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ENERGY QUARTERLY | APRIL 2011

A smart vision for WA's energy future

Zoo becomes home to Perth's biggest solar PV site

Severe weather tests response crews

Let there be efficient light



CONNECTING PEOPLE WITH ENERGY

Zoo becomes home to Perth's biggest solar PV site

Perth Zoo is now the biggest solar site in Perth after its large scale solar system was officially unveiled by Environment Minister, Bill Marmion on 8 March 2011.

As part of the Perth Solar City program, led by Western Power, Perth Zoo installed more than 300 solar panels across eight buildings including the elephant barn, reptile encounter, education classrooms and other visible areas at the zoo.

Western Power Managing Director, Doug Aberle said the 90.9 kW solar installation would produce more than 120,000 kWh of energy per year providing 25 per cent of the Zoo's annual energy requirements.

"The 303 solar panels are stage one of a two stage, \$2.7 million installation project and will demonstrate to the broader community the economic and environmental benefits of wiser energy choices," he said.

"Perth Zoo will be well positioned to showcase sustainable ways of living, with on-site educational material for its 630,000 annual visitors," he said.

Perth Zoo was chosen as one of five identifiable sites to showcase major solar installations as an environmentally sustainable source of energy that reduced carbon emissions. Other sites include the Central Institute of Technology and the Midland Atelier, which have been completed, as well as the Kings Park Naturescape and Perth Arena.

Western Power worked with the State Government, Perth Zoo and SunPower to install the solar system.

On the cover: Western Power and Building IQ have won Project of the Year at the Sustainable Energy Association of Australia's 2011 Awards for Excellence and Innovation for our partnership on the Perth Council House Project. The project tested Building IQ's software and its ability to reduce heating, ventilation and air conditioning energy consumption and peak load demand.
Photo courtesy City of Perth.

200

emergency and hazard situations attended to in 24 hours during the storm in Perth's north east suburbs

1,612

properties had power restored within 52 hours during the Roleystone fire



Severe weather tests response crews

Western Power response crews earned praise from the community after working hard to restore power following extensive damage to the network caused by recent severe storms and fires.

Cyclone Bianca, together with a series of summer storms in the Mid West and Wheatbelt, saw the loss of more than 300 distribution poles and 33 transmission poles. A further sudden storm in Perth's north east suburbs resulted in 55,000 customers losing their power.

Fires in the Perth Hills and Swan Valley also caused extensive damage, including the loss of 70 power poles. Western Power had to temporarily cut power to around 2,000 homes to ensure the safety of fire fighters as they moved through the area.

Doug Aberle said, "The quick and efficient response of our teams has once again demonstrated our commitment to assisting customers in times of great need to restore power as quickly and safely as possible."

Extra funding approved for vital work

The State Government recently approved an extra \$45 million in funding to Western Power, including \$29.94 million for reliability improvement projects and \$15 million for the installation of automation equipment.

From this investment Western Power will deliver the following:

- \$430,000 on lightning mitigation in the Mid West
- \$370,000 on wildlife proofing of overhead lines in Canning and Gosnells
- \$260,000 on the installation of 270 distribution automation devices across the network

Western Power will also install outdoor circuit breakers to 34 substations in the network and replace 405 pole top switch disconnectors.

A smart vision for WA's energy future

Western Power has welcomed the Strategic Energy Initiative *Energy2031* Directions Paper, launched by Hon Peter Collier MLC, Minister for Energy in March 2011.

Western Power Managing Director Doug Aberle said Western Power has been a strong advocate of the need to develop a comprehensive vision for WA's energy sector and applauds the Energy Minister for pursuing the development of an overarching energy policy.

“Western Power is particularly pleased to see a strong emphasis on developing a smarter network to support the State's future energy needs while emphasising the importance of being more efficient in the way we consume energy,” Mr Aberle said.

“It is important to provide clarity, not only for industry and policy makers but also for the public, who are increasingly voicing an interest in more sustainable energy options,” he said.

Western Power provided a submission to the Strategic Energy Initiative's Issues Paper focusing on balancing the need for security, sustainability and prosperity in the sector.

