

Design Flexibility Drives Auto Dealer's Solar Savings

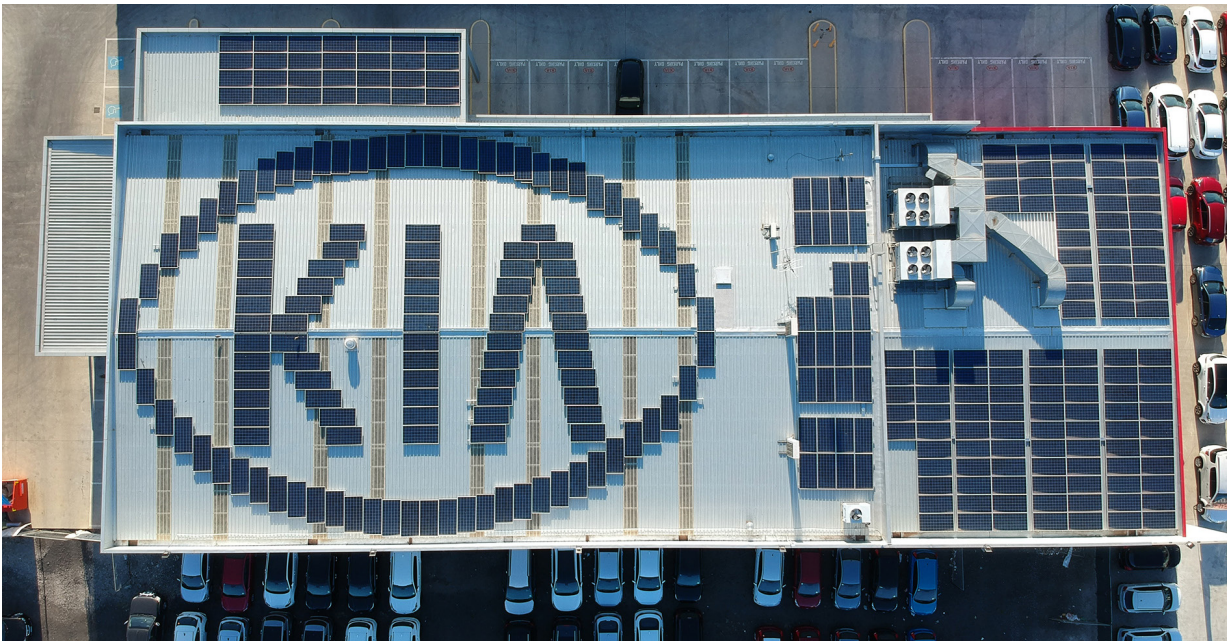
Bright Source and SolarEdge Offer a Brighter Solar Solution for Kia and Hyundai's Melbourne Dealerships

The Challenge

Nic Harrison Group was looking to reduce their electricity expenses with a reliable solar solution for their two Melbourne car dealerships, Kia and Hyundai. Large car dealerships with vehicle servicing facilities use significant amounts of electricity, requiring large solar systems to offset high-energy bills. With the growing demand for electric vehicles, which can generate higher electricity bills on site, more dealerships are making the switch to solar. The Australian government further encourages these businesses to adopt solar by offering subsidies and tax credits.

Nic Harrison Group's service department was a chief source of electricity usage, along with the heating, ventilation, and air conditioning (HVAC) unit, as well as lighting units in the main showroom. This led the popular dealership to consider renewable energy as a means to curb operational costs for the long-term. Foreseeing an increase in electricity consumption, and owing to their new product line of electric cars, they concluded that a solar system would be a highly beneficial, clean source of power.

Shading, complicated wiring, and ongoing maintenance reflected some of the more significant challenges that needed to be overcome on the two commercial rooftops. Adding to the complexity, was the unique request to install the panels with Kia and Hyundai's respective logos. This would require a solution that allowed for longer, more flexible strings. A large-scale commercial PV project with an elaborate rooftop design such as this would make O&M more difficult.



The Solution: Maximum Design Flexibility, Maximum Energy

Nic Harrison Group approached Bright Source, which recommended a SolarEdge commercial PV solution. Unlike a traditional string inverter, SolarEdge commercial PV inverters facilitate up to 15 kW per string, allowing more panels on each string. This enables maximum design flexibility by allowing strings of uneven lengths, with multiple orientations and different roof facets.

Bright Source also installed panels in partially shaded areas on the roof thanks to SolarEdge's power optimizers, which enable maximum power point tracking (MPPT) for maximum energy yield in all types of PV installations. SolarEdge's power optimizers eliminate panel mismatch, which occurs due to shading, soiling, multiple panel angles, and more - generating more power from each panel.

Bright Source leveraged SolarEdge's design flexibility to meet the customer's unique requirements by planning the panel installation in the shape of the Kia and Hyundai logos.

A More Secure Investment with Remote Monitoring

Leveraging SolarEdge's monitoring platform and advanced PV asset management features, Bright Source is able to track the system's performance in real-time and automatically pinpoint and quickly analyze alerts. The ability to troubleshoot panel issues remotely means fewer on-site visits and less overall time spent on-site, leading to improved PV system uptime and better ROI.

