

# Case Study

## Lendlease Peninsula Link Datacentre

### Installed March 2021



#### Problem

Lendlease run a mission critical 24/7 tollway monitoring and recording datacentre.

The 8 year old Uninterruptible Power Supply required upgrading but had failed several times causing the datacentre to shut down with loss of revenue and emergency monitoring. They required energy autonomy in the event of power failure as well as a reduction in energy costs.

#### Proposed Solution

A hybrid solar plus battery utilising both AC and DC charging to allow microgrid functionality.

Typical battery systems do not have UPS functionality. A hybrid system with both AC and DC battery charging and a dedicated switchboard that allowed for specific circuits within the building to be easily connected or changed to suit changing needs was installed. In the event of power failure the system creates a microgrid with the combination of inverters and batteries able to continue operating with the solar providing energy during the day.

#### Savings and Benefits

This hybrid system gives up to 3 days energy autonomy in the event of power failure and poor weather conditions, but potentially full microgrid functions.

With an average 200kWh/day energy use on the whole site, it was decided to focus on the datacentre which uses around 100kWh, but by careful use of energy could bring this back to 48kWh per day. While ensuring there is always at least 12 hours of energy available in the batteries for the 2kW base load (24kWh) the solar and batteries are cycled to reduce overall energy consumption as well as provide emergency backup power. The 42kW of solar should reduce overall energy consumption by 140kWh/day with potential savings of around \$15,000/annum.

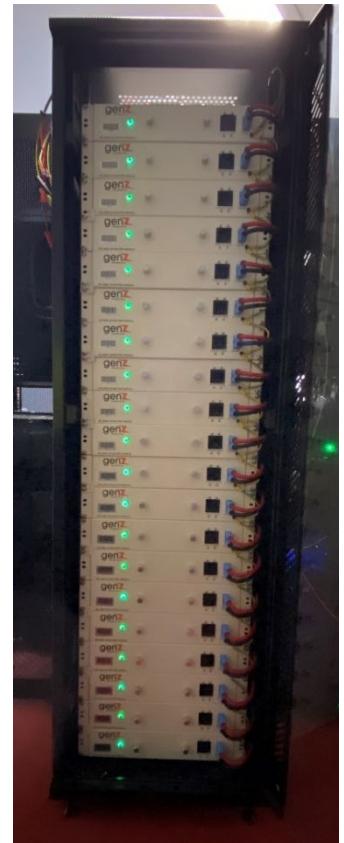
#### Technical Details

- 42kW of solar and 60kWh battery
- 3 x Fronius Primo 8.2 kW inverter
- 3 x Selectronic SP PRO 7.5kW, multi-mode inverter
- 2 x Victron SmartSolar Charge Controller, 250VOC, 100A charge current
- 112 x 370W Suntech monocrystalline panels
- 20 x 3kWh GenZ batteries – 57.8Ah 48V LIPO 3800 cycles 80% capacity
- 100Amp Grid protection device

#### Testimonial

“I was extremely happy with the installation, service and support from Mat and Colin for our 42kW solar array and back-up power supply.”

Dietmar Jung, Electrical Operation and Maintenance Manager, Lend Lease Peninsula Link, Vic





The building owner required there to be no obvious external changes to the building so solar panels and inverters had to be discretely installed.



Inverters and batteries replacing the 8 year old UPS to give better energy security as well as lower energy costs.

Thanks to the Greenhouse Effect for partnering with us on this project.

For more information contact Sun Lizard on [sunlizard.com.au](http://sunlizard.com.au) or 0431010323