

# Submission

to

Senate Employment, Workplace Relations and Education  
References Committee

## **Inquiry into the Office of the Chief Scientist**

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the Office of the Chief Scientist

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Greenpeace believes there is a clear conflict of interest for the current Chief Scientist between his role as employee of Rio Tinto and his role as Chief Scientist, particularly when Dr Batterham is providing advice which informs the Commonwealth Government's policy response to climate change.

Both Dr Batterham and the Commonwealth Government maintain that these two roles are kept entirely separate and that there are provisions in place to deal with instances where conflicts of interest arise.

However, these have not prevented Dr Batterham from providing advice to the Commonwealth Government in relation to climate change, an area which has the potential to seriously impact on the business of his primary employer, Rio Tinto. The policies that Dr Batterham advocates the Commonwealth Government implement would significantly favour coal companies, such as Rio Tinto, his primary employer.

Rio Tinto is one of the world's major mining companies, whose major products include coal, aluminium and iron. As Rio Tinto says it "has significant exposure to existing and emerging greenhouse gas reduction measures."<sup>1</sup> Rio Tinto is on the public record as advocating that Commonwealth Government policy has a "particular emphasis"<sup>2</sup> on geosequestration, which it considers a "key enabling technology".<sup>3</sup>

As the *Beyond Kyoto* paper states implementing policies to support geosequestration would have "the additional advantage...of assisting coal remain the major global energy source for the foreseeable future". Doing so would clearly be beneficial to Rio Tinto.

Many of the other options to reduce greenhouse emissions, such as increasing energy efficiency, reducing energy demand or using more renewable energy, are less favourable to Rio Tinto. These options are either largely ignored or dismissed based on flawed analysis and inaccurate data in the documents.

Not only does Dr Batterham advocate policy outcomes that would be beneficial to Rio Tinto, in many cases his advice in favour of the main policy outcome he advocates – geosequestration – is at odds with much of the existing published research on this subject, understates the risks and the costs of this option whilst overstating the benefits.

Dr Batterham's reliance on unpublished research commissioned by Rio Tinto, his primary employer is of particular concern, especially as it differs quite markedly from published data from highly reputable sources such as the IEA in a way that is beneficial to Rio Tinto.

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<sup>1</sup> Rio Tinto, *Submission to the Renewable Energy (Electricity) Act 2000*, 2003.

<sup>2</sup> As footnote 7.

<sup>3</sup> Brian Horwood, Managing Director, Rio Tinto, Letter to Peter Mullins, CEO, Greenpeace Australia Pacific, 23 December 2002.

Normal and proper scientific practice would require considerable caution in using unpublished material, particularly if the conclusions of this material differed to existing published material to the degree that the material used by Dr Batterham does.

One has to ask whether Dr Batterham would have used this unpublished research if it had been provided by someone else other than his employer.

Dr Batterham also appears to have been advocating, as Chief Scientist, against the Kyoto Protocol in communication with the Commonwealth Government. In March 2002 he wrote to the Hon Dr David Kemp MP, Minister for the Environment and Heritage that "The vision to make Kyoto irrelevant is realisable".<sup>4</sup>

Dr Batterham's opposition to the Kyoto Protocol reflects Rio Tinto's position on the treaty. Although Rio Tinto publicly professes to "believe the Kyoto Protocol is an important step toward the reduction of atmospheric concentrations of greenhouse gases"<sup>5</sup>, in fact the company has been strongly lobbying against Kyoto behind the scenes.<sup>6</sup>

In short, in its conclusions and recommendations the advice provided to the Commonwealth Government by Dr Batterham in his capacity as Chief Scientist is virtually identical to that we anticipate would be supplied by Rio Tinto in its political lobbying.

Irrespective of whether Dr Batterham's advice to the Commonwealth Government on climate change was provided with a consideration of Rio Tinto's interests or not, this case highlights the potential for there to be questions about conflicts of interest whilst the position of Chief Scientist remains part time.

Greenpeace recommends that the position of Chief Scientist be made full time and becomes a statutory appointment with clear publicly available terms of reference and guidelines to cover potential conflicts of interest.

Greenpeace also recommends that given Rio Tinto's interest in the Commonwealth Government's policy response to climate change, Dr Batterham should not participate further in duties as Chief Scientist relating to this matter. Nor should he be involved in approaching government on this issue in his role with Rio Tinto.

Furthermore, given the serious doubts that exist about the veracity of some of the advice on climate change that Dr Batterham has already provided to the Commonwealth Government, this advice is independently and publicly reviewed.

