

Energy and the environment

Answers to some frequently asked questions



What is global warming/climate change?

The greenhouse effect is a natural phenomenon, where gases including water vapour, carbon dioxide (CO₂) and methane (CH₄), build up in the lower atmosphere trapping heat to maintain a stable temperature that allows life on Earth to flourish.

Excessive production of greenhouse gases from activities such as burning fossil fuels, land clearing and increased farming, results in more heat being trapped in the atmosphere causing average temperatures to rise, leading to global warming. This global warming is evidenced by changes to our environment and weather patterns and, if left unchecked, could seriously affect life on our planet.

How is global warming related to electricity consumption?

Electricity generation currently accounts for 35% of Australia's total greenhouse gas emissions and is continuing to grow. This high proportion of total greenhouse gases reflects Australia's heavy reliance on black and brown coal and other fossil fuels for power generation. As demand for electricity grows, it is important to find ways to reduce the greenhouse gas intensity of electricity supply as well as adopt strategies to conserve energy.

Because the electricity sector is the largest contributor to national greenhouse gas emissions, it makes sense to focus on reducing emissions from this source.

What is renewable energy/green electricity?

Renewable energy is derived from sources that do not run out or can be replaced, such as the sun, wind, biomass, waves and hydro.

Green electricity is a term used to describe electricity generated from a renewable source.

What are the common types of renewable generation?

There are a range of methods to produce renewable electricity:

Wind generation involves using the wind's energy to turn blades on windmills or wind turbines to produce electricity.

Solar generation involves using solar (photovoltaic) cells to convert the sun's rays into electricity. Because the sun is an almost infinite energy source, solar energy is regarded as one of the cleanest forms of energy available.

Hydro generation uses flowing water to turn turbines which generate electricity.

Biomass generation produces electricity from organic sources, such as plant material including sugar cane waste and timber residues. Biogas generation uses various gases derived from biological sources such as methane gas from rubbish tips.

We currently provide electricity generated from all the above sources, but we don't buy any electricity generated from the burning of wood waste from native forests.

What is GreenPower?

GreenPower is a government accredited program that provides certification to renewable electricity products. Energy companies can only use the name "**GreenPower**" and the "**GreenPower Tick**" if they meet the strict rules of the program.

All of our GreenPower products are accredited under the rules of the **GreenPower** program, meaning customers can be confident they are purchasing electricity that is genuinely not harming the environment. Customers can also be certain that by purchasing accredited Green Power, they are contributing directly to development of new renewable generation.

Find out more about GreenPower at greenpower.gov.au

Is 100% renewable the same as accredited GreenPower?

There are a lot of green power products on offer and it's important that you have confidence in your choice of purchase. Many products are sold as "100% renewable" but it is only the accredited portion that makes a real difference to the environment.

By buying accredited GreenPower from us you know your purchase is contributing to the growth of new renewable generation and to reducing greenhouse gas emissions.

Will GreenPower actually come to my business?

The physical properties of electricity are the same, whether it has been generated from a renewable source, such as wind, or a non-renewable source such as a coal. When you purchase GreenPower, we ensure that the volume of electricity you nominate as Green Power is generated and fed into the grid on your behalf. Renewable electricity is delivered through the grid in exactly the same way as conventional energy, which means there is no change to your power supply.

Why does GreenPower cost extra?

As renewable energy generation is an emerging industry, it does not yet enjoy the same economies of scale as more established methods of generation. Additionally, costs of locating expertise and sourcing, purchasing and constructing infrastructure in this developing field are often higher.

Although coal-powered electricity may seem cheaper, the retail price does not take into account the total cost to the environment, such as air and water pollution and greenhouse gas emissions - all costs that the community at large must bear.

However, as demand for renewable energy increases, costs are likely to decrease.

How can I be sure that Origin buys the correct amount of GreenPower on my behalf?

As part of our accreditation to sell GreenPower, we must undertake an annual audit to certify we are buying enough GreenPower to match the amount of GreenPower we are selling to our customers.

A summary of all retailers' audited returns can be viewed at greenpower.gov.au

Do I already buy renewable energy – there's a charge on my electricity invoice?

The Renewable Energy Certificate (REC) charge that you pay under your electricity supply contract reflects the Mandatory Renewable Energy Target (MRET). The key differences between the MRET and GreenPower are summarized below:

Mandatory Renewable Energy Target	National Green Power Accreditation
Legislated by Commonwealth Government	Non-legislated guidelines
Participation is mandatory	Participation is voluntary
Applies to all retailers and wholesale electricity buyers	Voluntary participation by retailers and customers
Mandatory targets and penalties set by Commonwealth Government	Targets set by participating retailers
Total Volume is based on a legislated amount	Volume is determined by the customer

What is the Federal Mandatory Renewable Energy Target (MRET)?

The MRET was introduced on 1 April 2001 as part of the Commonwealth Renewable Energy (Electricity) Act 2000.

This legislation requires the generation of 9,500GWh of extra renewable energy by 2010. There are interim targets for each year up to 2010 and then the 9,500GWh target must be maintained until 2020.

Why have a mandatory target for renewable energy?

Australia has the highest greenhouse gas emission rates per capita in the world, with more than one third of emissions created from electricity generation and this is due to our high reliance on fossil fuels such as coal. MRET is designed to reduce greenhouse emissions by stimulating investment in renewable energy generation and technologies.

As the legislation increases demand for renewable energy in Australia, we should see development of more renewable generation, reducing the price of renewable energy.

What are RECs?

Each Renewable Energy Certificate (REC) represents the generation of 1 MWh of renewable electricity. RECs are created following generation and must be registered with the Office of Renewable Energy Regulator (ORER). To comply with the Renewable Energy (Electricity) Act 2000, each liable party must surrender a certain amount of RECs to ORER, based on the volume of their electricity purchases.

How does GreenPower interact with the MRET?

MRET and the National GreenPower Accreditation Program have similar objectives - to reduce greenhouse gas emissions from electricity generation and drive investment in renewable energy projects.

The main difference is that MRET is a mandatory requirement while participation in GreenPower is voluntary.

The two programs operate under different accreditation rules, with GreenPower requiring that the renewable generation delivers a 'net environmental benefit'. This means that some renewable generators which may be eligible for accreditation under the Renewable Energy (Electricity) Act could be excluded from GreenPower if the generation harms the environment in other ways, for example a hydro generation scheme which diverts river flows.

What does "cars off the road" mean?

The analogy of "cars off the road" is sometimes used to illustrate the impact of greenhouse gas emission reductions. The average car emits more than 3 tonnes of greenhouse gases each year. If an average household produces 8.5 tonnes of CO₂ annually from consumption of fossil fuel generated energy, switching to 100% GreenPower would deliver savings in emissions roughly equivalent to taking 3 cars off the road.

For more information

Call Origin Energy Business Direct on

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