

16 July 2014



To the Senate Economics Legislation Committee

THE AUSTRALIAN RENEWABLE ENERGY AGENCY (ARENA) REPEAL BILL 2014

On behalf of Swinburne University of Technology, I wish to express our objections to the proposed abolition of ARENA. While we were disappointed in the budget measure to reduce Government funding into renewable energies over the forward estimates, we believe that ARENA should be retained as a separate government agency dedicated to encouraging innovation and investment in renewable energies. Dismantling of the agency, as proposed in the ARENA Repeal Bill 2014, would be detrimental to Australia's education, energy innovation and commercialisation sectors and have a negative impact on the Australian economy and our international standing.

As a globally competitive education institution, Swinburne's market appeal and international reputation is inextricably linked to our research and partnership capability. That appeal impacts the quality and expertise of the academics we attract and the perceived competency and value of our graduates. Both are reliant on our research strengths and focus.

One of the five outcome areas into which we are focusing our research, development and deployment activities is *Sustainable Futures* where we aim to combine the technical, social and environmental elements that address sustainability issues, inform public debate and influence government policy. ARENA is an important partner for our work in this area and its demise will considerably reduce the impact of our research and our ability to attract research students and research projects.

Earlier this year, Swinburne's Centre for Micro-Photonics submitted a proposal for funding under ARENA's Research and Development Program – Round 1 - Solar Excellence. Although a decision on this application was stalled in the lead-up to the May 2014 federal budget, the work envisaged in the proposal was the basis of a landmark Memorandum of Understanding (MoU) that was signed between Swinburne and the Sichuan-based glass manufacturing business of the Taifeng Group during the Prime Minister's Trade Mission to China in April. The following media web link from *China View* featuring Australia's Minister for Trade and Investment includes vision of the signing and highlights the importance of this relationship
<https://www.youtube.com/watch?v=t52QEVh46jU>.

The MoU foreshadows a cash investment of at least \$4 million directly into projects integrating Swinburne's patented solar technologies at large scale on glass sheets produced at Taifeng's factories. This commitment, which would seed the development of a trans-national manufacturing strategy between Australia and China with flow-on effects to other parts of the Australian economy, is reliant on the successful leverage of the investment within Australia. ARENA is the appropriate vehicle by which such a significant project can be realised.

Further, much of Swinburne's research in *Sustainable Futures* is motivated by the need to bring innovation to the energy market and decarbonise Australia's energy supply. Our current research in this area, some at early stage and some close to market, is potentially game changing. And while all universities with a focus on technology want to be involved in developing renewable energy and all are working hard to transform the potential into reality, what differentiates Swinburne's approach is our focus on developing practical applications for new technologies. ARENA is the ideal partner for much of this research.

A current PhD project funded by the Australian Solar Institute but now managed by ARENA involves the *Solar Thermal Processing of Minerals*. The outcome sought is to use the sun to directly process minerals to metals. The project is led by Professor

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Geoffrey Brooks, an international expert in metal production. ARENA provided \$90,000 to the project and this money has been leveraged by Swinburne through a co-commitment of \$120,000 and resulted in the purchase of a Solar Simulator – the only one in the southern hemisphere – with which to undertake the research. The practical outcomes of this research will enable Australia to add value to our minerals at the point of extraction. At the same time, the research is building expertise in renewable energy technologies amongst top researchers working within other disciplines.

Other leading Swinburne scientists, currently working in the area of renewable energy in partnerships with ARENA include:

- Professor Min Gu - an elected Fellow of the Australian Academy of Science, the Australian Academy of Technological Sciences and Engineering, the Australian Institute of Physics, the Optical Society of America, the International Society for Optical Engineering and the Institute of Physics (UK). He is a Laureate Fellow of the Australian Research Council and it is his work that is the basis of the MoU with the Taifeng Group in Sichuan. The Australian Solar Institute funded two post-doctoral fellows working with Prof Gu in projects now managed by ARENA.
- Associate Professor Richard Manasseh – a mechanical engineer with a PhD in applied mathematics whose specialty is fluid dynamics. At a fundamental level, his research focuses on wave modes and oscillators in fluids and their interactions. At the applied end, his work on ocean wave-power machines is the subject of a recent ARENA proposal involving the University of Tasmania and industry partners.

The economic and reputational value to Australia and the international energy market of the work Swinburne is undertaking in partnership with ARENA is very high. In its short life, ARENA has become an important component of the Australian technology and innovation landscape. It is certainly worth preserving.

Thank you for the opportunity to contribute to the committee's deliberations on this bill.



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