“Western Power welcomes the opportunity to comment on the Directions Paper and encourages all other interested parties to contribute to this important public policy initiative.”

“Our electricity infrastructure is made up of long-lived assets that will serve the community for up to 50 years. The Directions Paper provides the guidance we need to make investment decisions prudently and efficiently.

“The vision provided by the Strategic Energy Initiative: *Energy2031* Directions Paper gives impetus to the development of a sophisticated, dynamic and efficient energy sector,” Mr Aberle said.



Western Power's seven strategic directions outlined in our *Energy2031* Issues Paper submission:

1. Improving energy efficiency and energy conservation
2. Adopting an Electricity Pricing Policy for WA
3. Considering the transition to a Constrained Access Network
4. Building a framework for “Generation Park” planning
5. Preparing for the transition to Electric Vehicles
6. Developing distributed generation across the SWIS
7. Overcoming the challenges of intermittent generation

For more details, see the full submission at westernpower.com.au

120,000

calls managed by Western Power's Customer Service Centre in 36 hours during Perth's north east suburbs storm

Global news

Energy efficiency mandatory

The Tamil Nadu Electrical Inspectorate is contemplating making energy efficiency mandatory in all commercial buildings in the Indian state of Tamil Nadu. Energy audits in buildings exceeding 1,000 sq m have shown that the energy saving potential in lighting, cooling and ventilation is between 20 and 50 per cent. This move aims to reduce the pressure on generators caused by a dramatic increase in power demand.

(source: *The Times of India*, 21 March)

South Africa unveils nuclear future

The SA cabinet has approved a power generation master plan that calls for nuclear technology to become the single biggest new generator of electricity. The 20 year, integrated plan also puts a strong emphasis on renewable energy as the country tries to move away from coal-fired power generation and significantly reduce greenhouse gas emissions.

(source: *The SA Times*, 17 March)

Duckweed energy

Oregon company, Pacific Domes, has figured out how to generate cheap, clean electricity from duckweed - which grows on ponds and other still or slow-moving bodies of water. The global marketer of geodesic domes say their patented system is capable of producing a megawatt of electricity for the same price as coal or nuclear energy - and significantly cheaper than wind or solar. The systems can power a single home or be expanded for a municipal utility.

(source: *The Columbian*, 13 March)

Let there be efficient light

A new range of energy efficient streetlights has been launched after the completion of a successful two year trial to replace the old, 80 W mercury vapour lamps.

The environmentally friendly, energy efficient streetlight range is now available to local governments.

Western Power, Synergy and the City of Armadale, completed a two year trial which assessed the performance of two new sustainable technologies.

Streetlights Manager, Wendy Barton, said the trial was an effective way of measuring whether the new globes would be viable and sustainable in the unique Western Australian environment.

"We looked at the possibility of implementing these technologies in response to feedback from local councils," she said.

Councillor Pat Hart, South East Regional Energy Group Chairperson said: "The Cities of Armadale and Gosnells and Serpentine Jarrahdale Shire are thrilled the trial in Armadale was a success."

"Street lighting accounts for up to 50 per cent of local governments' annual greenhouse gas emissions, so the introduction of energy efficient street lighting will be welcomed by all WA local governments as a means of slashing their carbon footprint."



People

Environment, Community and Approvals Manager

Roger Fletcher leads Environment, Community and Approvals Branch at Western Power, which is responsible for environment, community engagement, sustainability assessment, site selection, approvals, land access and project management of these issues. The branch is focused on driving commercially prudent assessments and responsible decision making balanced by a strong customer centric approach.

Smart Grid Development Manager

Lisa Cunningham has led the introduction of a range of smart grid trials as well as the establishment of Western Power's demand management capability and Perth Solar City program. This has enabled Lisa to oversee the development of Western Power's Smart Grid roadmap and business case, and define a vision for the future of the smart grid in WA.



Land Development Relationship Manager

Partnering with peak industry bodies, **Megan Allan** ensures the voice of the development industry is heard in relevant decision making. As part of the wider Market Segment Management team, Megan is working to drive higher standards of service as we move to becoming a more responsive and customer focused organisation.



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