Energy White Paper 2014 – Issues Paper submission template

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Confidentiality

☐	**Submissions may be published on the Department of Industry website.** **If you do not wish to have your submission made public, please tick the box.**

Issues for comment are listed against each of the Chapter Headings. In making your submission, you are welcome to make comment against some or all of issues in the fields provided. A field for general comments is provided at the end of the template.

Alternative and Emerging Energy Sources and Technology

The Government seeks comment on:

- ways to encourage a lower emissions energy supply that avoids market distortion or causes increased energy prices;
- the need to review existing network tariff structures in the face of rapidly growing deployment of grid-backed-up distributed energy systems, to ensure proper distribution of costs;
- additional cost-effective means, beyond current mandatory targets and grants, to encourage further development of renewable and other alternative energy sources and their effective integration within the wider energy market;
- how the uptake of high efficiency low emissions intensity electricity generation can be progressed;
- any barriers to increased uptake of LPG in private and commercial vehicles and CNG and LNG in the heavy vehicle fleet; and
- any barriers to the increased uptake of electric vehicles and advanced biofuels.

Please provide any comments on Alternative and Emerging Energy Sources and Technology below:

The only reference to storage of electricity in the Issues Paper is in regard to uptake of electric vehicles. We believe the Energy White Paper 2014 should give much more consideration to the increased use of storage of electricity as a mechanism to provide more efficient and economic use of electricity as part of an integrated solution to Australia's energy issues in the longer term. As the technology for storage improves and advances, storage can help to smooth the peaks and troughs in electricity usage. The opportunities for storage of electricity go well beyond batteries that serve electric vehicles.

If electricity can be generated at non-peak times for use later, it can reduce requirements for electricity generation capacity.

Storage can enable generation to be provided by sources with the lowest marginal costs, and can provide the mechanism to enable more investment in generation with lowest marginal cost. Storage can improve the business case for investment in new efficient generation with low fuel costs, rather than peaking plant with higher marginal costs which will not be as necessary.

Storage of electricity near to the points of expected peak usage can reduce requirements for network capacity to meet peak demands.

Storage can enable higher levels of electricity generation from renewable sources and low emission generation into the grid.

Ultimately, local generation and storage may lead to customer independence from the grid in some cases.

Storage will be economic initially where it can be deployed as part of a solution:

- **To avoid ongoing high costs, such as diesel-fired generation in remote and isolated communities.**
- **To solve a particular problem, such as how to integrate renewables in a grid efficiently and effectively.**
- **To avoid or defer a particular cost such as places where investment in network capacity enhancement is imminent, but can be avoided or deferred through creative solutions on the demand side, and storage may be part of the solution.**

We would like to draw the attention of the Energy White Paper team at the Department of Industry to the wealth of available research and trials of storage in Australia and beyond, including the following resources as examples among many:

- **The King Island Renewable Energy Integration Project. This is an initiative of Hydro Tasmania and is being developed with the assistance of the Australian Government's Renewable Energy Demonstration Program and the Tasmanian Government. For more information, see www.kingislandrenewableenergy.com.au. Reference to the Energy Storage System component of the Project can be found at www.kingislandrenewableenergy.com.au/project-information/energy-storage-system.**

- **Comments in the Ergon Energy Annual Stakeholder Report 2012/2013, available at www.ergon.com.au/about-us/company-information/company-reports. The Chairman asks the open question: "Will we see a time in the next decade where renewables and battery storage will be cheaper than grid power for the domestic consumer?" The report states: "In addition to the challenges discussed so far, our customers are also increasingly looking for greater choice and even 'energy independence'. This is being stimulated by the fall in prices for solar, batteries and other technologies. In this changing environment, it is becoming increasingly cost prohibitive to use traditional technologies and management tools."**

- **Research being undertaken by CSIRO. See for example www.csiro.au/en/Outcomes/Energy/Storing-renewable-energy.aspx**