

# Solar electricity systems: Your report

Using the information you have entered, we have estimated the value of installing solar on your home.

## Estimated years to get your money back

This is how long it would take to pay off your solar investment from a loan or savings, through electricity cost savings.

This figure takes into account the interest you would pay on a loan or the interest you would lose on savings, depending on how you purchase the system.

Simple pay back is 3 years. This is how long it would take to recoup the cost of solar, through electricity cost savings, if you ignore the interest you would earn on money in the bank (if used to pay for solar) or interest paid on a loan.

**3**  
**YEARS**

## Estimated total earnings

This is how much money you would lose or gain from solar over 25 years.

This is the total of the cash flows (in and out) of the project over 25 years, in today's dollars (often referred to as net present value). Cash flow includes purchase and installation costs, finance costs (interest paid on a loan or lost on savings), money earned from selling excess electricity to the grid, and savings on your electricity bill from using electricity your system has generated. Your monthly electricity bill is an additional cost not included here.

A solar system can be expected to last 25 years or more although you may need to replace an inverter during this time.

**\$2,857,400**

### Your responses

#### Step One

Where do you live?	<b>6 Stirling Street, Wellington 6023</b>
Roof orientation (degrees from north)	<b>270°</b>
Roof pitch	<b>45°</b>

#### Step two

Electricity tariff	<b>26</b>
Tariff includes GST	<b>Yes</b>
Prompt payment discount	<b>0</b>
Pricing scheme	<b>Flat rate</b>
Electricity use per year	<b>3,200.00 (kWh)</b>
Electricity sold to the grid in summer (cents/kWh)	<b>8 Cents</b>
Electricity sold to the grid in winter (cents/kWh)	<b>8 Cents</b>
Additional daily fixed charge	<b>0 cents per day</b>

#### Step three

Electricity use during the day	<b>Electricity use low</b>
Main heating source	<b>Other (wood fire, gas etc)</b>
Main hot water heating source	<b>Other eg. gas</b>

#### Step four

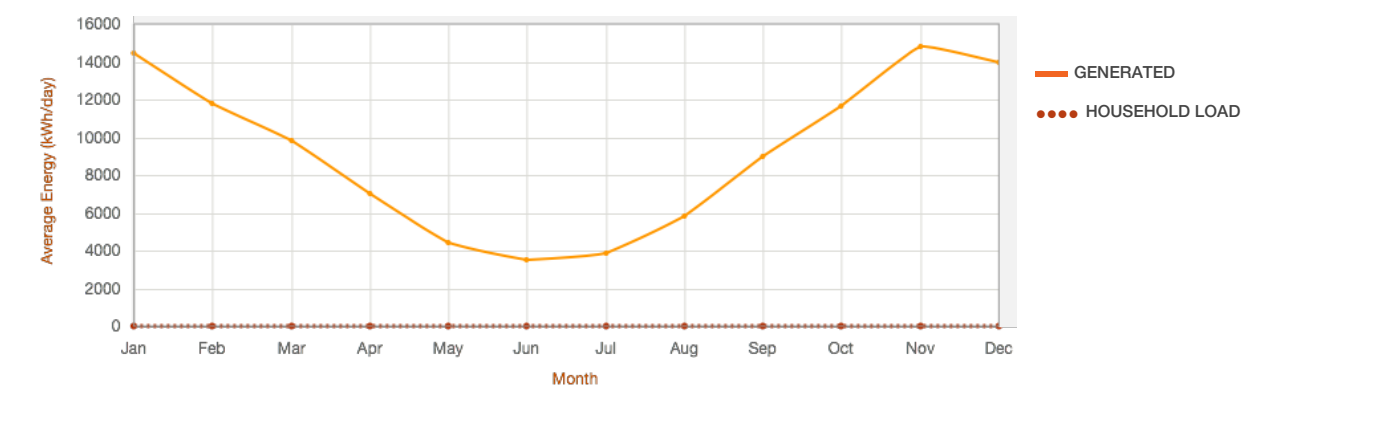
System size (kW)	<b>3186kW</b>
Total purchase & installation cost (inc GST)	<b>\$7,995</b>
Solar electricity system payment plan	<b>Borrow</b>
Interest rate per annum	<b>6.00%</b>

### Your estimated annual solar generation

Solar electricity generated	<b>3,342,360 kWh</b>	Solar electricity sold	<b>3,340,690 kWh</b>
Solar electricity used	<b>1,670 kWh</b>	Electricity purchased from the grid	<b>1,530 kWh</b>

### Estimated energy generated and required over a year

This chart shows the expected energy generated from solar and your estimated electricity use. Typically more solar electricity is generated during summer than winter. Electricity use in the home is normally higher in winter when solar is generating less.

