|  |
| --- |
| **Name of project** |
| Smart Grid, Smart City |
| **Location** |
| Australia : Newcastle, Sydney and the Upper Hunter |
| **Time frame** |
| The trial is scheduled to run until 30th September 2013. Further investigation required about the start and end date for the project. |
| **Lead organisation** |
| Developed by the Australian Government -consortium led by Ausgrid |
| **Sponsor/source of funding** |
| Assumed - Australian Government |
| **Distribution, retail or both** |
| There are two major customer trials taking place as part of Smart Grid, Smart City; the network customer trials run by Ausgrid and the retail customer trials are offered through EnergyAustralia. |
| **Mandatory or opt-in** |
| Opt-in |
| **Trial or roll-out** |
| Trial |
| **Brief overview of project** |
| EnergyAustralia and Ausgrid are set to start a series of innovative trials aimed at giving consumers more control over their energy use in Sydney and the Upper Hunter region as part of the government’s Smart Grid, Smart City project.  Four products will be trialled:  • FlowSmart – households are rewarded for reducing energy use during six pre-notified air conditioning events. During these events, the air conditioner’s compressor will be remotely switched off for 15 minutes per hour, while the fan will continue to operate. Customers can earn up to $44 for each event, or up to $264 total.  • PriceSmart – customers enjoy lower rates throughout the year and will be notified before a high rate peak price event so they can better manage their energy use. There will be up to 14 peak events a year, lasting from one to four hours. Participants will be notified prior to events via SMS.  • BudgetSmart – customers pay in advance and are rewarded with a 12.5 percent discount off their whole bill when they stay in credit. Customers will be notified via SMS when their credit is estimated to run out of credit within 7 days.  • SeasonSmart – customers will receive a substantially lower rate in Spring and Autumn, and will be given insights on how to manage their costs in the higher-priced Summer and Winter period. Some customers will also be eligible to receive feedback technologies which can help them further understand their energy use and costs.  “Customers taking part in this trial can save money and help shape the way Australians use electricity in the future,” said EnergyAustralia’s group executive manager of retail Adrian Merrick. “The insights we gain from this trial will help influence future investment in grid infrastructure and development of customer applications and offers.”  Currently recruitment is under way for the voluntary trials, which will continue until September 2013.  These trials complement the ongoing energy market reform work being undertaken by the Standing Council on Energy and Resources and the Council of Australian Governments to ensure that the national energy market is run in the long term interests of consumers.  Ausgrid is testing various technologies throughout the Smart Grid, Smart City project. These trials are either part of the grid-side trials or the network customer trials.  The grid-side technologies are being run on the electricity infrastructure. Innovative monitoring and measuring devices are currently being trialled on our grid to improve the reliability and efficiency of the electricity network. New grid-side devices, such as the fault isolating intelliRupter allow emergency crews to remotely monitor electricity supply, find faults and restore power quickly and more efficiently.  The network customer trials encompass Home Energy products, distributed generation and storage, the electric car trial and the Smart Home. These trials explore ways to improve consumer understanding of their energy consumption, to reduce peak load demand on the network and to understand how changing behaviours and technologies will affect the network in the future.  http://www.smartgridsmartcity.com.au/About-Smart-Grid-Smart-City.aspx |
| **Customer type and number of participants** |
| Residential. At least 30,000 smart meters will be installed at homes in the trial areas. |
| **Technology used (high-level functionality)** |
| **Home monitor system**  Selected homes with a smart meter will be offered a home monitor system. This online tool lets customers see detailed information about your energy and water use in real time. Customers can also track their greenhouse gas emissions and estimated energy costs.  **Simple and advanced energy display**  Selected households will receive a simple energy display. This digital device communicates with the smart meter, and helps customers to monitor costs and total household energy use in real time. Other households will receive an advanced option that shows a wider range of information through a touch-screen display.  **Home control system**  Tracks the energy use of up to 10 appliances in a customer’s home. It even allows customers to switch appliances on and off from anywhere with internet access. The online tool works with a home monitor system to give greater control over power costs.  **Demand response control**  Selected households will have the opportunity to join a trial of air conditioner and pool pump cycling, called demand response control. With their consent, Ausgrid will remotely put these high-energy appliances in a low power mode at peak times. For example, the air conditioner compressor would be switched off automatically whilst the fan continues to run, reducing the electricity cost with little change in comfort. Giving households options like this may help networks even out the peaks in electricity use, reducing the need for costly infrastructure in the future.  **Hot water load control**  One of the main ways to manage peak demand is by heating hot water in off peak times. This is done by sending a signal over power lines, called ripple technology. They are testing a wireless, more reliable way to control off peak hot water using a smart meters’ load control switch.  **Online Water Management**  Using wireless communications, a customer’s water meter can ‘communicate’ with a smart meter. This makes the smart meter a hub for information on power and water use, which can be accessed online through a home monitor system. Project partners Hunter Water and Sydney Water will install these smart water meters at a number of households.  **Who receives the new technology?**  A detailed trial has been designed to gather information on the potential of different technologies to transform the way customers use and supply power in Australia. A wide cross section of households is needed to do this. They’re relying on a large part of the community to make the program a success. Thousands of homes across the trial areas will be invited to join Smart Grid, Smart City. Location and other technical requirements will make customers eligible to participate depending on the technology tested.  Ausgrid is trialling a number of products for customers throughout Smart Grid, Smart City. See below for the full list of network customer trials with more detail on each trial and technology:   * [Community generation and storage](http://www.smartgridsmartcity.com.au/Ausgrid-trial/Network-customer-trials/Distributed-generation-and-storage.aspx) * [Electric cars](http://www.smartgridsmartcity.com.au/Ausgrid-trial/Network-customer-trials/Electric-cars.aspx) * [SGSC Home Energy Assessment](http://www.smartgridsmartcity.com.au/Ausgrid-trial/Network-customer-trials/SGSC-Home-Energy-Assessment.aspx) * [SGSC Home Energy Monitor](http://www.smartgridsmartcity.com.au/Ausgrid-trial/Network-customer-trials/SGSC-Home-Energy-Monitor.aspx) * [SGSC Home Energy Online](http://www.smartgridsmartcity.com.au/Ausgrid-trial/Network-customer-trials/SGSC-Home-Energy-Online.aspx) * [SGSC Home Energy Rebate](http://www.smartgridsmartcity.com.au/Ausgrid-trial/Network-customer-trials/SGSC-Home-Energy-Rebate.aspx) * [SGSC Home Energy Network](http://www.smartgridsmartcity.com.au/Ausgrid-trial/Network-customer-trials/SGSC-Home-Energy-Network.aspx) * [The Smart Home Family](http://www.smarthomefamily.com.au/) |
| **Means of interaction with customer** |
| Letters, communication packs, door-to-door, video, websites and surveys |
| **Appliances targeted** |
| See the technology section |
| **Period and duration of interruptions (for direct load control)** |
| Further investigation required |
| **Level of load reduction (overall and peak)** |
| Further investigation required |
| **Consumer Experience** |
| The project has only issued interim results. |