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<sup>4</sup> Dr Robin Batterham, Chief Scientist, Letter to the Hon DR David Kemp MP, Minister for the Environment and Heritage, 8 March 2002.

<sup>5</sup> Rio Tinto, *2000 Social and Environment Review*, 2001.

<sup>6</sup> Brian Horwood, Managing Director, Rio Tinto, Letter to members of the Business Council of Australia, 20 November 2002. A copy of this letter is attached at Appendix 2.

### **The Chief Scientist and geosequestration**

Greenpeace has for some time been concerned about the potential conflict of interest that exists for the Office of Chief Scientist given the part-time nature of the role. This concern has been triggered by questions about the role played by the current Chief Scientist in influencing and providing advice on the Commonwealth Government's policy response to climate change.

This submission focuses on the following documents, which provide advice to the Commonwealth Government on this matter.

- Dr Robin Batterham, Chief Scientist, *Getting emissions (way) down – Stationary power: a key target*, powerpoint presentation to the Ministerial Council on Energy, 29 November 2002.
- Beil et al, working group for the Prime Minister's Science, Engineering and Innovation Council (PMSEIC), *Beyond Kyoto – Innovation and Adaptation*, paper for the PMSEIC's ninth meeting, 5 December 2002.
- Beil et al, working group for the PMSEIC, *Beyond Kyoto – Innovation and Adaptation*, powerpoint presentation for the PMSEIC's ninth meeting, 5 December 2002.

As Chief Scientist Dr Batterham is responsible for "ensuring the quality of the Council's work"<sup>7</sup> so it is reasonable to expect that he had some part in the production of the latter two documents, at the very least reviewing them.

Furthermore, his presentation to the Ministerial Council on Energy listed in the first bullet point above drew on much of the material from the latter two documents. It would therefore also be reasonable to expect that the Chief Scientist assessed this material and decided he concurred with it before including it in his own presentation.

The three documents noted above display a worrying bias in terms of the options they advocate as preferred policy responses to climate change.

They advocate that geosequestration (the capture and underground storage of greenhouse gases) is "the answer"<sup>8</sup> and that the Commonwealth Government should favour geosequestration above other greenhouse policy options and provide it with greater financial and policy support.

However, analysis of these documents have led to the identification of "serious weaknesses" in the material used to support this conclusion.<sup>9</sup> This

<sup>7</sup> <http://www.dest.gov.au/chiefscientist> viewed 4 June 2004.

<sup>8</sup> Dr Robin Batterham, Chief Scientist, *Getting emissions (way) down – Stationary power: a key target*, powerpoint presentation to the Ministerial Council on Energy, 29 November 2002.

<sup>9</sup> Iain MacGill and Hugh Outhred, School of Electrical Engineering, The University of New South Wales, *Beyond Kyoto – Innovation and Adaptation: A critique of the PMSEIC assessment of emission reduction options in the Australian stationary energy sector – ERGO discussion paper 0302*, March 2003. A copy of this paper is attached at Appendix 1. It is also available at [http://www.ergo.ee.unsw.edu.au/macgill\\_beyondkyoto\\_assessmentv2.pdf](http://www.ergo.ee.unsw.edu.au/macgill_beyondkyoto_assessmentv2.pdf)

analysis has found that key information relating to geosequestration in these documents, crucial bits of which rely on unpublished research commissioned by Dr Batterham's primary employer – Rio Tinto, is at odds with existing published research from highly credible sources on this subject.

Moreover, these documents, including Dr Batterham's presentation, understate the risks and the costs of geosequestration whilst overstating its benefits.

Having reviewed the PMSEIC paper, MacGill and Outhred concluded:

*"IGCC [integrated gasification combined cycle] with geosequestration can hardly be expected to provide significant abatement in the near future because it has yet to be shown to be technically feasible. There are no such power stations yet in existence and while they are expected to be technically possible, there are considerable challenges involved."*

This is in marked contrast to Dr Batterham's assertion that IGCC with geosequestration is "the answer".

Commenting on the PMSEIC paper, MacGill and Outhred found:

*"It places extraordinary emphasis on geosequestration as Australia's key emissions reduction strategy and, in doing so, ignores the fact that the safest way to sequester carbon is to leave fossil fuels in the ground. The report therefore undervalues the crucial role of end-use energy efficiency, distributed generation and renewable energy in any rational response to climate change."*

The same criticism applies to Dr Batterham's earlier presentation to the Ministerial Council on Energy, and in fact can be made more strongly because of Dr Batterham's assertion that geosequestration is "the answer", which is not repeated in quite as unambiguous terms in the other two documents.

