

/ Perfect Welding / Solar Energy / Perfect Charging



FRONIUS COMMERCIAL SOLUTIONS

OPTIMISING PROJECT DESIGN FOR
PERFORMANCE, FLEXIBILITY & COST



FRONIUS POWER PACKAGE - THE COST-EFFICIENT OPTION

BECAUSE QUALITY WORKS OUT CHEAPER

If you are looking for a high return on investment from your project in the long run, it doesn't make sense to only look at the purchase cost of an inverter.

The initial costs of the whole system, which are heavily influenced by the inverter, combined with the operating costs over its entire service life, are what really make the difference.



HIGHEST RETURNS

The CAPEX – the capital expenditures or investment costs – of a PV system consist of the combined costs of the inverter, the module, the labour costs and the BOS (Balance of System) costs, which includes all additional expenditure for cabling, distributor boxes, etc.



Reducing BOS costs will impact the return on investment for the PV system, with inverters either centrally or decentrally located determining the cabling and necessary component costs for AC & DC distribution.

The Fronius DC Connector Kit 35 allows the Fronius Eco to be used in centralised system designs with a single cable-run from the array to the inverter minimising BOS costs.

Project design flexibility is achieved through the inclusion of one or more Fronius Symo inverters. This flexible design allows installers to optimise BOS CAPEX costs, improving investment return.

Ongoing operational costs are also critical for high investment returns. Factors such as Fronius PC board replacement (allowing on-site serviceability) and active cooling technology improve component lifetime, making Fronius inverters the smart choice for the highest returns.

12 WAYS TO REDUCE LEVELISED COST OF ENERGY (LCOE) WITH FRONIUS

1

TOP QUALITY BUILT TO LAST

Fronius products built to last, even in the harshest conditions. Certified in accordance with ISO 9001.

2

HIGH BANKABILITY, 3 BUSINESS UNITS

Privately owned, financially stable and assigned the best possible risk indicator of 1* by Dun & Bradstreet.

3

25+ YEARS OF EXPERIENCE

Fronius has been active in the solar industry since 1992.

4

MINIMAL MAINTENANCE REQUIREMENTS

Active cooling combined with Fronius quality means SnapINverters require barely any maintenance.

5

24/7 SUPPORT

On-site troubleshooting is available at any time with Fronius SOS (Solar Online Support).

6

FASTEST SERVICE AVAILABLE

Fronius PC board replacement technology means that Fronius Service Partners can fix inverters directly on site - saving both time and money.

7

NO. 1 FOR OPEX COSTS

Fronius inverters guarantee lowest service costs - over the entire service life of the device.

8

MAXIMUM POWER DENSITY

With the highest power density in its power category, the Fronius Eco is sure to impress.

9

REMOTE UPDATES

Fronius inverters are kept up-to-date at the click of a button via remote software updates.

10

50KW STRING INVERTER PACKAGE

Maximum yields and minimum costs are achieved when pairing two Fronius Eco inverters or multiple Eco inverters with Fronius Symo for added flexibility.

11

ACTIVE COOLING TECHNOLOGY

Active cooling ensures better power derating behaviour, lower costs, a longer service life and increased returns.

12

MAXIMUM DESIGN FLEXIBILITY

The combination of Fronius Eco and Fronius Symo guarantees an optimal design for every system.

OPTIMAL FOR LARGE-SCALE COMMERCIAL

CASE STUDY: 17 ROOF TOPS AT CHARLES STURT UNIVERSITY WITH THE FRONIUS POWER PACKAGE

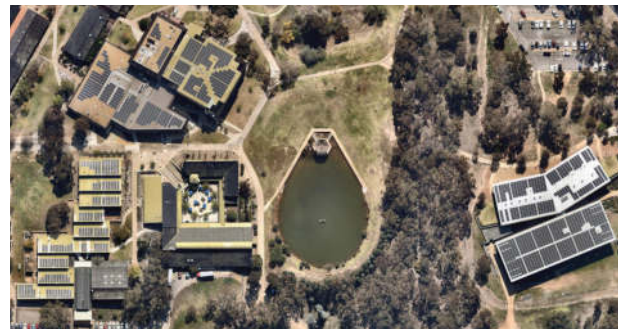
SYSTEM SIZE: 1.77 MWp

Wagga Wagga, Australia: Charles Sturt University, declared Australia's first official carbon neutral university in 2016, has taken another significant step toward a clean energy future by installing a 1.77 MW PV system. All with different orientations, this project was installed across 17 roof-tops at CSU's Wagga Wagga campus in NSW. Thanks to a combination of flexibility, quality and cost-effectiveness, Fronius Symo and Fronius Eco inverters were chosen to power the project.

