



GreenPower fact sheet

This fact sheet tells you all about GreenPower, which is government accredited renewable energy. ARRCC encourages householders and communities to switch to GreenPower as a part of their response to climate change. For communities, our [Climate Action Kits](#) will give a more complete picture of how it may be possible to respond.

When thinking about GreenPower, we encourage you to continue to keep in mind the importance of reducing your electricity consumption through energy efficiency measures. These measures will decrease the pressure in Australia to generate electricity. It will also save you money which you can then put towards the extra costs associated with using electricity produced from renewable energy sources. Restraining our consumption is also consistent with the teachings of many religious traditions which put much greater value on our relationships with each other and the Earth.

1. What is GreenPower?

GreenPower is renewable energy sourced from the sun, the wind, water and waste that is purchased by your energy company on your behalf. Companies generate electricity at a range of sites across Australia and supply the electricity to a central power grid. Our homes and businesses are connected to this grid so we can access electricity. Traditionally, electricity on the central grid comes from generators that burn coal. Emissions from coal power are the largest contributors to Australia's total emissions. Only a small amount (about fifteen per cent) comes from renewable sources such as sun, wind, water and biomass waste. Energy suppliers who sell accredited GreenPower products buy electricity generated from accredited renewable energy generators on your behalf and feed it into the National Electricity Grid. In Western Australia, the same applies to the South West Interconnected System. Only renewable energy products that display the GreenPower 'tick' are government accredited.



2. How does GreenPower work?

When you purchase GreenPower for your home, you are supporting the production of electricity from renewable sources that meet a strict set of environmental criteria. This clean energy does not feed directly into your power supply, but is added to the electricity grid on your behalf through Large-scale generation Certificates (LGCs) that are purchased from the power station by your electricity supplier. When a retailer sells you GreenPower, the sale is registered in their database. At the beginning of the following year, they must purchase the amount of electricity from renewable energy generators (in the form of LGCs) to match their sales. State government audits of GreenPower providers are conducted each year to ensure the number of LGCs match customers' GreenPower purchases. The more GreenPower that is sold, the more renewable electricity will be generated to match the demand. So using GreenPower for your events is a great way to push for increasing renewable energy supplies in Australia. Since 2009 more than \$500 million has been invested back to generators through GreenPower purchases. As well as driving investment in Australia's renewable energy sector, households and businesses that purchase GreenPower are reducing their impact on the environment, because the energy they purchase has no net greenhouse gas emissions.

GreenPower purchases send a signal to the market that demonstrates demand for renewable energy. If all households in Australia bought GreenPower this would lead to 50% of the power in the National Electricity Market generated from renewable sources.

3. How are providers accredited?

GreenPower only accredits companies that produce electricity from 'eligible' renewable energy resources. Currently there are more than 169 new renewable energy generators that are accredited under the GreenPower program. GreenPower is jointly run by the NSW, ACT, QLD, SA, and Vic governments, and is available for purchase in all states and territories of Australia.

GreenPower accreditation standards include:

- Only allowing generation from facilities built since 1997
- Not allowing the use of native forest wood waste in biomass generators; and
- Allowing hydro generation that involves the redirection of environmental water flows in rivers.

Purchasing accredited GreenPower will cut your emissions, reduce your contribution to climate change, drive demand for greener energy and develop the renewable energy sector.

Accreditation requires annual auditing of your electricity retailer's GreenPower sales, to make sure that your money is really going towards what you think it is. Non accredited renewable energy is not audited and green claims are therefore untested.

from www.greenpower.gov.au

4. How do you switch to GreenPower?

Switching to GreenPower is easy. Simply phone your electricity company or apply online. You don't have to change your electricity supplier, your meter box or your existing electricity contract, and you will still get the same reliability of supply.

If your electricity supplier does not have the product you're after, shop around to find the most suitable GreenPower option for your home.

The Australian Energy Regulator has created a new price comparison website www.energymadeeasy.gov.au to assist households in comparing electricity offers (including the GreenPower component) between different providers. The price comparison feature of the [Energy Made Easy website](#) is only available in states and territories where the new National Energy Retail Law has commenced (as on 1 Jan 2017 these include ACT, NSW, TAS, QLD and SA). Customers who live in other states or territories not covered in the Energy Made Easy website may be able to access other energy price comparison websites in their respective jurisdiction.

Another helpful source of information is www.youcompare.com.au or 1300 683 009.

