

19th November 2014

INTEGRATION, NOT 'DEFECTION', THE FUTURE OF ENERGY

New economic research has highlighted the significant benefits to customers of their electricity grid connection.

While recent advances in solar and storage technology mean customers could choose to leave the grid entirely, the independent analysis by Oakley Greenwood¹ shows it is unlikely to deliver better financial outcomes or services.

Energy Networks Association CEO John Bradley said the study quantifies the often "hidden" services that customers receive from the Grid, and how much it would cost a customer to supply themselves.

"This research shows that, to provide a nearly equivalent service, a stand alone power system would cost \$596 to \$850 per month or 5 to 6 times the cost of grid supply" Mr Bradley said..

"Do-It-Yourself is unlikely to be the best outcome - over the course of a year, the connected customer is up to \$8,700 better off than they would be with a stand alone power system providing a nearly equivalent service.

"A disconnected customer would also lose grid benefits like the ability to sell surplus energy or participate in new markets which may emerge using distributed energy resources like battery storage.

"The Grid will be the gateway for better, more efficient energy services – so quitting the Grid is like turning off WiFi", Mr Bradley said.

Mr Bradley said the study demonstrated the shared benefits for both the Grid and solar customers in maintaining grid connection.

"The report estimates a connected solar customer provides benefits of up to \$10 per month by assisting in deferring network investment," Mr Bradley said.

"However, the same solar customer also receives \$69 per month in value by staying connected to the grid because they retain a backup supply (\$61 per month) and are able to sell surplus energy (\$8 per month)."

Mr Bradley said the Oakley Greenwood report also highlighted the need to reform current electricity network tariffs based on volume charges, which don't reflect network cost drivers.

"Oakley Greenwood estimates a grid-connected customer with solar is effectively receiving a cross subsidy of \$98 to \$163 per year under current tariffs from other customers.

"This follows similar analysis for the Australian Energy Market Commission which also found outdated tariffs allow customers using air-conditioning at peak times to receive a cross-subsidy of up to \$700 per year from customers who do not.

"Australians continue to install solar panels at world leading rates of penetration and in many parts of the network we are seeing energy flows reverse during the day as surplus energy floods the grid.

"This more dynamic, interactive environment will require fundamental changes in network planning, operations and pricing but our Grid provides a unique platform enabling consumer benefits."

Mr Bradley said the grid provides a range of services that are often “hidden” but which consumers benefit from, including:

- **Startup power services**, supporting appliances like air-conditioners that temporarily increase required energy load by 4 to 5 times when starting up;
- **Balancing services**, instantaneously adapting to the customers changing demand throughout the day (which can be difficult for solar PV systems alone);
- **Power quality services** that protect the safe operation of home appliances.

“In the future, electricity users will have more choices about the source of their energy supply.

“Customers might take supply from the grid, a combination of onsite sources and the grid – or they may consider leaving the grid entirely.

“It’s important these choices are supported by good information about the costs and benefits of their supply options,” Mr Bradley said.

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.

ⁱ “The Value of a Grid Connection to a Distributed Generation Customer”, Oakley Greenwood, November 2014 is available from www.ena.asn.au

MORE SERVICES THAN YOU MIGHT THINK ...

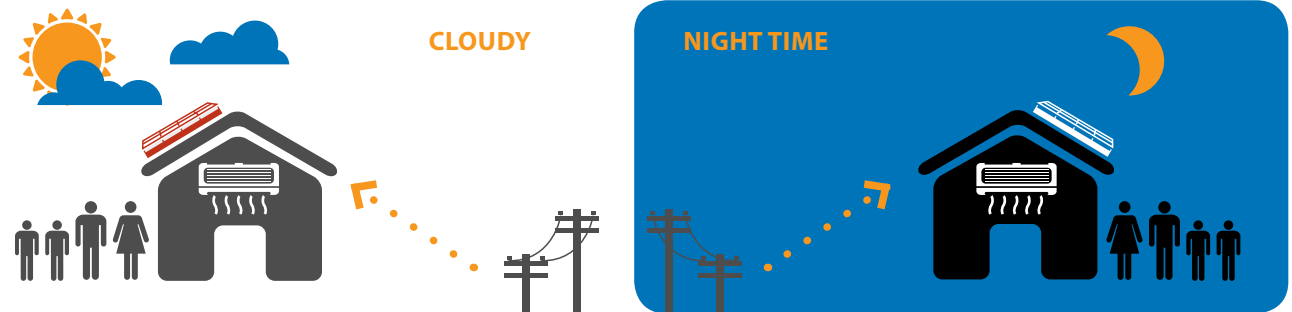
In the future, energy users will have more choices about the source of their energy supply. They may take their energy from the grid, or a combination of onsite sources and the grid. Some may consider leaving the grid entirely.

The grid provides a range of services that are often hidden, but which consumers benefit from.

YOUR GRID - WORTH A CLOSER LOOK.