MacGill and Outhred's review of the PMSEIC paper found that it contained the following "serious weaknesses". This also applies to the advice provided by Dr Batterham in his presentation:

- The costs for geosequestration are substantially lower (four to fourteen times) than those in other studies by credible sources, such as the International Energy Agency (IEA) and the US Department of Energy.
- Its cost estimate of IGCC with sequestration is "not supported by reputable assessments of 'IGCC and sequestration' technologies".

- Its assessment of the developmental status of geosequestration and related technologies, such as IGCC, is “overly optimistic” and “not supported by international work to date”.
- It fails to adequately discuss the costs and benefits of alternative options for reducing greenhouse emissions, instead relying on a very narrow discussion of a few options based on an assessment of \$/MWh generation cost which uses incorrect cost figures eg it significantly overstates the cost of generating electricity from gas.
- It bases its comparison of options on estimated costs, despite the serious difficulties of estimating future costs for options which are not yet commercial, such as geosequestration, or for those which are yet to achieve economies of scale, such as renewable energy.
- It fails to consider other social and environmental values, such as job creation, regional development and other environmental impacts besides greenhouse emission reduction, when comparing the options.
- It has little, if any, consideration of the risks associated with the different options discussed.
- It fails to discuss improving energy efficiency or increasing demand side management despite the far lower energy intensity of many other developed countries and research showing that these are amongst the lowest cost options for emissions reduction.
- It contains an “unreasonably limited” set of emission reduction scenarios despite “a broad consensus” that combining energy efficiency, cogeneration, renewable energy and low-emission fossil fuels hold the greatest potential for large scale emission reductions.
- It underplays the likely reductions in cost of renewable energy as well the contribution that renewable energy can make both to meeting electricity demand and reducing greenhouse emissions, ignoring evidence from overseas where wind power from good sites in the US is already cost competitive with coal-fired electricity and provides nearly 20% and 5% of electricity demand in Denmark and Germany respectively, and where renewable energy targets in Germany, Spain and the UK “will greatly reduce greenhouse emissions from their electricity industries”.
- It misleadingly refers to IGCC with geosequestration as “zero emissions coal” despite stating earlier that it “does not equate to zero emission”, a conclusion supported by the IEA.
- Despite referring to the GEODISC program of the Australian Petroleum CRC to support its recommendation in favour of geosequestration, it fails to note that the GEODISC research to date suggests that the

existing major electricity generation regions in NSW and Victoria are unsuitable for geosequestration.

The documents overstate the benefits of geosequestration, claiming that it “has the potential to radically reduce Australia’s greenhouse signature”<sup>10</sup>.

However, research on the potential emission reductions from geosequestration in Australia has found:

*“Geo-sequestration will have limited effectiveness in reducing the growth in greenhouse gas emissions due to its limited sectoral application and poor source to sink matching”<sup>11</sup>*

and

*“even assuming the current technical, safety and cost problems with geosequestration can be solved, longer-term reductions in electricity-related emissions below present levels are still likely to require significant contributions from other abatement technologies, such as energy efficiency, efficient gas-fired CCGT and renewable generation”<sup>12</sup>*

Geosequestration also has a number of environmental risks, which are largely ignored in the documents. These include:

- Leakage

Carbon dioxide must be stored permanently and safely in locations which do not allow any leakage rate. This means a permanence time of longer than 100,000 years.

Any leakage would mean the stored greenhouse gases are released back into the atmosphere contributing to further climate change. Therefore, the geosequestration would not have contributed to preventing climate change.

The more geosequestration is relied on as a mitigation measure, the greater this risk becomes.

- Impacts on biodiversity

Storage of carbon dioxide could interfere with or have negative direct or indirect impacts on biodiversity.

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<sup>10</sup> Beil et al, working group for the Prime Minister’s Science, Engineering and Innovation Council (PMSEIC), *Beyond Kyoto – Innovation and Adaptation*, paper for the PMSEIC’s ninth meeting, 5 December 2002.

<sup>11</sup> Keith Tarlo, Senior Research Consultant, Institute for Sustainable Futures, the University of Technology, *Comparing the roles of coal and sustainable energy in reducing greenhouse gas emissions*, Presentation to *Towards Zero Emissions* conference, 21 July 2003.

<sup>12</sup> RJ Passey and IF MacGill, Passey Consulting and School of Electrical Engineering, the University of New South Wales, *The Australian Electricity Industry and Geosequestration – Some Abatement Scenarios*, 2003.