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# COVER SHEET FOR SUBMISSIONS

## I**ndependent Review into the Future Security of the National Electricity Market**

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| Overview  Please include this cover sheet with your submission on the Preliminary Report of the Independent Review into the Future Security of the National Electricity Market. | |
| Background  The Preliminary Report outlines the Panel’s observations about the current state of the NEM and offers questions on the major issues the Panel has identified. The questions are designed to elicit suggestions or answers that may help form the Panel’s final recommendations.  The Preliminary Report serves as an issues paper for broad public consultation. As such, the questions and views will be subject to further consideration and discussion, in anticipation of the final blueprint being produced in 2017.  Stakeholders are encouraged to keep their submissions as succinct as possible, and include a one-page executive summary. | |
| Contact Details | |
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| Confidentiality and Privacy  The Department will treat all submissions as public documents, unless the author requests the submission be treated as confidential.  Public submissions will be published in full on the Department’s website. The Department will publish your name, organisation (if applicable) and state or territory with your submission.  A request may be made under the *Freedom of Information Act 1982* (Commonwealth) for a submission marked ‘confidential’ to be made available. Such requests will be determined in accordance with provisions under that Act.  The Department will deal with personal information contained in, or provided in relation to, submissions in accordance with this cover sheet and its Privacy Policy (<http://www.environment.gov.au/privacy-policy>). That personal information is collected for the purposes of identifying authors of submissions. It may be used and disclosed within the Department and to other persons for the purposes of carrying out the review, and otherwise as required or permitted by law.  **Do you want this submission to be treated as confidential? Yes 🗶 No** | |
| Submission Instructions  The submission period will be open until close of business on Tuesday **21 February 2017**.  All submissions should be emailed to the NEM Security Review at the mailbox: [NEMSecurityReview@environment.gov.au](mailto:NEMSecurityReview@environment.gov.au) | |



Dr Alan Finkel

Chair  
Independent Review into the Future Security of the National Electricity Market

Via: NEMSecurityReview@environment.gov.au

Friday, 3rd of March, 2017

Dear Professor Finkel and panel,

The Nature Conservation Council of New South Wales (**NCC**) is the state’s peak environment organisation. We represent over 150 member organisations across NSW. Together we are dedicated to protecting and conserving the wildlife, landscapes and natural resources of NSW.

NCC welcomes the opportunity to make a submission to this important and timely inquiry, we also appreciated the panel’s interim report and consultation session in Sydney.

This brief submission is in addition to a joint submission that we supported which focussed on the National Electricity Objective.

### The role of the electricity market in achieving decarbonisation

The future security of the electricity market and the decarbonisation of society are inextricably interdependent.

The stationary energy sector, representing 33% of emissions, presents both low-hanging fruit in our decarbonisation pathway and a key for decarbonising other sectors such as transport. Hence it must decarbonise early and fast.

On the other hand, poor energy policy could lead to infrastructure investment choices which lock in failure to achieve our decarbonisation commitments and avoid dangerous climate change.

At Paris, Australia along with over 190 other countries made several commitments, including complete decarbonisation by the second half of the century, avoiding 2 degrees of warming and making efforts to limit warming to less than 1.5 degrees. Only the latter commitment would enable most coral reefs and many pacific island nations to survive.

International Energy Agency modelling shows that to have a better than even chance of limiting global warming to less than two degrees, unabated coal-fired power stations must be all but phased out in all OECD countries by 2035[[1]](#footnote-1). If Australia is to “make efforts” to constrain warming to less than 1.5 degrees, clearly we must phase out all coal fired power even earlier than 2035. We request that the panel considers these commitments - including making efforts to limit warming to less than 1.5 degrees - when forming recommendations.

### Achieving a secure, affordable and clean electricity grid

1. Off-River Pumped-hydro.

As the peak body for nature conservation in NSW we are confident that the environmental impacts of off-river pumped-hydro can be acceptably managed and wholeheartedly encourage the panel to explore ways that this technology can assist in achieving a stable, affordable electricity supply, and a rapid transition to clean, renewable energy. On the other hand, we have deep concerns about the impact on the environment of new on-river dams, or raising the walls of existing on-river dams.

Construction times for off-river pumped hydro projects are around five years. This necessitates long planning horizons, relative to the short notice of only months that coal fired power stations typically provide before closing, for example at Wallerawang, Port Augusta and Hazelwood.

