



Government of South Australia

Department of the Premier  
and Cabinet

# ***Fact Sheet***

## *South Australia's Feed-In Scheme for Small-Scale Solar Photovoltaic (PV) Installations*

**July 2008**

**[www.climatechange.sa.gov.au](http://www.climatechange.sa.gov.au)**

# South Australia's Solar Feed-In Scheme

## Introduction

The *Electricity (Feed-In Scheme-Solar Systems) Amendment Act 2008* is the first solar feed-in law in Australia that will pay a premium guaranteed tariff of \$0.44 per unit of electricity (kilowatt-hour, kWh), to households and small customers who feed solar electricity into the grid.

The law commenced on 1 July 2008, and will extend for 20 years.



*South Australia's solar powered museum.  
Image courtesy of SA Museum*

## At a Glance

If you are a 'small electricity customer' in South Australia – that is a household, small business, community building, church or other facility that consumes less than 160 MWh of electricity per annum\* – and have installed or intend to install, a solar photovoltaic (PV) electricity system on your premises, you are able to receive a premium price for any excess electricity you return to the electricity grid.

The scheme rewards customers whenever they generate more electricity than they are using – NOT just the balance at the end of the month or quarter, but whenever generation exceeds consumption during the day.

You will need a meter that separately records the electricity you return to the grid so that, even if it is only for a second, the meter will keep track of any electricity you return. When the meter reader comes around at the end of the month or end of the quarter, the total amount of electricity you have returned and the total amount you have consumed will be read and passed onto the state's electricity distributor, ETSA Utilities.

Under the feed-in scheme, ETSA Utilities will credit you with \$0.44 for every unit of electricity you return to the grid from your solar system (as read by the meter reader). ETSA Utilities will then forward your incentive to your electricity retailer. Your electricity retailer is obliged to pass through the incentive payment which will appear as a credit on your electricity bill. It is expected that electricity retailers will add a further amount to pay for the electricity they receive from you.

Depending on how much solar electricity you produce, and how much electricity you consume while the solar electricity system is generating, this credit could see your total electricity bill approach zero. It may even send you into credit! Some electricity retailers may choose to continue to offer an additional credit for excess electricity fed into the grid. Any such offers will be determined by the electricity contract between you and your retailer.

The scheme will be available from 1 July 2008 until 30 June 2028.

# Frequently Asked Questions

## What is a feed-in tariff?

South Australia's feed-in tariff is a premium electricity tariff (cost per unit of electricity) available to an electricity customer for electricity generated by a small-scale grid-connected solar photovoltaic (PV) system, which is in excess of the household's consumption. To receive the incentive, this electricity must be returned to the grid.

## I am thinking of buying a solar PV system – where should I start?

A list of accredited installers of solar PV systems is available on the Clean Energy Council's website at [www.bcse.org.au](http://www.bcse.org.au), as well as providing information about solar systems and about the federal government rebate scheme.

Once you have decided on the system you would like to buy, your installer should be able to guide you through the connection process, which will include fitting the correct meter.

Your electricity contract will change to allow you to access the feed-in tariff. Check with your electricity retailer to find out what offers they are making to solar PV owners. If you feel you need to shop around further for a good deal, the Essential Services Commission at [www.escosa.sa.gov.au](http://www.escosa.sa.gov.au) offers advice to help in purchasing electricity and gas.

## I already own a solar PV system – do I need to do anything?

If you meet the eligibility criteria your electricity bills should automatically be updated to include feed-in payments after 1 July 2008.

A number of solar PV owners have older style spinning disc meters and will not receive feed-in payments until the meter has been upgraded.

It is worth checking with your electricity retailer to find out what offers they are making to solar PV owners. If you feel you need to shop around further for a good deal, the Essential Services Commission website at [www.escosa.sa.gov.au](http://www.escosa.sa.gov.au) offers advice to help in purchasing electricity and gas.

## How much is it?

The minimum guaranteed tariff is set at \$0.44 per unit of electricity (kilowatt-hour, kWh). Not all retailers may choose to offer contracts to solar PV customers and those that do may choose to add to this incentive.