As always, make sure you consider all the fees and costs associated with swapping to another company. Should your circumstances change in the future, most GreenPower contracts can be left without paying a cancellation fee, but always read the fine print or ask your electricity supplier if you are in doubt.

Some questions to ask suppliers before making your decision, include:

- What GreenPower options are on offer?
- How much will the GreenPower component cost?
- Are there any fees associated with switching to GreenPower – for example, ending an existing contract, or changing the amount you pay for standard electricity?
- Will I still get a discount if I pay my bill on time?
- Do the fees vary based on the percentage of GreenPower used, and if so, by how much?
- Do you send a letter of confirmation, to customers who switch?
- Check whether you need to sign up for a fixed term or if the new contract is flexible. Some retailers require you to sign up for two or three years to their package.

You can check available GreenPower providers in your state on the site at www.greenpower.gov.au

5. Does GreenPower cost more?

The short answer is, in general, yes. GreenPower costs more than standard electricity because it is part of building completely new infrastructure for the grid. But, as with any new technology, development and improvement will see the costs reduce as the infrastructure and demand for it grows.

An estimate of the cost of GreenPower is around 5-8 cents per kWh more than your current electricity rate, if you elect to purchase 100 per cent GreenPower. But every little bit counts towards an investment for future generations. A smaller contribution of 10-25 per cent GreenPower will cost as little as 80 cents to \$1 a week, equating to less than the cost of two cups of coffee over a month.

The money that goes to the electricity generators and providers of GreenPower feeds back into the renewable energy sector, helping to build and improve the technology. So like any new technology, the costs might be a little more now, but building a future grid that is supplied by renewable energy will generate savings down the track – both financial and environmental.

You do not have to change your current electricity provider to take up GreenPower, but there may be a fee involved with leaving your current provider, so read the fine print.

You can also offset GreenPower costs through other energy efficiency measures. One of the best things that individuals can do to reduce their greenhouse gas emissions from electricity is to use less. Simple measures will reduce your electricity use and save you money, including:

- switching off lights in rooms you are not using;
- heating and cooling only the spaces you use; and
- buying energy efficient appliances.
- look for the Energy Rating stickers on whitegoods and Energy Star electronic equipment.

These kinds of measures can save you hundreds of dollars a year. For example, (at 2013 prices) switching off a freezer which consumes 3 - 4kWh per day could save around \$90 every three months.

For more ideas see '[Going green for householders](#)' and the page on [energy efficiency for communities](#) on the ARRCC website.

Purchasing accredited renewable energy can also be used to reduce the emissions from your remaining energy consumption.

from www.greenpower.gov.au

6. Why switch to GreenPower?

Around 90% of electricity used in Australia is still generated from the burning of fossil fuels such as coal and over 34% of Australia's emissions come from electricity generation.

This makes the electricity sector the biggest single contributor to Australia's greenhouse emissions.

The benefit of switching to GreenPower accredited renewable energy is that it does not burn fossil fuels and therefore doesn't produce greenhouse gasses. Other benefits include:

- Reducing your household greenhouse emissions by around 50% by switching to 100% GreenPower;
- Renewable energy does not deplete any resources;
- Driving demand for renewable energy, helping it to compete with polluting coal and gas based generation; and
- Helping to reduce water consumption as renewable energy generators generally use less water than coal and gas powered stations.

Using renewable energy is also actually pushing the price of electricity down. This is because once a renewable energy plant is built, it's very low-cost to run. When the wind is blowing, other power generators will switch off because their energy is too expensive for the market. This pushes down the wholesale cost of electricity for everyone, so by supporting renewables, you're helping bring energy prices down.

7. Does GreenPower differ from solar photo-voltaic power?

Solar power differs significantly from purchasing GreenPower because when you have a solar system installed, you are generating the power yourself and eligible for a number of renewable energy incentive schemes, including state-by-state Feed-in Tariffs and federal government-supported Renewable Energy Certificates (RECs). It is the smaller scale, locally-based generation of energy, including solar hot water and solar photovoltaic (PV) panels on people's homes (although, technically, solar hot water is an energy efficiency technology rather than an electricity generation technology.) It has particularly significant energy and cost benefits – depending on the size of your system it can reduce your household's electricity substantially and save you hundreds, if not thousands, a year on household electricity bills.

