national research centre to consolidate and coordinate Australia's efforts in fusion related research; and
- examine the merits of establishing fusion science as a national research priority.

UMPNER Summary on Fusion and ITER:

In December 2006 the Prime Minister released the final version of the UMPNER report. The Australian ITER Forum lodged submissions to both the UMPNER and the UMPNER draft. In the UMPNER final report, fusion energy and ITER are mentioned positively in various places. A link below takes you to the full report.

<http://www.pmc.gov.au/umpner/reports.cfm> goes to the report page;

http://www.pmc.gov.au/umpner/docs/nuclear_report.pdf

Highlights on fusion include:

- R&D, Education and Training is highlighted in Chapter 10, and Appendix R.
- In Chapter 10 'R&D, Education and Training', on p128 fusion is mentioned as an example of governments' efforts to address energy supply options to 2050 and beyond. On the same page (end of page), the report notes that ANSTO and various Australian universities have skills that could contribute to international research efforts into high-performance materials, and that the Gen IV Forum and ITER have identified this as an area where more R&D is required.
- There is then a descriptive paragraph about ITER on p130, in the discussion of international collaboration.
- Fusion is again mentioned in the context of Dalton Nuclear Institute in the UK, on p132.
- Appendix L: Nuclear Reactor Technologies, features a straightforward explanation of fusion and ITER, including a large usage of the ITER cutaway diagram.
- In the R&D, E&T appendix, on p246, section R2.5, is a brief section on Australian fusion research, based on information provided by the Forum.
- The report also notes the recommendation of the Prosser Report regarding Australia securing formal involvement in ITER and improving coordination. The Forum had highlighted this development in the submission we made in response to the draft UMPNER report.
- On p245 fusion is listed among ANU research programs. ANSTO notes on p253 that its work towards Gen IV is also relevant to fusion.
- On p248 an IAEA Cooperative Research Program related to the needs of fusion reactors is among the current Australian collaborative R&D efforts in the uranium, mining, processing and nuclear energy area.

Volume 77 of "Issues" is on Nuclear Energy. Inside is an article on fusion power,

* <http://www.issues.com.au/>

**"Fusion Power: The Philosopher's Stone of Science*" Issue 77, December 2006, by M. Hole, B. Powell and J. O'Connor

"When people talk about a nuclear debate they usually mean fission. However, there is another form of nuclear power, and while it is not yet practical, one day it could be far more important."

November 2006

"4 states may join ITER reactor project in 2007 - Russian scientist", Russian News and Information Service 27/ 11/ 2006

<http://en.rian.ru/russia/20061127/56057165.html>

UMPNER review related news items with reference to fusion:

The Australian, Expertise falls short Leigh Dayton, Science writer November 22, 2006
<http://www.theaustralian.news.com.au/story/0,20867,20799968-2702,00.html>

'ITER Organization gets the go-ahead',
extract from www.iter.org (Nov. 21, 2006).

"Today (Nov. 21, 2006), Ministers from the seven Parties of the international nuclear fusion project ITER (China , European Union , India , Japan , the Republic of Korea , the Russian Federation and the United States of America) came together to sign the agreement to establish the international Organization that will implement the ITER fusion energy project. The signature took place at a ceremony at the Elysée Palace in Paris and was hosted by the President of the French Republic M. Jacques Chirac and by the President of the European Commission, M. José Manuel Durão Barroso. The signed documents were formally handed over to the representative of the International Atomic Energy Agency, to be deposited with the Director General of the IAEA."

- [News Release - Milestones in fusion energy R&D](#) 21 November 2006 (PDF)
- [News Release - ITER Organization gets the goahead](#) 21 November 2006 (PDF version of ITER News Release - see also http://www.iter.org/a/index_nav_1.htm)

This was reported in a number of papers, including The Age.

<http://www.theage.com.au/news/national/sea-water-into-power/2006/11/21/1163871407800.html>

Draft report of the Prime Ministers Uranium, Mining, Processing and Nuclear Energy Review – November 21, 2006 .