For data analysis, Bright Source created a PVsyst report to set a benchmark for the system's performance using 30 minutes of interval data to analyze energy usage. By comparing it to the SolarEdge monitoring platform, they found the system has been performing within 3% of the planned projections.



“SolarEdge products offered major benefits for this commercial rooftop PV system, such as design flexibility and better yield in terms of production. SolarEdge technology allows panels to produce under shaded conditions without letting underperforming panels affect the rest of the panels in the string. While setting up the monitoring app, the panels can be designed exactly how they are placed on the roof. If any one of the 294 panels needs attention, it is extremely easy to find that panel. SolarEdge is one of the easiest platforms to implement. Their customer service and technical support were easy to engage with, which made the whole experience even better.”

Savi Narang, Director, Bright Source

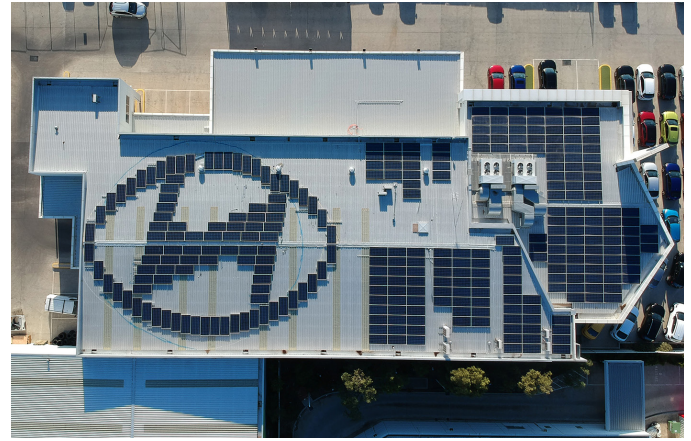
The Safer Solution for Auto Dealerships

System integrity and safety are of paramount importance in any solar PV installation. This is especially important for an auto dealership, where highly flammable products like cars, EV chargers, reserve fuel, and more are stored. For Bright Source, safety was one of the critical factors in selecting SolarEdge's commercial PV solution. In the event of a fire or electrical emergency, SolarEdge's built-in SafeDC™ safety feature is designed to automatically reduce high DC voltage on the roof to safe levels for maximum protection of people and property.

“We knew Solar was the way to go forward. We wanted more than a mere solar system, we were looking for reliability. Bright Source offered a system that was reliable, efficient, and safe. Plus, we were able to achieve additional exposure with the Hyundai and Kia logos. All that was possible because of the SolarEdge technology. With the detailed monitoring system of SolarEdge installed on our phones, we can track individual panel performance to understand better the savings generated from our investment. We are hoping to recover our investment soon and will recommend everyone to go with SolarEdge technology.”

Nic Harrison, Dealer Principal, Nic Harrison Group

Installation at a Glance:



- Installation Date: 27/01/2019
- Location: Kia Dealership, Victoria, Australia
- Installer: Bright Source
- Total Peak Power: 100 kWp
- Panels: Canadian Solar 340W CS6U-340P x 294
100,000w / 340w = 294 panels
- Inverters: SE25K x 4
- Power Optimizers: P700x 148
(294 panels with 2 for 1 power optimisers =
294/2 = 148)

- Installation Date: 03/02/2019
- Location: Hyundai Dealership, Victoria, Australia
- Installer: Bright Source
- Total Peak Power: 100 kWp
- Panels: Canadian Solar 340W CS6U-340P x 294
100,000w / 340w = 294 panels
- Inverters: SE25K x 4
- Power Optimizers: P700x 148
(294 panels with 2 for 1 power optimisers =
294/2 = 148)

The Bottom Line: More Solar Energy, Better Design

Bright Source recommended SolarEdge's commercial PV solution for Nic Harrison Group's dealerships because they were the best solution to accommodate the customer's unique design request, taking into account the complexities of the string configuration, rooftop shading, and panel distribution across multiple rooftops. Two solar PV systems totaling 99.9kW were installed in the shape of Kia and Hyundai's logos, enabling Nic Harrison Group to offset their energy expenses with clean, safe solar energy. To date, the two sites have collectively produced nearly 400MWh of solar energy, and the investment is projected to save over AUD 1 million over the next ten years.

About SolarEdge

SolarEdge is a global leader in smart energy, delivering innovative commercial and residential solutions that power our lives and drive future progress. Leveraging world-class engineering and a relentless focus on innovation, SolarEdge developed a ground-breaking intelligent inverter solution that changed the way power is harvested and managed in photovoltaic (PV) systems. Today SolarEdge is the world's #1 solar inverter company in revenue with more than 2.3 million SolarEdge intelligent inverters and more than 54 million power optimizers installed in 133 countries. SolarEdge addresses a broad range of smart energy market segments through its PV, storage, EV charging, batteries, UPS, and grid service solutions.

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