ARRCC encourages people to opt for the installation of PV cells on their properties, because it reduces congestion of the networks (the 'poles and wires' that deliver electricity), increases overall reliability and provides direct evidence that energy is being generated from renewable sources. If you have the option available to you, you actually stand to save money in the long-run by installing a solar power generation system. *After some six or seven years, your savings will have paid off the system, after which a substantial portion of your electricity is free.*

However, not everyone can take advantage of or can afford PV cells. For example, many people living in units do not have rooves and others have unsuitable rooves; some people cannot access government rebates; people in short-term rental properties are rarely in a position to have their landlord install micro-generation system; solar PV panels are less financially viable in states without gross feed-in tariffs. For many people, GreenPower is really the only option.

8. Does the energy required to manufacture solar panels and wind generators outweigh the energy they harvest?

No. It does take energy to create solar panels and wind generators, but they generate significantly more energy over their lifetime than the energy expended in producing them. Research has gone into "energy payback time", which is the time necessary for a solar PV panel or wind turbine to generate the energy equivalent to that used to produce it.

The efficiencies of the first PV cells used in the early 1990's were much lower than today. Research on PV panels produced even a few years later in the late 1990's showed that energy payback time was 3 to 4 years. Over their lifetime, these PV panels generated 7 to 14 times the energy required to produce them (K. Knapp, and T. Jester, 2000).

Newer studies also show that it takes less than 2 years for one solar panel to offset its 'embodied energy.'¹ After that, all the energy that the panel produces is completely clean and does not need to be accounted for in any manufacturing processes or raw materials used to make the panel.

An evidence review published in the journal *Renewable Energy* in 2010², which included data from 119 turbines across 50 sites going back 30 years, concluded that the average windfarm produces 20-25 times more energy during its operational life than was used to construct and install its turbines. It also found that the average 'energy payback' of a turbine was 3-6 months.

¹ Fthenakis, V. , How Long Does it Take for Photovoltaics to Produce the Energy Used?, The Magazine For Professional Engineers, February 2012.

(http://www.bnl.gov/pv/files/pdf/236_PE_Magazine_Fthenakis_2_10_12.pdf)

² Ida Kubiszewski, Cutler J. Cleveland, Peter K. Endres, Meta-analysis of net energy return for wind power systems, *Renewable Energy*, Volume 35, Issue 1, January 2010, Pages 218-225, ISSN 0960-1481,

<http://dx.doi.org/10.1016/j.renene.2009.01.012>.

(<http://www.sciencedirect.com/science/article/pii/S096014810900055X>)

Powershop

Powershop is a 100% online energy retailer. Powershop allows consumers to calculate exactly how much electricity they are using and what it costs. They were awarded Australia's Greenest Power Company by Greenpeace in 2014 and 2015.

Powershop is backed by 100% renewable generation, and the company also offsets all carbon emissions associated with its operations and its customer's electricity usage, at no extra cost to the consumer. With Powershop, you can purchase power for yesterday, today, tomorrow, and even for two months ahead – it's your choice. Powershop provides its customers with online tools and smartphone app, which can help you keep an eye on your usage and how much it's costing you anywhere, anytime. There are no lock-in contracts, no exit fees and no credit card fees.

Powershop is currently available in New South Wales, South East Queensland and Victoria the company is investigating adding other states in the future.

How green is Powershop?

Greenpeace ranked Powershop as Australia's greenest power company in 2014 and 2015. Powershop undertake various activities to provide a cleaner alternative for their customers, some of which are set out below:

- Powershop aims to put our customers back in control of their electricity usage. Through their online tools and mobile app, they are empowering customers to know how much electricity they are using, and what it costs as they use it, so they are more conscious consumers.
- Your ability to reduce your energy use is the best thing you can do to reduce your environmental impact: Using less power is good for the planet and good for your pocket.
- Powershop is backed by Meridian Energy, Australasia's largest 100% renewable energy producer with no investments in fossil fuel resources.
- Powershop actively supports the Renewable Energy Target (RET) in its original form. You can see their [submission](#) and a critique of their [campaigning efforts](#).
- Powershop provides a range of GreenPower products for those who want to give increased support to renewable energy generation in Australia.
- Powershop is Australia's first and only 100% carbon neutral electricity retailer. To find out more about what this means here is a [short video](#).
- Powershop is a modern power company. They are 100% online and do not issue any paper bills. Furthermore, they are keenly supporting innovative ways to encourage a greener Australia.
- Powershop is the only Australian retailer that lets you purchase as much or as little GreenPower as you like – you're in control and can choose to purchase more or less GreenPower whenever you wish. It's completely flexible, so for example you can purchase around 26% one month and 100% the next, the choice is yours. In your online account you can also, from time to time, choose a product from a renewable energy project you may wish to support.

Readers of this GreenPower fact sheet, go for it!

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