

# Cost Of Operations

Solar Whiz™ Domestic - SW-AU-R-40



## NT Average Electricity Price

27.37c per kilowatt (as of February 2024)

<https://www.finder.com.au/energy/electricity/average-cost-of-electricity>

### Solar Whiz Factors

SW-AU-R-40

Airflow (Natural, m <sup>3</sup> /h)	2300
Airflow (Powered, m <sup>3</sup> /h)	2300
Power usage	40 Watts

There are 3 ways you can operate your Solar Whiz unit:

- Completely solar-powered
- Completely mains-powered
- Solar-powered with mains 'top-up'

This fact sheet will consider the costs associated with running a Solar Whiz SW-AU-R-40 in each of these methods.

Roof ventilation usage typically peaks between October and April in Australia, as this is usually when the weather is hottest. We have calculated the usage costs associated with running a Solar Whiz for these 6 months of the year because it is unlikely that you will need to operate the unit using mainspower during the other 6 months of the year.

## Operational Costs - Only Solar-Powered

Operating solely on solar power 365 days per year

Total cost per hour	\$0
Total cost per day	\$0
Total cost per year	\$0

Using only the solar panel to operate the Solar Whiz means that the unit will run completely free of charge. The only costs associated with the unit are the purchasing price and the installation cost.

## Operational Costs - Only Mains-Powered

Operating solely on mainspower 183 days per year

This measurement estimates a running time of 10 hours from about 10:00 AM to 8:00 PM when temperatures tend to be highest.

Equations

Electricity Price × Power Usage (kw) = Hourly Cost

Hourly Cost × Hours Running = Daily Cost

Daily Cost × Days Running = Seasonal Cost

Total cost per hour	\$0.2737	×	0.04kw	=	\$0.010948
Total cost per day	\$0.010948	×	10 hours	=	\$0.10948
Total cost per season	\$0.13628	×	183	=	\$20.03

It is highly unusual for our residential Solar Whiz units to be installed without a solar panel, **but it is sometimes the best option**. The vast majority of installations use solar power as the main source of power, if not the only source of power. However, many of our customers find that it is most beneficial to include a night operations pack that acts as a sort of 'top-up' system for the Solar Whiz during the day - and enables the SW to run until the desired roof space temperature has been reached. This is especially true for tiled roofs.

Even if the system operated completely on mainspower it would cost the customer about **\$20.03** for 6 months of operation. Equal to **\$40.07** for year-round, non-stop ventilation. Of-course, during the colder months the unit is unlikely to be needed, reducing the running costs further.

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## Operational Costs - Solar and Mains-Powered

Operating on a hybrid of solar and mainspower 183 days per year

This measurement assumes that a day is 14 hours long (average sunlight hours during summer).

Out of the 14 hours of operation, this calculation assumes that 5 hours will be 'topped-up' by mainspower.

### Equations

Electricity Price × Power Usage (kw) = Hourly Cost

Hourly Cost × Hours Running = Daily Cost

Daily Cost × Days Running = Seasonal Cost

Total cost per hour	\$0.2737	×	0.04kw	=	\$0.010948
Total cost per day	\$0.010948	×	5 hours	=	\$0.05474
Total cost per season	\$0.06814	×	183	=	\$10.02

Keep in mind that the Solar Whiz unit will only draw as much energy as it needs to 'top-up' the unit capacity to maximum airflow.

This calculation assumes that the unit will be running solely on mainspower for 5 hours out of the 14 hours of operation. Therefore, this is an overestimation of the costs associated with running an SW-AU-R-40.

## Air Conditioning

The need for an air conditioner is greatly reduced when a Solar Whiz is installed. The majority of Solar Whiz customers see a dramatic reduction in the need for operating their air conditioning, but in some cases (e.g. on very hot and/or humid days), it may still be needed. It can therefore be useful to consider the costs of running an airconditioner.

This calculation considers an 'average' air conditioner system running for 10 hours, 183 days (October through April) a year.

### Equations

Hipages.com.au estimates the average air conditioner costs \$0.50 an hour to run.

Hourly Cost × Hours Running = Daily Cost

Daily Cost × Days Running = Seasonal Cost

Total cost per day	\$0.50	×	10 hours	=	\$5.00
Total cost per season	\$5.00	×	183	=	\$915

The cost of an air conditioner can vary greatly, with many cooling systems running at much more than \$0.50/hour.

Evidently, it is possible to save a lot of money by cutting down your cooling costs. With a Solar Whiz unit you may be able to forego use of the airconditioner completely, **saving you around \$915.00.**

Even if you cut your air conditioning usage by half, you could still be **saving around \$457.50!**

Solar Whiz is clearly a valuable investment to your home. Get in contact with us to discuss your needs and see how we can suit the installation to your specific requirements!

These calculations are general indications of potential costs only. They do not account for varying conditions and exceptions including heat levels, thermostatic controls, lack of sunlight or changing electricity prices. We would encourage you to make your own calculations based on current electricity prices based on your area, and estimated hours of operation.

Sources:

<https://www.finder.com.au/energy/electricity/average-cost-of-electricity>

<https://hipages.com.au/article/how-much-does-air-conditioning-cost-to-run>