Therefore states and federal governments must actively incentivise investment in pumped hydro storage and other clean storage technologies in order to deliver affordability and reliability.

Finally, the existing pumped-hydro plant in Queensland has not been efficiently dispatched due to market concentration, and these types of market failures need to be investigated and fixed[[2]](#footnote-2).

1. Concentrating Solar-Thermal (CST)

The proposed concentrating solar thermal plant in Port Augusta requires an unsubsidised cost of $150/MWh[[3]](#footnote-3).

As this would be the first solar thermal plant to be built in Australia, costs are then expected to fall for subsequent plants. The Australian Solar Thermal Research Initiative estimates that the levelised cost of solar thermal electricity to fall to $80/MWh by 2025[[4]](#footnote-4).

The barrier to the construction of Australia’s first plant needs to be overcome in order to move this technology down the cost curve in Australia, and we suggest that a program is established to achieve this important aim.

Special attention needs to be given to this technology due to its ability to provide both generation and storage and improve the diversity of supply sources and hence grid reliability at lower cost.

Even in winter, concentrating solar thermal plants provide significant generation across most of Australia. At Port Augusta modelled collected insolation varies from a minimum of 5.0 kWh/m2/day in June to 11.2 kWh/m2/day in January[[5]](#footnote-5). In winter, excess electricity could be transmitted from CST plants in locations such as Longreach where insolation is higher (7.0 kWh/m2/day in June) and demand is very low to support winter peaks in southern states.

1. Health impacts of coal fired power stations

The health burden from coal-fired power stations is significant. The Climate and Health Alliance estimates the annual costs of associated health damages from coal-fired power station air-pollution in the Hunter Valley and NSW Central Coast at around $600 million per annum[[6]](#footnote-6).

Pollution loads from each power station in Australia are published each year in the National Pollution Inventory, and the health costs of each pollutant can be estimated. We recommend that independent health impact assessments be carried out for existing power stations, and the health impacts of these plants be considered when deciding closure timelines and comparing the cost to society of different options for electricity generation.

### The importance of a just transition

Governments must ensure the rapid transition to renewable energy is a just transition so that affected workers and communities get the help they deserve, rather than having to shoulder the costs of transition. Coal affected communities are already suffering disproportionate impacts of pollution as well as economic dislocation as coal power stations and mines reduce production and close. Three coal fired power stations have already closed in NSW in the recent past. Economic adjustments take time, and so governments must immediately take an active role in managing the transition. We recommend the establishment and funding of transition processes led by workers and community to support those affected to harness new sources of regional development and employment.

If you seek any further information on the issues raised in this submission please do not hesitate to contact Dr Brad Smith on (02) 9516 1488 or ncc@nature.org.au.

Yours sincerely,



Kate Smolski

Chief Executive Officer

1. International Energy Agency, Energy, Climate Change and Environment 2016 Insights report, p30,<http://www.iea.org/publications/freepublications/publication/ECCE2016.pdf> [↑](#footnote-ref-1)
2. See RenewEconomy, Wivenhoe pumped hydro: the big little plant that didn’t, 23/02/2017. Available at: <http://reneweconomy.com.au/wivenhoe-pumped-hydro-big-little-plant-didnt-30606/> [↑](#footnote-ref-2)
3. Evidence from Mr Simon Brooker, Executive Director, CEFC, to Senate Select Committee into the Resilience of Electricity Infrastructure in a Warming World, 10/02/2017 [↑](#footnote-ref-3)
4. Australian Solar Thermal Research Initiative Annual Report 2016, page 6. Available at: <http://www.astri.org.au/wp-content/uploads/2014/11/ASTRI_Annual_Report_2015-v5-20160428.pdf> [↑](#footnote-ref-4)
5. University of Melbourne, Zero Carbon Australia Stationary Energy Plan, second edition (2011) page 56. [↑](#footnote-ref-5)
6. Climate and Health Alliance, Coal and Health in the Hunter, 2015, p32, available at: <http://d3n8a8pro7vhmx.cloudfront.net/caha/legacy_url/53/Climate-and-Health-Alliance_Report_Layout_PRINTv2.pdf?1439938112> [↑](#footnote-ref-6)