



CLIMATE RESCUE OF WAGGA

Time to join the solar revolution

FORGET iPhones, tablets, 3D TVs and home theatre systems. The fastest growing technology in Australia is solar power.

Since 2007 the number of Australian houses with solar panels has jumped from 8000 to over a million.

About a third of all solar systems were installed in 2012.

The Climate Commission predicts that by 2050 the sun will provide 30 per cent of Australia's electrical power.

Increased volumes and better technology mean that prices have dropped dramatically.

A rooftop system that would have set you back \$16 000 in 2008 would only cost you about

\$4 000 today and will pay for itself in about six years or less.

And it is not only domestic roofs that are sprouting photovoltaic cells. Businesses and other organisations are taking up the challenge.

In many cities across Australia, including Wagga, community owned companies and cooperatives are being set up to install medium sized "solar farms" on large local roofs and then selling the electricity they produce to the system "hosts".

Understanding the basics

MOST people understand solar hot water systems that

concentrate the sun's warmth into a hot water tank.

Solar electricity systems (photovoltaic or PV systems) use the sun's light to make electricity, which can be stored in batteries or shared through your meter box with the electricity grid.

Grid connected systems are the most popular and practical approach.

The unit of electricity is the kilowatt hour (kWh) that is one kilowatt being used for one hour. You can read your consumption history on your past electricity bills.

Typical consumption in a stand-alone house in NSW averages about 21 kWh per day, but low

energy houses with careful management can get by on 2 to 5 kWh per day. You can estimate your own average daytime use by checking your electricity meter morning and evening for a week or two.

In a region like Wagga a well-sited solar system should produce about 4.3kWh/day for every installed kW.

If, for instance, your average daytime use is 8 kWh then a 2kW installed system will provide enough electricity to cover your daytime use – and save about \$850 a year.

Solar panels need very little or no maintenance and should last for at least 20 years. Some early

installations are still in use after 40 years.

You will also need an inverter with your system.

This converts the direct current (DC) produced by the solar panels into the alternating current (AC) needed for your home appliances. A good inverter should last about 10 years, but you should check these details with solar suppliers when you are shopping around.

Good solar suppliers are happy to help you tailor the size and design of a system to suit your needs.

They can also suggest ways in which you can reduce your energy use. You will be joining a revolution that saves you money.

D&M

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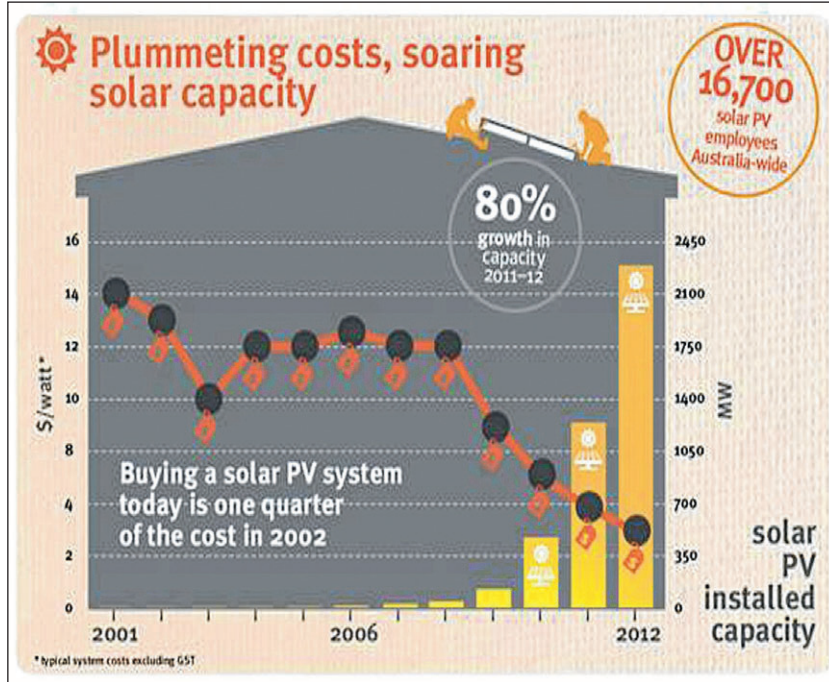
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Picture courtesy The Critical Decade, Solar Energy, Australian Climate Commission

WAGGA WAGGA City Council

RENEWABLES WRAP

Did you know Wagga Wagga City Council has solar arrays for heating of hot water, solar path lighting and generation of renewable energy at various facilities?

The power generated in the last 12 months from these systems is around 70 MWh - enough to power 10 average homes for a year!

Council also purchases 100% GreenPower for the Civic Centre and this has reduced our carbon footprint by more than 1,620 tonnes of CO2e per year. That is like taking more than 500 cars off the road for a whole year!

Council is also investing in a number of energy efficiency projects which include the installation of a co-generation system at the Oasis Aquatic Centre, as well as lighting retrofits, timer and sensor systems at a number of facilities.

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From the past to the future

THE first solid state solar cell was made in 1883.

Unfortunately, it only converted 1 per cent of the sunlight that shone on it into electrical energy, so it was just a scientific curiosity. Early advances were slow.

By the 1950s solar cells were efficient enough (5-10%) to start finding practical uses, notably aboard the new earth satellites.

It was not until the last few years that manufacturing techniques pushed prices down to be competitive with electricity from fossil fuels.

Although efficiencies are still only about 20 per cent, prototypes exist that can push this past 40 per cent.

In the near future we will also see transparent solar cells installed in windows, flexible cells printed direct onto fabrics and cells designed to make electricity from ultra-violet light and infra-red rays (radiated heat).

CLIMATE RESCUE OF WAGGA

Your local community organisation finding answers for a low carbon future

CROW PROMOTES

- Alternatives to conventional fossil energy
- Energy efficiency and low energy housing
- Solar and wind technologies

This year CROW has won a NSW Government grant to set up community solar farms. These are medium scale (about 100kW) solar arrays located on the roofs of host organisations who will purchase the electricity the panels produce at better than grid prices.

RIVERINA COMMUNITY SOLAR FARMS

Your chance to be part of a cleaner, brighter future.

We are looking for Wagga Wagga citizens who are interested to become part owners of a solar farm. CROW has already identified several local businesses and organisations that are keen to become involved as hosts. It is intended that a cooperative or unlisted company will be formed to raise funds to build a solar farm.

INTERESTED IN LEARNING MORE:
Register at www.crow.org.au