

Jasco uses solar energy solution to reduce head office carbon footprint by 50%

In early-2015, ICT solutions provider Jasco began harnessing its expertise on a solar project at its own head office complex: Jasco Park. Located in Midrand, north of Johannesburg, Jasco Park houses over 250 of the firm's staff, as well as a data centre and various other amenities.

The vision was to use solar electricity to power much of the campus energy needs, to cut down on the costs of traditional power, reduce dependency on the national grid, and gain valuable insights into clean energy deployments. An additional upside of this project is that Jasco is able to use its head office as a reference site and showcase in order to better serve clients.

Solar carport system

The team began the installation of a solar carport system in April 2015, leveraging the real estate available above the carports used by staff and visitors. Phase one of the project involved the installation of 53kWp of solar panels, accompanied by two 25kW inverters to generate up to 50kW AC power during peak generation periods.



Kevin Norris, consulting solutions architect for Jasco Power & Energy, explains that due to the Westerly orientation of the phase one project, as a result of the existing carport layout, peak solar generation occurred in the early afternoon, matching the peak load profile of the Jasco campus, which occurred as a result of commercial operations and air conditioning loads.

Phase two saw the additional installation of a new solar carport system in the Northern section of the Jasco campus. This upgrade saw the total PV generation of the campus increase to 150kWp with an increase in inverter output power to 125kW AC.



Linked to utility grid

The solar system remains 'tied' to the national grid, which enables seamless consumption between both the traditional power source and the new solar generation. Energy needs are primarily served by solar power and supported by the national grid where needed. In this way, Norris explains that in situations such as power outages, the solar system is not a backup to traditional power, but rather a complementary source of clean energy. In the event of power cuts, Jasco Park still fails-over to generators, to keep the data centre operations running and ensure staff are still able to work.

"Throughout the process, we used this project as an opportunity to create blueprints for our renewable energy programmes within our clients' environments," notes Dave Smith, managing director of Jasco's Renewable Energy Division. "This begins with a thorough analysis of the current load and consumption levels, the times of the day that demand peaks, the tariffs that are being paid and so on."

"From this analysis, we then look to match a green energy solution to these needs and start quantifying the capex required versus the savings that are predicted over time. Ultimately, we're able to flesh out a full business case and predict a clear accrual timeframe."

