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21/09/2012

Ms Sophie Dunstone
Committee Secretary
Senate Select Committee on Electricity Prices
PO Box 6100
Parliament House
Canberra ACT 2600

Dear Ms Dunstone

CSIRO welcomes the opportunity to provide a submission to the Senate Select Committee on Electricity Prices in relation to their inquiry. CSIRO has a significant portfolio of energy research focused on addressing Australia's current and future energy needs, particularly in relation to developing strategies and technologies for sustainable energy production and management. In this submission, we provide comment against those terms of reference for which we have relevant research expertise and we have enclosed a number of research reports which may assist the Committee in their deliberations.

Our response to the Terms of Reference for which we have relevant research expertise is as follows:

a) Identification of the key causes of electricity price increases over recent years and those likely in the future.

CSIRO has not conducted research that has investigated electricity price increases in detail; however, the 2011 report "The Carbon Price and the Cost of Living" compiled by CSIRO and AECOM provides an independent assessment of the economic impacts of the carbon price on consumer prices and households, including an analysis of the estimated impacts of the carbon price on electricity prices.

The report (provided at Attachment A) contains a summary of historic electricity price rises, which shows that increases in network expenditure were historically the primary driver of electricity price increases (refer Figure 12 page 21). The report anticipated that in 2012/13, the price increases due to network costs would continue. In addition, the projected carbon price impact added an increase of around half to two thirds of the anticipated increase in network costs.

Source: Hatfield-Dodds S, Feeney K, Shepherd L, Stephens J, Garcia C, Proctor W (2011) The carbon price and the cost of living – full report: assessing the impacts on consumer prices and households. A report to The Climate Institute prepared by CSIRO and AECOM, CSIRO/AECOM: Sydney.

c) Options to reduce peak demand and improve the productivity of the national electricity system.

CSIRO recently convened the Future Grid Forum to evaluate whole-of-system options for Australia's future electricity system. The Forum is comprised of 42 industry and government stakeholders, who will together systematically evaluate all the major options available for Australia's future electricity system over the next twelve to eighteen months. CSIRO is the primary coordinator of this project, which builds on our previous work in convening Futures Forums (e.g. the Sustainable Aviation Fuels Forum; the Energy Futures Forum). Further information about the Future Grid Forum is provided at Attachment B.

CSIRO is also developing a range of technologies in partnership with industry which aim to improve energy efficiency and reduce peak demand. For example:

- CSIRO has developed a solar driven air-conditioning system, which offers a new and cost effective way to reduce peak demand on the electricity grid (when the total system cost of electricity is taken into account). In 2011 CSIRO installed Australia's first commercial scale solar cooling system at the Hunter Institute of Technology in New South Wales.
- CSIRO developed and commercialised OptiCOOL, a retrofit building management solution that optimises heating and cooling in commercial buildings. The technology is now under license by BuildingIQ, an energy management software company focused on energy management solutions for commercial buildings.

d) Investigation of mechanisms that could assist households and businesses to reduce their energy costs.

CSIRO has worked extensively with communities and households to help them reduce their energy needs and energy consumption. For example:

- CSIRO's Energymark is a cost effective community engagement approach that helps households to achieve measureable reductions in their energy needs. Further information about Energymark is provided at Attachment C.
- In 2009 CSIRO published the Home Energy Saving Handbook, which provides easily accessible information for Australians to help them manage their energy bills. The book offers practical advice on how to measure and reduce energy consumption at home.

e) Investigation of opportunities and barriers to the wider deployment of new and innovative technologies.

In 2009 CSIRO published the report "Intelligent Grid: a value proposition for distributed energy in Australia" (provided as Attachment D), which identified key barriers to the deployment of new and innovative solutions for improved generation, management and storage of electrical power. The report was the culmination of a three year research program which examined the social, technological, environmental and economic value of widespread distributed energy use in Australia.

Source: Intelligent Grid: a value proposition for distributed energy in Australia, CSIRO, 2011, available at: http://www.csiro.au/Outcomes/Energy/Carbon-Footprint/Intelligent-Grid-Report-Intro-and-summary.aspx

Yours sincerely

Dr Tom Hatton
Group Executive, CSIRO Energy

Attachment A: The carbon price and cost of living report, CSIRO and AECOM, 2011
Attachment B: The Future Grid Forum
Attachment C: Energymark
Attachment D: Intelligent grid, CSIRO, 2009