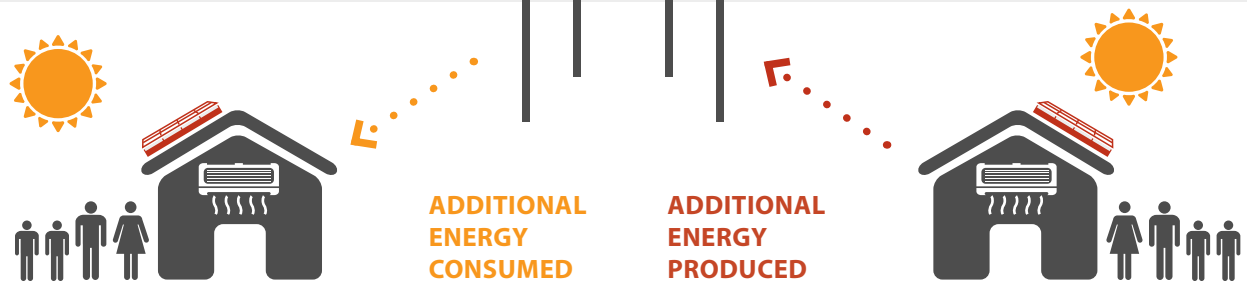
Back up services...

To provide reliable power at night or when it is cloudy.



...and market access...

Enabling consumers to sell their power into the grid.



Plus...

Startup power services supporting appliances like air-conditioners which increase energy load by up to 4 to 5 times when they start.

Balancing services that instantaneously adapt to the customers' changing demand throughout the day – which can be difficult for a rooftop PV that isn't connected to the grid.

Power quality services that protect the safe operation of home appliances.

VALUE OF THE GRID TO SOLAR HOUSEHOLDS...

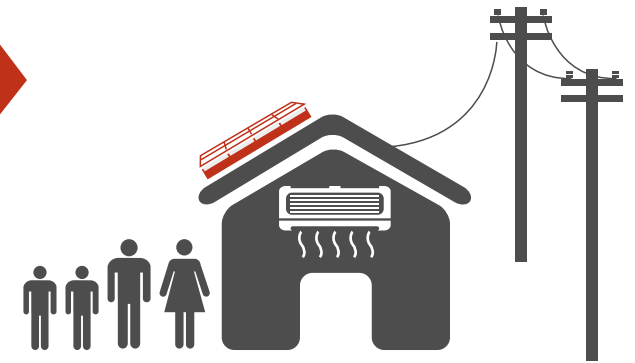
The grid delivers value for solar households

Grid services to solar customers are valued at \$69 per month in benefits, including \$61 in backup energy which would be otherwise unserved and \$8 in export sales to the Grid.

VALUE OF \$69
per month

A solar customer helps to lower the cost of network services, estimated at approximately \$10 per month.

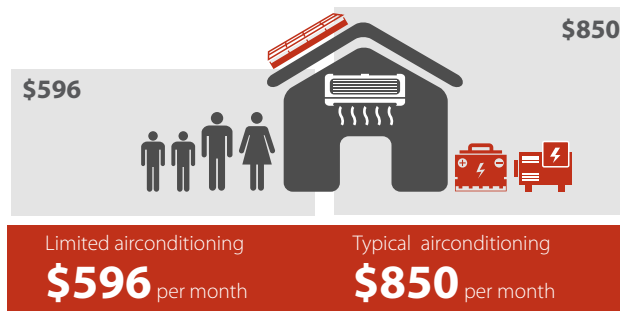
VALUE OF \$10
per month



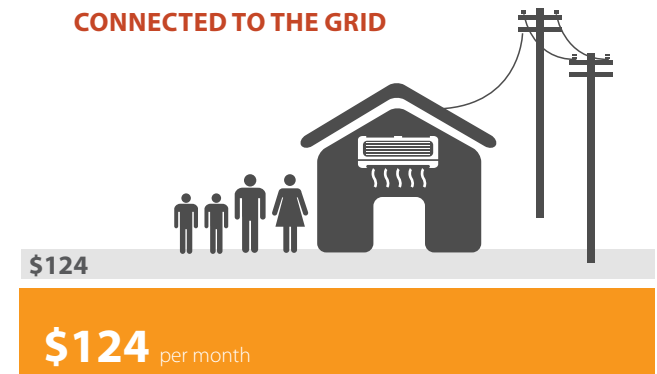
...at a lower cost than DIY

A Grid service continues to provide significant value compared to a stand alone system. For one-fifth of the cost of a stand alone system the Grid supports a full range of customer appliances, allows customers to export excess energy and participate in new markets. To provide an equivalent service, a stand alone system can cost approximately \$56,500 for a home with limited air-conditioning use or \$72,500 for a home with typical air-conditioning use.

STAND ALONE SYSTEM



CONNECTED TO THE GRID



Note: Based on Oakley Greenwood report, Value of a Grid Connection to Distributed Generation Customers, analysing a NSW residential customer