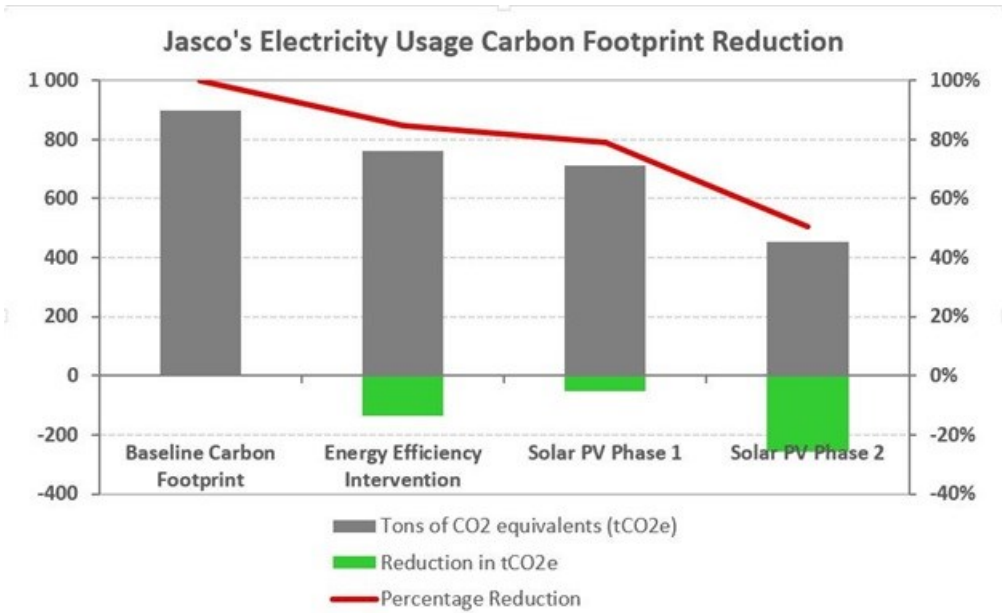
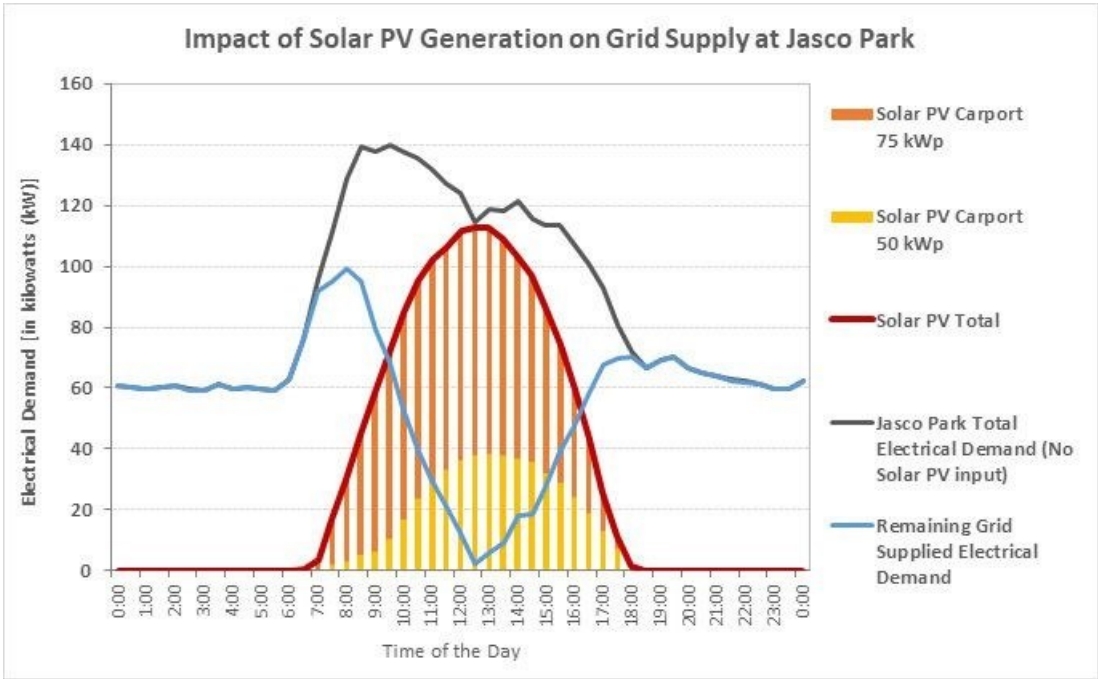
"Our vision for this project is to showcase the opportunities presented by utilising solar energy, and demonstrate tangibly to our clients and encourage other corporates to embrace clean energy," adds Norris.

To this end, Jasco considered the full ambit of civil engineering and construction needs. The team settled on a cantilever system which doesn't require any unsightly poles in the front, and ensures that cars cannot accidentally bump into the

structures. This design also creates a more aesthetic, futuristic feel to staff and visitors as they're welcomed into Jasco.

Significant financial savings

As a result of this initiative, Jasco has reduced its maximum demand by 27% and reduced its electrical consumption from the utility by 33%. Both these reductions have resulted in a significant financial savings, even at today's tariff structure.



“Overall, we’ve reduced the carbon footprint by 50%,” reports Smith, adding that the payback timeframe is pegged at five to six years, but that if national energy tariffs and carbon taxes rise higher than inflation, that timeframe may be brought even further forward.

At certain periods of time, such as at weekends, Jasco Park actually becomes a net exporter of energy, selling energy back to the national grid and creating a new, growing revenue stream.

“Most importantly it has also empowered us to have the right client conversations, as we clearly show them the positive impact of solar - not just from a business perspective, but more broadly in addressing macroeconomic and climate change issues,” says Smith.

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