## How do I know what my electricity retailer will offer?

Those electricity retailers that agree to connect solar PV owners, are obliged to pass through the 44c feed-in payment which will appear as a credit on your electricity bill. Some electricity retailers will add a further amount to pay for the electricity they receive from you, meaning you could receive as much as 64c per kilowatt hour in total. You may need to approach your electricity retailer and confirm the tariff that they will be offering solar PV owners.

## How long is the tariff available for?

The scheme commenced on 1 July 2008. The legislation that establishes the scheme has a "sunset" clause that means the scheme is due to finish on 30 June 2028. Once the scheme commences, all eligible PV systems will be able to receive the tariff until the scheme concludes.

## Will any of the scheme elements change in the next 20 years?

It is not known if any changes will need to be made during the lifetime of the scheme. Of particular interest will be the commitment by the Council of Australian Governments to "consider options for a harmonised approach to renewable energy 'feed in tariffs' in October 2008". South Australia has led the way with feed-in tariffs and Queensland and Victoria have followed suit.

A review is scheduled for the scheme after the first 2.5 yrs of operation or if South Australian PV capacity reaches 10MW. The review could be brought forward if any agreements for a national approach to feed-in tariffs require the South Australian scheme to be modified.

## Will the tariff be indexed or fixed for the 20 years?

The *Electricity (Feed-in Scheme - Solar Systems) Amendment Act 2008* sets the feed-in tariff at a fixed amount of \$0.44 per unit of electricity for the duration of the scheme. It is envisaged that the value of this tariff and other parameters of the scheme will be considered as part of a review, which is likely to occur after the first 2.5 years of operation of the scheme. Details of the review are currently being worked on.

It is important to bear in mind that if electricity prices rise, any power your solar system is providing directly to your home will be worth more.

## Who is eligible?

To be eligible to benefit from the feed-in scheme, a PV system must:

- be operated by a small customer (ie a customer who fits in to the 'small customer' category, defined as consuming less than 160 mega watt-hours of electricity per annum)
- be grid-connected to a distribution network which supplies electricity to 10,000 or more domestic customers (eg ETSA Utilities)
- be connected to the grid via a 'bi-directional' or 'import/export' meter
- fit the definition of a small (PV generator meaning a PV system with capacity up to 10kVA for a single phase connection and up to 30kVA for a three phase connection <sup>1</sup>)
- comply with Australian Standard—AS 4777.

All existing and new systems meeting the eligibility criteria will receive the benefit.

## I am a remote area customer, am I eligible?

To ensure that customers of small electricity networks are not exposed to significant costs as a result of the feed-in tariff, the tariff is only available to networks that supply electricity to more than 10,000 domestic customers. At this stage only the main grid network operated by ETSA Utilities has more than 10,000 domestic customers.

## How does the tariff work?

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<sup>1</sup> Most residential systems are sized between 0.75kVA and 2.5kVA and easily fit this definition.

Most solar electricity systems are connected to the grid through a 'bi-directional' or 'import/export' meter. This meter records the quantity of electricity you draw from the grid to use in your home separately from the amount your solar electricity system feeds into the grid (even if you only export for an instant, the electricity export will be recorded). When a customer's solar electricity system produces more electricity than the building is using, the meter will record some electricity 'exported' to the grid.

Normal charges apply to the quantity of electricity drawn from the grid by the customer. The feed-in tariff of \$0.44 per unit of electricity (kilowatt-hour, kWh) is applied to the total quantity of electricity returned to the grid and REDUCES these 'normal charges' by the subsequent amount.

For some customers, the feed-in benefit may exceed these 'normal charges' and they may end up in credit for some, or all, billing periods.

#### **What if I am in credit?**

The amendments to the *Electricity Act 1996* require that if a customer remains in credit after 12 months, the customer is entitled to have this balance paid rather than maintaining an ongoing credit with their retailer.

