

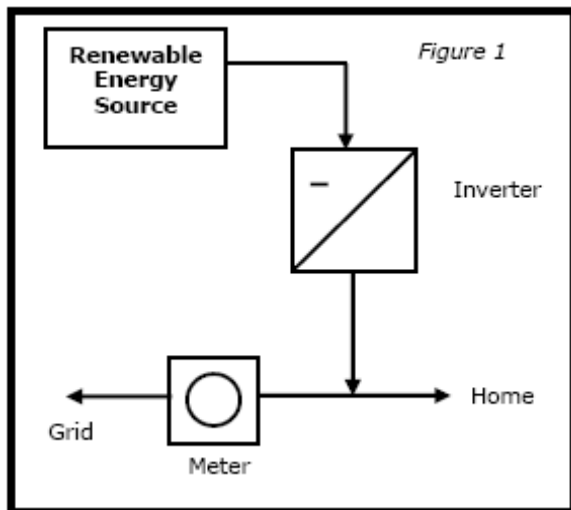
FACT SHEET : GRID-CONNECTED SMALL SCALE RENEWABLE ENERGY SYSTEMS

What is a Renewable Energy System?

There are many sources of renewable energy. In Synergy's Renewable Energy Buyback Scheme, solar photovoltaics, wind turbine and micro-hydro energy systems are recognised as the three most common renewable technologies for residential electricity. A grid-connected renewable energy system can have one or more of these energy sources. A system with more than one type of energy technology is called a hybrid system.

Special power conditioning equipment is required to convert the electricity from the renewable energy source to 240V/AC electricity suitable for your home appliances and for feeding back onto the grid. This includes an inverter to convert the direct current electricity into alternating current. A typical grid-connected renewable energy system is illustrated in **Figure 1**.

Figure 1



Battery storage can be included in the grid-connected system to supply energy at times when renewable energy is insufficient to meet home energy demand. However it is not a necessary component as grid electricity can be used at these times. The battery bank can be charged by excess renewable energy and/or grid electricity. There are however inefficiencies in charging a battery bank, so electricity is wasted.

What does it cost?

A grid-connected renewable energy system for a residential home can cost from \$5,000 to \$50,000. The cost varies due to:

- The technology you choose to use;
- The location of your house and the availability of a suitable site for the renewable source;
and
- The size (capacity) of the renewable system you choose.

As an example, a 1kW solar photovoltaic system will cost around \$9,000 (excluding solar credits) and produce 4 to 7 kWh of electricity each day over the daylight hours. The average electric home uses around 16kWh each day.

Why install a Renewable Energy System?

Renewable energy systems do not produce greenhouse gases and other emissions when generating electricity, unlike the conventional energy sources used to provide us with grid electricity. They also provide you with your own independent source of power and you are able to sell excess electricity back to Synergy.

Where should I place the system?

In order to maximise the output from your renewable energy system, wherever possible your system should face north rather than west. Your supplier can tell you more.

Who does what?

Synergy is an electricity retailer. We buy and sell electricity. We do not own or operate poles and wires (i.e. the electricity network) to transport electricity to you, nor do we own power stations to produce electricity. Therefore, in order to connect your renewable energy system to the Network you need to contact Western Power. In order to sell excess electricity from your system you need to contact us (please see box below).

It should also be noted that whilst Synergy has a Photovoltaic solution available to customers, purchasing a renewable energy system from Synergy is not a pre-requisite for participating in the Renewable Energy Buy back scheme.

Suggested Procedure for Selecting a Home Grid-Connected Renewable Energy System

- 1. There are a number of different suppliers in the market therefore we recommend that you contact a number of System Suppliers for information and quotes on possible systems, and always seek independent advice.**
- 2. Get Local Government approval for your proposed installation.**
- 3. Contact Western Power for a Small Scale Renewable Connection Application Form.**
- 4. If you have chosen a grid-connected renewable system that can export to the grid, obtain application forms for the 'Renewable Energy Buyback Scheme' from Synergy on 13 13 53 or synergy.net.au/REBS**
- 5. Submit your application form to Synergy.**

*** Whilst every care has been taken in compiling this brochure, Synergy and its contractors shall not be responsible or liable for any errors, omissions or misrepresentations made herein, to the extent permissible by law.*

Renewable Energy Buyback Scheme (REBS) Information

1. INTRODUCTION

You can generate electricity for your own use from renewable energy sources by installing your own small-scale renewable system (such as photovoltaic arrays, wind turbines, micro-hydro power systems). Eligible customers can also sell any surplus renewable energy to Synergy by participating in Synergy's Renewable Energy Buyback Scheme.