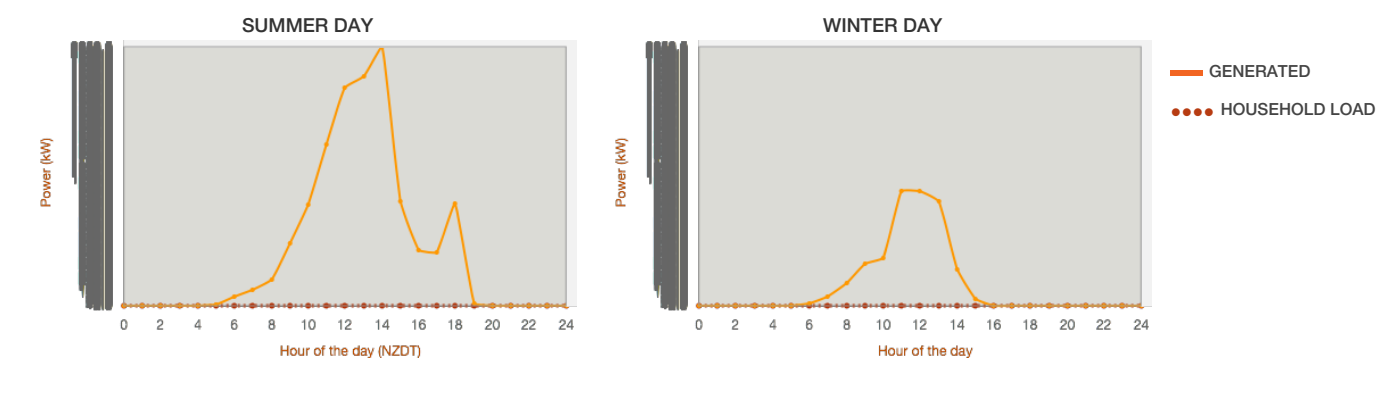


### What happens on a summer and winter day?

In summer, most households with solar will sell some electricity to the grid, as solar generates more electricity during daylight hours than is used in the home (the price you get for this electricity is normally much lower than the price you pay for electricity). Households with solar will still need to purchase electricity to meet their energy needs.

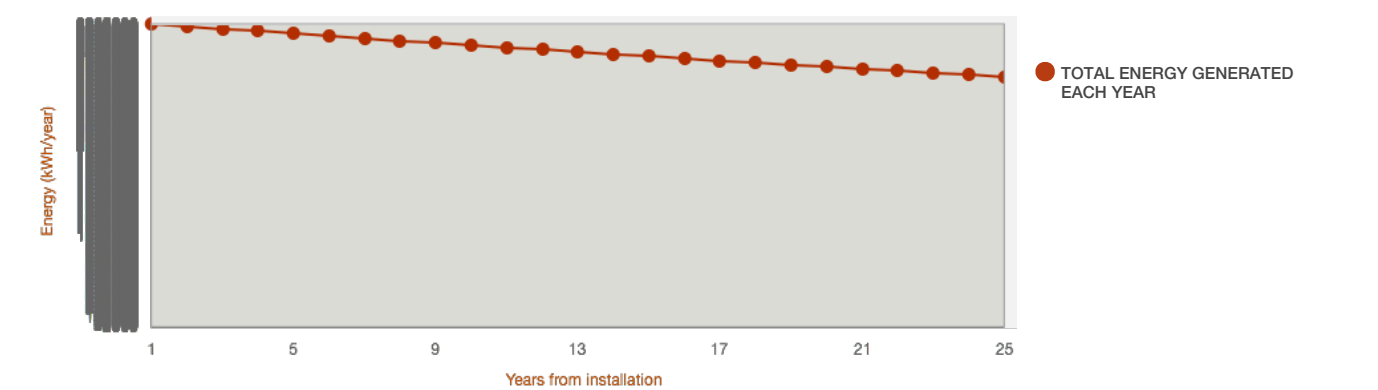
In winter, household energy use is higher but solar generation is lower (than in summer).

The charts below give you an indication of how much solar power you would generate on a summer and winter day, and your estimated electricity use. The days selected are a Tuesday in mid-February and Tuesday in early June. They are not necessarily representative of all other days in the year, rather they are for illustration only.



### Your estimated solar generation over time

This chart shows the expected performance of the solar electricity system. You will see that performance drops over time, with a regular drop of performance continuing over the life of the system.



