

Description of integrated pilots/demonstrations/field tests/existing practices

1. Black Town, solar city - Australia

2. What is integrated with DSM

DG

Energy storage

Smart grid technologies

3. What is the level of commercialization

Research project

Demonstration

Field test

Existing practice

4. Where to find more information?
www.greenhouse.gov.au/solarcities

5. Objectives of the case

Solar Cities is an innovative programme which is designed to demonstrate how solar power, smart meters, energy efficiency and new approaches to electricity pricing can combine to provide a sustainable energy future in urban locations throughout Australia.

6. Business rationale/model

Solar Home offers

1. Supply and installation of 1 kilowatt solar electricity system. Regular price \$16,179 (inc. GST), Blacktown Solar City price \$4,998+ (inc. GST).

2. Supply and installation of 1 kilowatt solar electricity system and a solar hot water system. Regular price \$22,860 (inc. GST), Blacktown Solar City price \$7,808+ (inc. GST).

3. Supply and installation of 1.5 kilowatt solar electricity system. Regular price \$23,870 (inc. GST), Blacktown Solar City price \$8,166+ (inc. GST).

4. Customers in Landcom's newest suburb "The Ponds" can sign up for a discounted BP Solar electricity system with the option of a discounted ANZ mortgage to help fund it. Regular price \$15,629 (inc. GST), Blacktown Solar City price at "The Ponds" \$3,691+ (inc. GST).

Business offers

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5. Solar offer: Special financing deals from ANZ will be made available to businesses in the area to allow the installation of commercial-size solar systems at heavily discounted prices.

6. Business energy efficiency program. Medium to large business have the opportunity to take up a discounted energy efficiency audit of their operations. The audit will investigate cost-effective ways to cut energy use and then help the business to implement them.

Energy Saver Trials

As a part of Blacktown Solar City, Integral Energy is running four voluntary 24-month Energy Saver Trials starting from October 2007. The trials will take place in nine suburbs: Blacktown, Glenwood, Kings Langley, Kings Park, Lalor Park, Parklea, Prospect, Seven Hills and Toongabbie.

7. Air Conditioner Saver: Participants will have their air conditioner remotely cycled on for 40 minutes and off for 20 minutes each hour during 'peak energy periods'. A previous study has shown that household temperatures rise by an average of only 1-2°C during this time, whilst reducing energy consumption by up to 30%.

8. Pool Pump Saver: Participants will have their pool pump turned off automatically on 12 hot days over summer, during 'peak energy periods', saving on electricity costs.

9. Dynamic Peak Pricing: Participants will be charged a premium electricity tariff during a limited number of 'peak energy periods'. For the remainder of the year they will pay a lower electricity tariff than currently charged. Changing the times non-essential energy is used can allow substantial savings.

10. Seasonal Saver: Participants will be charged higher electricity tariffs on weekdays during the warmer months and a lower electricity tariff at other times. Changing the times non-essential energy is used can allow substantial savings.

Other products to help homes save energy

11. Free Home Energy Consultations. Residents will have the opportunity to have energy experts visit their home and provide advice on simple changes that can reduce their energy consumption.

12. Discounted roof insulation package including installation.

13. Free energy efficiency pack: Residents have the opportunity to collect a free pack for their home including six energy efficient light globes.

14. Discount Vouchers for Energy Efficiency: Blacktown Solar City has found the best deals in the Blacktown City area for energy efficient products and services and put them together in one booklet which will be distributed to all residents of Blacktown City.

15. Standby Power study: Residents have the opportunity to participate in a study that will identify homes with high standby consumption and offer advice on how to reduce it.

7. Technologies used

Energy options being trialed through the Blacktown Solar City include:

860 solar photovoltaic panels will be installed on private and public housing and on commercial and iconic buildings - this equates to over one megawatt of solar energy. Help to finance their solar systems will be available to consumers.

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More than 2,100 solar water heaters will be installed in private and public housing.
3,500 energy efficiency consultations for households and businesses.
30,000 energy efficiency packs will be available for households and commercial customers, to support their energy efficient choices.
1,000 customers will be offered the opportunity to adopt pricing structures that allow them to save money by changing the times they use energy.
200 households will receive discounted ceiling insulation packages to participate in a trial to measure energy savings from properly installed insulation.
A trial will be conducted to allow customers to more efficiently manage their air conditioners and pool pumps during periods of peak electricity demand.
4,000 smart meters will give residential customers timely information on energy use.

8. Short description of the case
Solar Cities is a \$75 million initiative announced by the Prime Minister in the Energy White Paper, Securing Australia's Energy Future, in June 2004.
9. Achieved/expected results (operational savings, CO₂, efficiency enhancement)
 - savings of over 22 gigawatt-hours of electricity annually
 - greenhouse gas emissions reduced by more than 24,000 tonnes each year
 - annual savings of approximately \$3 million in electricity bills for the Blacktown City community
 - valuable information and lessons learned will inform energy and greenhouse policies.
10. Lessons learnt
Started in 2007. Lessons not available.

Note: There are 4 other solar cities in Australia. They all work according to the same principles.