#### **What if I have an older solar installation with a 'spinning disc' meter?**

Some older solar electricity systems use a 'spinning disc' meter that rotates backwards when electricity is fed into the grid. However, in order to receive the feed-in tariff the electricity you return to the grid must be separately recorded.

To be eligible for the feed-in benefit you would need to install a 'bi-directional' or 'import/export' meter. Your electricity retailer is able to arrange for ETSU Utilities to install one of these meters. There may be a cost involved in this.

#### **I have a solar hot water system, am I eligible?**

No, this scheme is for systems that generate electricity and feed it to the grid, not for systems that generate hot water.

#### **Are other renewable systems eligible?**

No, at this stage this feed-in scheme will only apply to small customers (consuming less than 160MWh per year) who own a small-scale grid-connected solar PV system. The extent that other technologies such as micro wind turbines are used and would benefit from additional support will be analysed as part of the first review of the feed-in scheme, which is likely to occur after 2010.

#### **Are only new installations eligible?**

All new and existing PV installations are eligible to participate in the scheme providing they meet the eligibility criteria listed above.

#### **What about schools and other non-residential sites?**

The feed-in tariff is available to all sites in South Australia that fit the description of a 'small electricity customer'. As well as residential consumers, this definition will cover small businesses, community buildings, churches and some smaller schools, providing the facility consumes less than 160 MWh of electricity per annum\* and meets the other eligibility criteria.

It is worth noting that if a customer has a reasonable daytime load it is likely to use all the electricity its solar system produces with no excess available to acquire the premium tariff. The customer may be able to maximise the income from their solar system by improving the energy efficiency of their operations and returning some or more power to the grid.

\*As a guide, typical annual electricity bills would be in the order of \$30,000 or less

#### **What other solar rebates are available?**

The Commonwealth Photovoltaic Rebate Programme provides rebates for the installation of solar PV systems on

homes, schools and community use buildings. This programme has recently been renamed the Solar Homes and Communities Plan and a means test has been introduced. For more information, go to the Australian Government Department of Climate Change website at [www.greenhouse.gov.au](http://www.greenhouse.gov.au).

The Commonwealth Solar Hot Water Rebate Programme provides rebates for the installation of greenhouse friendly hot water technologies. For more information, go to the Australian Government Department of Climate Change website at [www.greenhouse.gov.au](http://www.greenhouse.gov.au).

Under the South Australian Solar Hot Water Heater Rebate Scheme, rebates for installation of solar hot water systems are available. More information about this scheme is available at the Energy Division website at [www.dtei.sa.gov.au/energy](http://www.dtei.sa.gov.au/energy).

#### **How much energy does an average system generate? How much can I get back?**

The average PV system installed in South Australia is 1.6kW in size and would typically generate over 2000kWh per annum (depending on exactly where in the state it is installed, its orientation and any obstructions to its solar access).

In South Australia, on average, around half the electricity generated by solar electricity systems is returned to the grid.

If 1000kWh were returned to the grid, the owner would be eligible to receive feed-in benefits of \$440 per annum. If an equal amount of energy was consumed in the owner's household, the system would also be reducing the amount of electricity customers need to purchase, by around \$150-\$200 worth of grid electricity.

Some electricity retailers will add a further amount to pay for the electricity they receive from you, meaning you could receive as much as 64c per kilowatt hour in total. You may need to approach your electricity retailer and confirm the tariff that they will be offering solar PV owners.

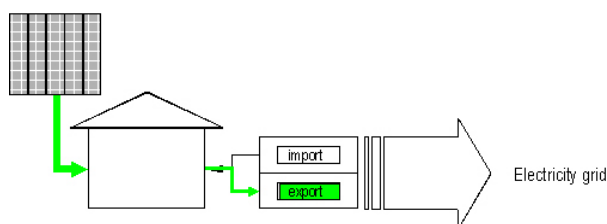
The amount a household returns to the grid will depend on how much energy is being consumed in the house when the solar panels are generating power. PV owners may be able to maximise their income from their solar system by improving the energy efficiency of their house and returning more power to the grid. For example, one could switch off any appliances that aren't needed, shift some tasks to the evening, shade windows to minimise the need for air-conditioning and so on. For more advice on ways to save energy, please contact the Government of South Australia's Energy Advisory Service on 8204 1888, or free call 1800 671 907 (for country callers only).