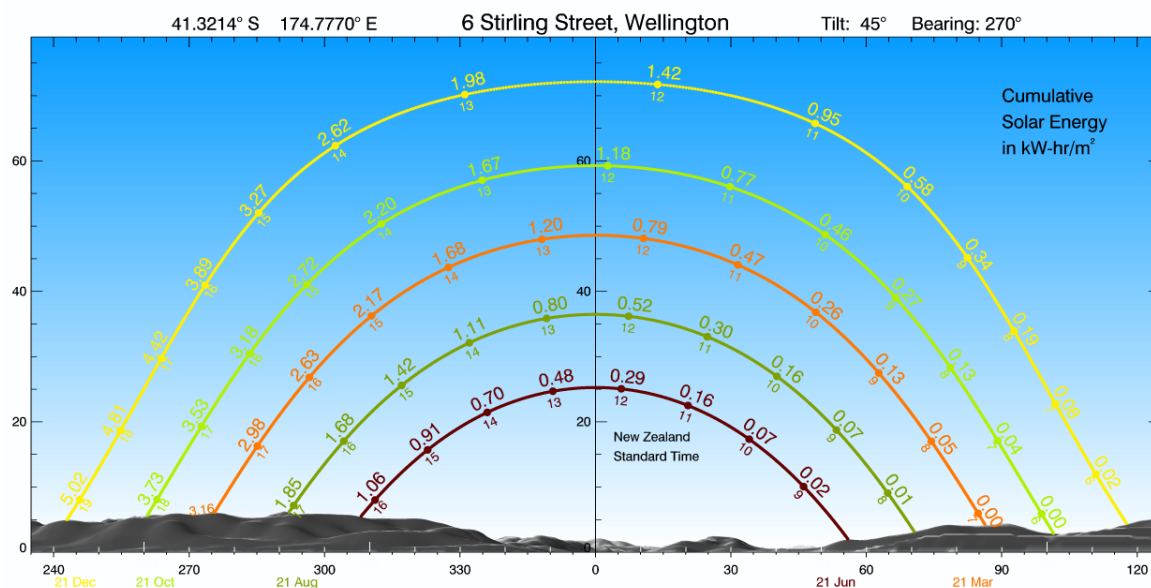
## Generation over the first year

The figures below are for the first year only, when the solar system is operating at its best.

Savings from solar electricity used (first year only)	\$430
Credit from solar electricity sold (first year only)	\$267,250
Total savings (first year only)	\$267,690

## Solar energy available during the year

The chart below shows you how much solar energy you could expect to receive at different times of the year, based on the inputs you have provided. This chart is provided by NIWA via its SolarView website. For more detail on SolarView, please refer to NIWA's SolarView website.



Developed by:



**DISCLAIMER:** The solar calculator is designed to assess the value of a solar electricity system for your household. You will be asked to provide details about your house, your energy usage, and how you intend to pay for a solar electricity system. The tool will then estimate the value of installing a solar electricity system at your house, including your estimated total earnings (if any) over the course of 25 years, and the estimated number of years that it would take for you to earn back your initial investment. This calculator is brought to you by EECA ENERGYWISE.

**ACKNOWLEDGEMENT:** This calculator was developed by the EPECentre, University of Canterbury, through the GREEN GRID research programme (funded by the Ministry of Business Innovation and Employment, the Electricity Engineers Association and Transpower). See [www.epecentre.ac.nz](http://www.epecentre.ac.nz) for more information.

The solar calculator incorporates solar data sourced from the National Institute of Water and Atmospheric Research (NIWA) through its SolarView service.



The solar calculator tool uses certain assumptions and estimates when calculating its results. In particular, it makes assumptions in relation to the price of electricity over time. While the tool can be used to provide a useful estimate, results may vary depending on: your circumstances; electricity pricing arrangements; and other factors that impact on the economic value of solar.

This means that before relying on the results generated by the solar calculator, you should carefully evaluate the accuracy, completeness and applicability of the results to your situation, and should obtain appropriate expert advice relevant to your particular situation. Please also review our website [terms of use](#).

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## What to do now, next steps

How solar electricity systems work

<http://www.energywise.govt.nz/at-home/generating-energy/solar-electricity-systems/>

Getting the best value from solar

<http://www.energywise.govt.nz/at-home/generating-energy/solar-electricity-systems/getting-the-best-value-from-solar/>

Simple ways to lower energy bills

<http://www.energywise.govt.nz/at-home/simple-ways-to-lower-energy-bills/>