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## [Submission to the Senate Select Committee on Electricity Prices](#)

### Introduction

Smart Grid Australia (SGA) welcomes the opportunity to provide its independent industry view to the Senate Select Committee on Electricity Prices. Thank you for accepting this late submission.

We believe that smart grids have a critical role in underpinning our energy future. This includes using new technologies to maximise the value of future electricity investments and ensuring that all Australians continue to receive the electricity on which modern lifestyles and business depend at the most affordable price.

Smart Grid Australia has developed a paper called "Towards Australia's Energy Future – The Enabling Role of Smart Grids" to explain the role of smart grids and these new technologies to assist Australia deal with the economic, social and environmental policy challenges of rising electricity prices, moving to a low carbon economy and the need for new energy investment to deal with aging infrastructure. We have included a copy of this paper in support of our submission for the Committee's consideration.

In this brief covering letter, we will introduce SGA and contend that modernising Australia's electricity infrastructure by investing in Smart Grid technologies is part of the solution to rising prices, not part of the problem.

### Smart Grid Australia

SGA is an independent industry body that supports industry transformation towards an intelligent and efficient energy grid – from generation to consumption – through the rollout of smart grid technologies. We draw on a multi-disciplinary range of industry expertise reflecting our diverse membership – including utilities, power engineering suppliers, communications, networking and data management specialists, network construction companies and research organisations.

In addition, SGA links with other smart grid organisations through the Global Smart Grid Federation with members from around the world, including Korea, the United States, Ireland, Japan, India and Canada to name a few. We share best practices, identify barriers and solutions, foster innovation, and address key technical and policy issues drawing on global experiences of smart grid investments in energy systems. We bring these experiences and insights into smart grid practice in Australia.

### Benefits of Smart Grids

Although specific business cases are still in the early stages of development in Australia, we are confident that they will demonstrate a strong, positive justification for Smart Grid investment – with the two-fold drivers being *opportunity* and *necessity*.

On the *opportunity* side, infusing ICT into the grid can unlock gains in areas such as planning, operational efficiency, asset management and so on. On the *necessity* side, trends such as the growing levels of renewable energy, the looming wave of electric vehicles, smart appliances etc all demand a new level of visibility and control within the grid.

The work done by the Electric Power Research Institute (EPRI) in the US in their most recent report "Estimating the Costs and Benefits of the Smart Grid" provides some good insights – and similar conclusions have been reached in the work carried out by many other parties around the world.<sup>1</sup>

EPRI found that factoring a wide range of new technologies, applications and consumer benefits, the investment needed to implement a fully functional Smart Grid in the United States ranged from \$338 billion to \$476 billion – but resulted in benefits between \$1.3 trillion and \$2 trillion.

According to EPRI, the cost estimate reflects new technologies related to a modernised grid – information and communication technologies; market structures; demands of an increasingly digital society; more widespread deployment of renewable power production and its integration into the grid; expansion and maintenance of existing infrastructure; and technologies and systems to address grid security.

The report counter-balances costs with benefits, which include:

- more reliable power delivery and quality, with fewer and briefer outages;
- enhanced cyber security and safety with a grid that monitors itself and detects and responds to security and safety situations;
- a more efficient grid, with reduced energy losses and a greater capacity to manage peak demand, lessening the need for new generation;
- environmental and conservation benefits, better support for renewable energy and electric-drive vehicles; and
- potentially lower costs for customers through greater pricing choices and access to energy information.

SGA recognises that electricity price increases have become a "hot" subject of both political and public interest. Whilst there are many drivers for price increases, SGA is concerned that in the present climate, the Smart Grid investment needed to equip Australia with the electricity infrastructure it needs for the future may be put on the back-burner for reasons of financial expediency. This may result in some short-term savings, but the longer-term costs to Australia would far outweigh the savings. Falling behind evolving international best practice would be a recipe for long term social, economic and environmental disadvantage.

SGA's attached report 'Towards Australia's Energy Future' has been designed to promote awareness of issues that it believes need to be addressed to support the timely modernisation of Australia's electricity infrastructure. The report proposes the following five necessary and inter-related actions to achieve an optimum outcome for Australia:

1. Work towards a common direction for all government policies and initiatives, forming a cohesive view recognising that the Smart Grid is the foundation for unlocking Australia's energy future.
2. Develop a framework that creates incentives for industry innovation to encourage breakthroughs in consumer engagement.
3. Review institutional arrangements to identify barriers that need to be dismantled to provide the most appropriate incentives for investment in modern technologies.
4. Promote broad collaboration to progress the above recommendations, recognising that the active participation of many stakeholders is needed to deliver these benefits.
5. Review and update education and training programs to reflect the more pervasive role that ICT will play in the electricity sector of the future.

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<sup>1</sup> See [http://my.epri.com/portal/server.pt?space=CommunityPage&cached=true&parentname=ObjMgr&parentid=2&control=SetCommunity&CommunityID=404&RaiseDocID=00000000001022519&RaiseDocType=Abstract\\_id](http://my.epri.com/portal/server.pt?space=CommunityPage&cached=true&parentname=ObjMgr&parentid=2&control=SetCommunity&CommunityID=404&RaiseDocID=00000000001022519&RaiseDocType=Abstract_id)



Yours sincerely

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