#### **What are other benefits of going solar?**

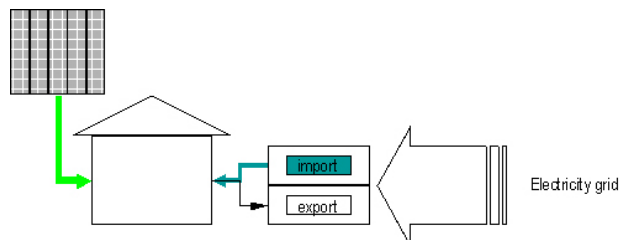
Solar electricity on your roof is one of the best environmentally responsible ways to take control of meeting your household's energy needs. By reducing energy consumption in our homes and sourcing green energy, we reduce the impact we have on our environment and help tackle climate change.

## Metering of PV Systems

The output of the photovoltaic (PV) system is connected to the household loads which in turn are connected to the grid via a bi-directional or 'import/export meter'. When the output of the PV system exceeds the household loads, the excess electricity is fed into the grid via the 'export' register of the meter. The meter records the 'net export' rather than the 'gross production' of the PV system (ie gross production – household load = net export).



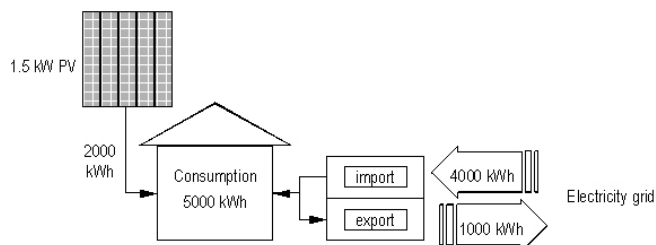
When household loads exceed the output of the PV system, the balance of electricity required is taken from the grid via the 'import' register of the meter (ie household load – gross production = electricity purchased).



Once per quarter, both the import and export registers are read and this information passed to the responsible retailer. Net exports (ie electricity returned to the grid), typically vary from 10 per cent to 50 per cent of the total production of the panels<sup>2</sup> for the billing period depending mainly on household electricity consumption patterns and the size of the PV system. If 50 per cent of panel gross production is returned to the grid, this is equivalent to around 20 per cent of the average household's electricity consumption.

The following energy flows for a 'typical' household consuming 5,000kWh per year, with a 1.5kW PV system returning 50 per cent of production to the grid illustrates how the PV system not only produces 'export' electricity but, for a given level of household consumption, reduces the household's electricity demand from the grid.

### A simplified example



In this case, the annual return on the investment can be summarised as below:

**Before installing PV:** 5000kWh at an average 20c/kWh = \$1,000 per annum

**With Feed-in:** 4000kWh at an average 20c/kWh = \$800, less; 1000 kWh at a minimum 44c/kWh = \$440, leaving a net bill of \$360 per annum. In this case, the household reduces their electricity bills by \$640 per annum.

Note that each individual customer's circumstances will differ and that this saving may not apply in each case.

## The Distributor Model in More Detail

The model chosen for the operation of the feed-in scheme is a distributor-based model, developed as a result of consultation that was carried out in 2007.

The main changes that were made since the 2007 consultation are:

- The scheme has been upgraded to a 20 year scheme.
- Eligible customers have been expanded to include all 'small' customers which will now include small businesses and community facilities that consume less than 160 MWh of electricity per annum.
- In the interest of simplicity, no changes to market reconciliation of electricity exported from solar PV systems has been made. Electricity retailers continue to receive the excess electricity from their customers and are encouraged to offer a market value for that electricity in addition to the feed-in premium.

## Contact

Visit [www.climatechange.sa.gov.au](http://www.climatechange.sa.gov.au) or contact:

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<sup>2</sup> Based on ETSA Utilities provided metering data