Most small renewable energy systems will produce more energy than is required at certain times during the day and less than is required at other times. For times when the renewable energy system is producing insufficient energy, eligible renewable users can use energy stored in batteries or connect their system to Synergy's electricity grid (network). Synergy recognises the environmental benefits of renewable energy systems and will buy back excess energy generated from these grid-connected systems at an equal rate (NB: These rates are subject to change. See details below.)

The Scheme applies to customers who are eligible under the Electricity Industry (Licence Conditions) Regulations 2005 with small renewable energy systems with generating capacity from more than 500 watts to 5 kilowatts. To be eligible, you must be one of the following:

- Residential customer with energy consumption of less than 50 megawatt hours per annum;
- A school, university or other educational institution;
- A non-profit making organisation.

2. HOW DOES THE SCHEME WORK FOR RESIDENTIAL CUSTOMERS?

Residential customers joining the Scheme will have the option of choosing between the A1 Tariff and SmartPower rates for electricity purchases from Synergy. (Synergy reserves the right to change the A1 Tariff and the SmartPower rates from time to time in accordance with its normal practices.)

For customers who take up Natural Power or Earth Friendly will continue to pay the NaturalPower rate for the electricity that it buys from Synergy. A1 tariff and SmartPower rates are published on our website synergy.net.au

The Scheme is available for single residential premises.

For multi-residential premises, each premise must be connected to the renewable energy system of a size equivalent to more than 500 watts up to 5 kilowatts to be eligible. Synergy may also require changes to metering arrangements to allow eligible customers at multi-residential premises to participate.

The Scheme may not be available for shared systems (such as tenants in an apartment complex) due to metering constraints.

Meter installation prices may vary and will depend upon circumstances. See Schedule B "Cost to Switch to the Renewable Energy Buyback Scheme" for further details or contact Synergy on 13 13 53.

3. HOW DOES THE SCHEME WORK FOR OTHER ELIGIBLE CUSTOMERS?

The Scheme is also open to schools, universities, other educational institutions and non-profit making organisations. However, as SmartPower is not available to these customers, only the buyback rate equivalent to the applicable Tariff (less the GST component) will be available. If the customer is registered for GST, Synergy will pay the applicable Tariff rate without deducting the GST component. (Synergy reserves the right to amend any Tariff from time to time in accordance with its normal practices.)

4. TERMS AND CONDITIONS

The customer must abide by Synergy's "Terms and Conditions For Purchase of Renewable Source Electricity" (as updated and amended from time to time).

5. FEES AND CHARGES

Synergy will arrange to install an appropriate meter to measure the import and export of electricity. The customer must pay the applicable charges for the meter installation to Synergy.

Please refer to the Terms and Conditions for Sale and Purchase Rates, and Cost to Switch to the Renewable Energy Buyback Scheme.

6. MAKING AN APPLICATION

To participate in the Scheme, eligible customers are required to submit an Application Form ("Renewable Energy Buyback Scheme Application Form") to Synergy.

By submitting an Application Form, the customer is agreeing to enter into a contract with Synergy on the General Terms and Conditions approved by the Coordinator of Energy, as referred to in section 4 of the Energy Coordination Act 1994, once Synergy approves the customer's application.

For customers who do not already have a contract with Synergy for the purchase of electricity the customer will also need to enter into or be deemed to have entered into an Electricity Supply Agreement with Synergy as a condition of participation in the Scheme.

A copy of the Application Form and the General Terms and Conditions are available from Synergy. Synergy will only accept fully completed and signed application forms. No photocopies or faxed copies will be accepted.

7. FURTHER INFORMATION

For further details on the Residential Renewable Energy Buyback Scheme call Synergy on 13 13 53 or speak to your system supplier.

For further information on a Grid-Connected Renewable energy System call the network operator, Western Power on 13 10 87 or speak to your system supplier.