- Forum's response to the draft report ([Download PDF](#))

The focus of the UMPNER Committee is conventional nuclear power. Fusion and ITER did however receive mention in Chapter 10, on Research and Development.

Chapter 10:

"Given the minimal Australian investment in nuclear energy related education or research and development (R&D) over the last 20 years, public spending will need to increase if Australia is to extend its activities beyond the uranium mining sector. In doing so, Australia should seek to leverage its existing nuclear research expertise through increased international collaboration" Sec. 10.1, in context of international collaboration on nuclear R & D through projects such as Gen IV, ITER and I-NERI: "There are undoubtedly many opportunities for Australian scientists to contribute to international research programs, and for overseas scientists to contribute to Australian programs. It may be necessary to negotiate new bilateral or multilateral agreements for research collaboration with international partners. However, adequate resources must be provided to enable such collaboration and to support local research programs."

Sec. 10.1 Australian research excellence in high performance materials "the ANSTO Advanced Nuclear Technologies Group and various Australian universities have skills that could contribute to international research efforts into high-performance materials. The Generation IV Forum (GIF) and the International Thermonuclear Experimental Reactor (ITER) project have identified this as an area where more R&D is required." The full UMPNER report can be found online at www.dpmc.gov.au/umpner/docs/draft_report/full_report.pdf

October 2006

"The Economics of Climate Change".

The report was commissioned and released by UK Treasury, and produced by Sir Nicholas Stern, a former chief economist with the World Bank. One quote with regards the economic implications of climate change is as follows: "If no action is taken we will be faced with the kind of downturn that has not been seen since the great depression and the two world wars." For those with an interest in the conclusions of the Stern report, a 4 page summary can be found at

http://www.hm-treasury.gov.uk/media/999/76/CLOSED_SHORT_executive_summary.pdf

Fusion is highlighted in at least two chapters of the report:

- Chapter 16 - which highlights that priorities for scientific progress in the energy sector should include PV (solar), biofuel conversion technologies, fusion, and materials science. http://www.hm-treasury.gov.uk/media/9A3/57/Ch_16_accelerating_technological_innovation.pdf
- Chapter 24 - which highlights ITER as a classic example of international collaboration on energy R&D; particularly with regard to pooling risk and reward for major investments in R&D. <http://www.hm->

treasury.gov.uk/media/8A8/8C/Chapter_24_Promoting_effective_international_technology.pdf

“ Australian scientists voice interest in ITER”,

ITER Newline - online publication published by the ITER Central Team, 18 th October 2006 .
<http://www.iter.org/newline/issues/06-10-18/ITERnewline.htm>

" Australia considers nuclear fusion as energy solution"

The World Today - Thursday, 12 October , 2006 12:50:00 , ABC local radio Reporter: Sarah Clarke

Radio interview with:

- Dr Matthew Hole, Chair - Australian ITER Forum,
- Dr Jim Peacock, Chief Scientist of Australia ,
- Ian Campbell, Minister for the Environment and Heritage
- Prof. Ian Lowe, Head of the Australian Conservation Foundation

<http://www.abc.net.au/worldtoday/content/2006/s1763618.htm>

" Australia urged to warm to fusion reactor"

Leigh Dayton, Science writer, October 13, 2006 , The Australian

<http://www.theaustralian.news.com.au/story/0,20867,20572275-2702,00.html>

" Australia 'risks missing out' on fusion"

Anna Salleh ABC Science Online , Thursday, 12 October 2006

Various versions of this are available at:

- <http://abc.net.au/science/news/stories/2006/1762505.htm>
- <http://www.abc.net.au/news/newsitems/200610/s1763391.htm>
- <http://www.abc.net.au/news/items/200610/1763391.htm?act>

Fusion future

12 October 2006 , Radio National, ABC

Website marker for live radio interview with Dr Jim Peacock.