Comprising 6,012 solar panels and expected to power the equivalent of approximately 400 typical Australian households, this 1.77 MW system was recently commissioned after a six month construction period. It will produce around 20% of the University's total electricity consumption - approximately 2,700,000 kWh per year.

Declared Australia's first official carbon neutral university in 2016, the PV system forms part of the Charles Sturt University's (CSU) broader sustainability initiatives. "It will reduce greenhouse gas emissions by 2,513 tonnes CO₂-e compared to conventional grid-sourced electricity, making a significant contribution to reducing the University's carbon footprint," said CSU green manager, Edward Maher.

The Fronius Eco project inverter was chosen to optimise costs for this large-scale project. Its high power density, installation flexibility and integrated components helped save time and money, while other factors such as Fronius PC board replacement technology and active cooling technology ensured the lowest ongoing costs and highest returns over the lifetime of the system. Combining the advantages of the Fronius Eco with the flexibility of the Fronius Symo (thanks to its broad input voltage range and two MPPT (Maximum Power Point Trackers)) optimised system design and maximised energy generation by allowing multiple-roof-orientations and asymmetrical strings to be incorporated. Furthermore, both products share the same open data communication protocols, ensuring ease of integration into existing building management systems, a key requirement for the project.



THE CHALLENGE:

- / Cost optimisation
- / 17 multi-orientated roof-tops
- / Integration into existing building management systems

OUR SOLUTION:

- / Cost-effective, project-optimised Fronius Eco inverter
- / Fronius Symo SuperFlex design
- / Fronius SnapINverter open data communication

SYSTEM HIGHLIGHTS:

- / Immediate financial benefits – system expected to produce around 2,700,000 kWh in its first year and will pay for itself via savings on electricity bills

"We utilised Fronius inverters and metering solutions at CSU as they are economical and possess flexible design, yet they're reliable and high-performing. [Fronius solutions are also] backed by local support and are easily integrated into existing building management systems," commented Todae Solar, who won the tender to design and install the system.

SYSTEM DATA	CITY, COUNTRY
Size of installation	1,770 kWp
System type	Roof-top installation
Inverter	2 x Fronius Symo 10.0-3-M, 1 x Fronius Symo 15.0-3-M, 16 x Fronius Symo 20.0-3-M, 40 x Fronius Eco 25.0-3-S
Further products	Fronius Solar.web
Commissioned	Late 2017
Annual yield	2,700,000 kWh
CO ₂ savings / year	2,513 tonnes
Self consumption rate	18%



OPTIMAL FOR SMALL-TO-MEDIUM COMMERCIAL

CASE STUDY: HIGHEST RETURN ON INVESTMENT FOR ARCTIC ICE WITH FRONIUS ECO

SYSTEM SIZE: 99.9 kWp

Brisbane, Australia: South Australian based Venergy Australia recently completed a 99.9kWp project for Arctic Ice in Brisbane - the third large scale commercial installation for the ice manufacturer. The Acacia Ridge factory produces over 100 tonnes of ice every day of the year requiring huge amounts of energy. This proved a fantastic return on investment for going solar, saving the company thousands of dollars per month through offsetting its electricity costs and significantly reducing greenhouse gas emissions, at the same time aiding the company's mission to become carbon neutral.

Venergy Australia's electrical engineers utilised 357 x Q Cells 280W Poly Q.ANTUM panels coupled with three Fronius Eco 27s. Schletter engineered mounting systems brought the project together.

James Taylor, Lead Electrician and Installer at Venergy summarises the decision to opt for Fronius in a few simple points; "easy installation and commissioning, low failure rate and high yielding inverters."



OUR SOLUTIONS:

- / Their unique snap-in design makes Fronius SnapINverters quick and easy to install
- / Easy commissioning in a few simple steps
- / Optimised input voltage range and high power density ensures the highest efficiency



SYSTEM DATA	BRISBANE, AUSTRALIA
Size of installation	99.9 KWP
System type	Industrial enterprise, investment incentive system, roof-mounted
Inverter	3 x Fronius Eco 27.0-3-S
Commissioned	July 2017
Annual yield	153 (MWh)
CO ₂ savings / year	164 (t)
Special features	Self-consumption rate: 75%

VENERGY
Visionary Energy
SINCE 2009

/ Perfect Welding / Solar Energy / Perfect Charging



ELECTRICAL SOLUTIONS

McNae Electrical Solutions Ltd

- MAIL** | PO Box 9086, Palmerston North 4441
- OFFICE** | 451 Kairanga Bunnythorpe Rd, RD8, Palmerston North 4478
- T** | 06 3570405 **W** | mcnae.co.nz
- E** | info@mcnae.co.nz