

# Adelaide Home Uses Enphase To Match Load

## CHALLENGE

Eliminate daytime energy usage on a residential home with multiple azimuths and occasional shading

## SOLUTION

Design a three-part PV system that faces east, north, and west

## RESULT

Flexible Enphase System capable of generating energy in early and late hours of the day



“Having a direct line of communication to Enphase engineers in Melbourne was instrumental in the success of this installation.”

— David Boyle  
Owner  
Solar South

Adelaide is home to more than one million residents, and one-by-one they are starting to go solar. The Hazeldine family is among the many who turned to Enphase for clean and affordable energy generation.

### Cutting Electricity Costs

Households across the globe have been doing their part to reduce energy consumption, and the Hazeldine family is no exception. When looking at their energy use, they realised a significant increase around their home business hours as well as their children’s after school hours.

Keeping their busy home comfortable for everyone means running either the heater or air conditioning during most afternoons throughout the year, dramatically spiking their electricity bills each month.

The Hazeldines were looking for a way to offset their energy consumption, so they turned to Solar South—a local PV service provider—to install the best solar system available.

“To eliminate energy usage during the day, we knew the Hazeldines would need a system capable of providing maximum energy harvest throughout the day and into the afternoon,” said David Boyle, owner of Solar South. “Enphase’s high performance rates made them the obvious technology of choice.”

#### Keeping it Easy with Design Flexibility

Solar South recognised very quickly that the multiple azimuths and periodic shading of the Hazeldines’ roof would have a major impact on the performance of a string inverter system, but Enphase’s flexible microinverter architecture could simply and efficiently work around those challenges.

To accommodate the roof’s multiple azimuths, Solar South designed a three-part system with 2kW facing east, 1.5kW facing north, and 4.5kW facing west.

“Using Enphase really allowed us to make the most of multiple azimuths without having the shaded panels affect the overall system performance,” said Boyle. “In fact, once the production challenge was overcome thanks to Enphase, the multiple azimuths turned out to be an advantage – much better for load matching as the system is generating more evenly throughout the entire course of the day.”

#### INSTALLATION SUMMARY

Client **Hazeldine Family**  
Location **Seaford, South Australia**  
Completion Date **July 2014**  
Installer **South Solar**  
System Size **8kW**  
Microinverters **Enphase M215**  
Modules **Trina Honey 250W**

#### About Enphase Energy

Enphase Energy revolutionises solar power generation with industry-leading technology innovation. Enphase’s proven microinverter technology maximises production of each module, which works together with advanced communications hardware and an intelligent software platform to deliver a reliable, high-performance solar array.



The successful installation of solar on his home has given Mr. Hazeldine the idea to also add solar to his business’ factory.

Enphase’s patented burst mode technology allows the system to produce additional energy in the morning and at dusk, increasing overall savings for the Hazeldines.’

The Enphase System is able to balance the load over the whole day, generating right through to evening PV voltages of 16V DC per module.

“Having a direct line of communication to Enphase engineers in Melbourne was instrumental in the success of this installation. They were helpful and easy to work with, allowing us to creatively use the roof to our advantage.”

#### Sleek and Safe

Not only did Enphase solve the project’s design challenges, but it also made for a safer and better looking system.

“We are very conscious of aesthetics, and with Enphase you don’t have the external conduits running down the wall that you would normally have with traditional inverters,” said Boyle.

“It’s also a system that is safe for the family.”

To find how Enphase can help cut your energy bills and carbon footprint, visit [enphase.com/au](http://enphase.com/au).