<http://www.abc.net.au/rn/breakfast/stories/2006/1762958.htm>

"Australian scientists seek to join international fusion power project"

13/10/06 , ABC Radio Australia

<http://www.radioaustralia.net.au/news/stories/s1763875.htm>

Three media releases

- Fusion energy opportunities for Australia
- Fusion: an Aussie discovery
- Seeing the temperature of fusion: Australian companies ready to join the fusion revolution

These are available from Science in Public, at

<http://www.scienceinpublic.com/2006/ITER/fusion.htm>

September 2006

Item -

http://today.reuters.co.uk/news/articlenews.aspx?type=scienceNews&storyID=2006-09-28T121721Z_01_PEK359321_RTRIDST_0_SCIENCE-CHINA-FUSION-DC.XMLChina tests thermonuclear fusion reactor: report", Reuters, Thu Sep 28, 2006

Item -

"China says fusion reactor passes first test", ABC online, Friday, September 29, 2006

Item -

"China claims breakthrough in thermonuclear fusion reactor" , Beijing, Sept 28 2006

Item -

[Fusion Energy and the ITER Project, the Next Step to a Sustainable Future](#), Dr Barry Green

August 2006

Item -

[Australia should follow road to nuclear fusion](#), August 27, 2006 , Steve Cauchi, The AGE

Nuclear Fusion in green energy debate by Luke Slattery

Australian Financial Review, pg 31, 14/08/2006

Fusion on the way

Ian Porter and Nabila Ahmed, , Business News, The Age, 04/08/2006

- Radio and Television interviews with Dr Barry Green
- ABC "Mornings" 936 Hobart , 7/08/06 /, 11:52 .
- 2GZ (Orange) , "Our Big Backyard", 28/07/06 , 12:57

- NBN Newcastle (Newcastle , Gosford, Tamworth), 16/08/2006 , 06:28 PM. Interview with Natasha Beyersdorf & Ray Dinneen
- A glimpse in Newcastle today in what could be the next world major energy source.
- ABC South East SA (Mt Gambier), Breakfast with Alan Richardson 21/08/2006 07:20

July 2006

Radio Interview with Dr Hole and Chris Stewart 12 th July 2006 , "Diffusion Science Radio", 2SER

<http://feeds.feedburner.com/diffusionradio>

<http://www.archive.org/download/diffusion12-07-2006/diffusion12-07-2006.mp3>

(Slide to + 7:16 on the dial)

Item -

[Energy from nuclear fusion: the next step](#), by Andrew Cheetham and Matthew Hole, Engineers Australia, August 2006

<http://www.engaust.com.au/magazines/ea/eabackissues.html>

Item -

ITER, by Matthew Hole, FEASTS Newsletter, page 3, July 2006.

Fusion Research: Australian Connections, Past and Future

Boyd Blackwell, Australian Physics, Vol. 43(3), page 76, July-August, 2006

Item -

[Australia behind on environment](#), Adelaide Advertiser 2 August

Fusion energy expert Dr Barry Green and World Wildlife Fund chief executive Greg Bourne - in SA attending environmental discussions - said yesterday governments had to take a more active lead in addressing climate change, resource use and long-term sustainability.

Item -

[The other nuclear energy](#), The Age 3 July 2006

June 2006

Australia needs to get back to the front on fusion power

Matthew Hole and John O'Connor, The Age, 08/06/2006.

This week, the federal cabinet has announced the terms of reference for the inquiry into nuclear power generation.

<http://www.theage.com.au/news/opinion/we-need-to-get-back-to-the-front-on-fusion/2006/06/07/1149359815047.html>

May 2006

Hydrogen fusion best hope for future energy

Sydney Morning Herald Letters. Ian Falconer. 29/05/06.

Nuclear Fusion

Interview with Prof. Sir Llewellyn Smith, Director of the UKAEA Fusion division, 29/05/2006
 "With John Howard calling for an open debate on nuclear energy for Australia, scientists in Europe have agreed to push ahead with plans to build the world's largest 'nuclear fusion' reactor."

