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Smart networks—a bright new future for Australia

The Energy Networks Association (ENA), the peak national body representing Australian electricity and gas distribution and transmission networks, has welcomed a report released by the Australian Government confirming its commitment to develop a commercial-scale smart grid demonstration project in partnership with the energy sector through the $100 million *Smart Grid, Smart City* initiative.

Mr Andrew Blyth, Chief Executive for ENA today said: 'Australia's energy network industry will benefit from the recently announced *Smart Grid, Smart City* initiative which will encourage real-time interactions between all elements of an energy market from generator to the customer.

'ENA's member companies are actively progressing from the idea of smart networks (smart grid) to developing and building smart networks to allow for more efficient use, delivery and consumption of power throughout Australia', said Mr Blyth.

ENA has provided advice and various submissions to the Australian Government on the design and implementation of smart networks, the smart metering program, and the National Broadband Network. ENA also provided input into the *Smart Grid, Smart City* pre-deployment report.

Mr Blyth has represented ENA and its members at various conferences and seminars where he has outlined the key steps to building a smart network (smart grid) future that will play a crucial role in the way energy is produced and consumed in a carbon-constrained economy, and how a smart network environment encourages customers to be more involved in their energy use.

Whilst smart networks (smart grids) are in the early stages of being developed, countries are beginning to change their energy requirements through smarter electricity networks that will assist in meeting the challenge of climate change while maintaining energy security.

'A central issue for Australia's energy distribution sector is the development and implementation of smart networks (smart grids)', said Mr Blyth. 'The outcome will facilitate rapid responses to price signals, energy supply fluctuations and demand shifts and facilitate the use of renewable energy and allow the two-way flow of energy that is to accommodate energy generated by customers to flow back into the system.

'ENA will now carefully consider the recommendations of the report and will continue to engage with and represent its members to assist in the development of smart networks and the National Broadband Network', said Mr Blyth.

Ends.

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ENA is the peak national body for Australia's energy networks; and represents gas distribution and electricity network businesses on economic, technical, environment and safety regulation as well as national energy policy issues.

Background

Smart Networks—explained

The smart network has five key objectives:

1. change the relationship with customers, transforming their role from uninformed and non-participative to informed, active and involved, stimulating demand side response

2. accommodate connection of widely distributed, renewable energy sources across the network and in particular at customer premises, providing an 'energy clearing house' function

3. facilitate market interactions, providing customers access to products and services with choice, based on price and environmental concerns

4. accommodate new energy storage technologies, enabling customers to choose the source of their energy and optimise the efficiency of their use of energy, and

5. continue to improve the performance of the network by:
    - using greatly enhanced data gathering capabilities
    - detecting and responding to problems automatically
    - focusing on prevention
    - strengthening interconnections, and
    - optimising replacement investment.

Delivery of those objectives involves a merging of the existing electricity network infrastructure—upgraded with sensing, monitoring and management devices—with a secure, robust, and reliable communications infrastructure, supported by relevant information technologies, resulting in two-way exchanges of energy and information.

Delivery of these objectives will also contribute significantly to the Australian Government's objectives of reducing greenhouse gas emissions and enhancing energy security.

The first step in the process of building a smart network will happen now through the replacement of foundation infrastructure supporting the current network.

To optimise investment in emerging smart network technologies, there are three areas in which the regulatory framework needs to be examined:

1. facilitate research and development expenditure

2. ensure the full value of investments in such technologies, for example reductions in carbon emissions and avoided expenditure in generation plant and input costs are captured, and

3. in order to gain the maximum benefit from the investment of smart network infrastructure and technologies, it is essential that cost reflective pricing to consumers is implemented.