



Melbourne, 7 September 2009

## Australia can lead the way in 'smart' energy networks

Australia is well placed to lead the way towards smarter energy networks in the Southern Hemisphere, according to a world leader in energy industry innovation.

Guido Bartels is General Manager of IBM's Global Energy and Utilities Business and Chairman of the Gridwise Alliance, a United States-based forum of companies and communities advocating new ideas and concepts in electricity generation and transmission.

A keynote speaker at the Energy 21C conference in Melbourne today, Mr Bartels believes Australia's vast energy resources, its engineering skills base, its close proximity to and existing business relationships with the rapidly transforming economies in China and India give it a clear advantage in becoming a global centre of excellence in the development of smart energy networks.

"Even more importantly, through the environmental, consumer and business benefits that smart networks deliver, Australia has a unique opportunity to create an even better place in which to live and work," he said.

"Access Economics in Australia has calculated that investing \$3.2 billion in smart grid technology over five years will lower electricity use by four per cent, increase gross domestic product by up to \$16 billion over 10 years, and create close to 18,000 jobs.

"But don't expect the transformation to occur as a natural progression. The decisions to be made in the coming years will shape energy production, distribution and consumption for decades.

"Government policy must create the right market conditions for smart grids with incentives and supporting regulation. Australia is stepping up to this challenge with the Federal Government recently announcing the National Energy Efficiency Initiative demonstrating a mature approach to smart grid investment."

Mr Bartels, who was last month recognised among Earth2Tech's 15 most influential people in smart grid development, will tell the Energy 21C conference that the global financial crisis pales into insignificance when considering other challenges faced by electricity transmission and distribution companies.

"Even before the crisis, we were under tremendous pressure to transform the industry because of climate concerns, changing consumer preferences and ageing assets," Mr Bartels said.

"The need for change is clear because the current system is not up to scratch. It was built for another age when energy was cheap and climate change was not an issue.

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“We lose up to 10 per cent of energy in delivery of electricity. More importantly every year consumers waste billions of kilowatt hours because they do not have sufficient information about power use. The current centralised energy network system is not prepared for the dynamic two-way flow of energy and information needed to manage it reliably.”

Mr Bartels said growth in renewable generation of energy, for example wind and solar technologies, and a growing desire by consumers to play their role in energy conservation, were key influences in the need to develop more intelligent power networks.

“Existing energy grids were designed to be supplied by a few large, central power plants and to distribute energy in one direction,” he said. “But if we are going to include renewable energy in our grids – which Australia must do to meet greenhouse gas emissions targets by 2020 – renewable energy will have to come from small, local generators.

“The new source of energy will need storage to smooth the peaks and valleys in supply and demand. Just as importantly, if we are going to empower consumers to improve energy efficiency – and allow them to sell energy back to the grid – we are going to need a two-way system.

“Consumers must be provided with more information so they can make choices about how they use energy based on factors such as how much it costs at a particular time and how it is produced.

“And if electricity is to be a competitive fuel for transportation with hybrid cars going into production the impact on energy grids of charging electric vehicles will need to be managed. You can’t have a situation where everyone comes home after work each night and plugs in their electric vehicle to recharge because it would crash the system.

“The good news is that technology already exists to build intelligence into our energy networks. We can use sensors, smart meters, digital controls and analytical tools to automatically monitor and control two-way energy flow and create a smarter grid with economic and environmental benefits.”

### **Smart Grid Investments**

Infrastructure investments are at the forefront of stimulus packages around the world to spur economic growth. Smart systems are transforming energy grids, supply chains, water management and the healthcare industry to name a few. Modernising the power grid provides consumers with the information to understand their energy usage and take actions to reduce wasteful use and integrate renewable (intermittent) energy sources like solar and wind. IBM is working with clients in nearly 50 smart grid engagements across emerging and mature markets, including Australia.

For further information about how IBM is helping to transform the energy industry, visit <http://www-07.ibm.com/innovation/au/smarterplanet/topics/utilities/index.html>.

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