<http://www.abc.net.au/rn/talks/brkfast/stories/s1649530.htm>

The audio file can be downloaded from the ABC website

http://www.abc.net.au/rn/talks/brkfast/audio/breakfast1_29052006_28M.asx

Slide to + 10:45 in the audio file - it lasts about 8 minutes.

Fusion energy: world leaders reach agreement on largest ever international scientific partnership , 25/05/2006

EU Delegation to Australia and New Zealand Press Release

"Ministers and representatives from the European Union, Russia, Japan, China, India, South Korea and the United States of America met in Brussels yesterday to initial an agreement for the world's largest collaborative research project, ITER, to demonstrate the potential of nuclear fusion as an energy source."

<http://www.delous.cec.eu.int/pressandinformation/releases/2006/ITER.htm>

Update also available at the ITER website, http://www.iter.org/a/index_use_2.htm

and in UK press, The Guardian <http://www.guardian.co.uk/science/story/0,,1781601,00.html>

World's most expensive science experiment, ABC PM program 24/05/06

Radio Interview with Matthew Hole and John O'Connor

“An unlikely collection of nuclear powers will sign a deal today to build the world's first nuclear fusion reactor...”

<http://www.abc.net.au/pm/content/2006/s1646650.htm>

Scientists clear technical hurdle in fusion research, ABC news online, 22/05/2006.

“Physicists working in the United States believe they have cracked an important problem facing man-made nuclear fusion touted as the cheap safe clean and almost limitless energy source of the future”

<http://www.abc.net.au/news/newsitems/200605/s1643759.htm>

Question in Writing : Fusion Energy research, Australian Parliament, 11/05/2006

Item - [Possible Australian ITER involvement raised in Parliament](#)

April 2006

Fusion, Information Overload, Possum Bridges

ABC Catalyst Program, Thurs 27 April 2006

<http://www.abc.net.au/catalyst/stories/s1625306.htm>

'Nuclear Fusion: It's the biggest scientific experiment in the world, involving seven countries and 4.6 billion euros. ... Now ITER (the planned International Thermonuclear Experimental Reactor), should finally tell us if the dream could ever become reality.'

March 2006

Physics World, Vol 19(3)

March, 2006

<http://www.physicsweb.org/articles/world/19/3/7/1>

The recent decision to build the world's largest fusion experiment - ITER - in France has thrown down the gauntlet to fusion researchers worldwide. Richard Pitts, Richard Buttery and Simon Pinches describe how the Joint European Torus in the UK is playing a key role in ensuring ITER will demonstrate the reality of fusion power.

February 2006

The National Collaborative Research Infrastructure Strategy promotes ITER to Landmark Infrastructure

On February 28 2006 the Minister Julie Bishop, endorsed the NCRIS roadmap. Australian engagement in ITER was promoted to “Landmark Infrastructure” from the Low-Emissions Large-Scale Energy category. [More information ...](#)

The roadmap considers ITER involvement a “large scale infrastructure proposal”. For submissions - [More information ...](#)

Australasian Scientist

<http://www.control.com.au/bi2005/bi2610.shtml>

2nd Australia-New Zealand Conference on Climate Change and Business, 20-21 February 2006, Adelaide

The 2006 Conference was held in Adelaide on 20-21 February. Over 350 delegates attended the two day event. A highlight of the conference was the Leaders Forum on Day 1, in which Federal, State and Provincial ministers and senior executives of 4 of Australia's leading companies discussed climate change in a conversation moderated by former NSW Premier, Bob Carr. The clear message throughout the presentations and from all speakers was that business“ and state governments“ want clear policy on climate change so that they can make long term investment decisions. Website : <http://www.climateandbusiness.com/>

George Collins presentation : [See more](#)

Future is Fission Power -11 Feb 2006

The Adelaide Advertiser Saturday 11 Feb 2006 Tim Lloyd Brief article outlining the ITER project. It also highlights one of Australians most well known scientists and former governor of South Australia, Sir Mark Oliphant as the founder of the fusion process in 1932.
