

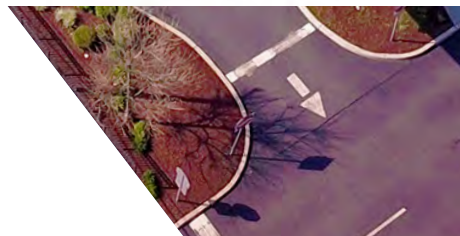


Case Study:
**Costal Solar
Solution**



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A brownfield is any once-developed land or property for which the expansion, redevelopment, or reuse may be complicated by the potential presence of a hazardous substances or contaminants.¹

All too often when land is classified as brownfield, it sits unused and wasted. But with expert design and the right teams on the job, this land can reap huge environmental and economic benefits.



¹ "Overview of EPA's Brownfields Program," EPA, Sept. 9, 2019, <https://www.epa.gov/brownfields/overview-epas-brownfields-program>.



+ Atlantic City Solar Carport Offsets One Third of Medical Facility's Electric Usage

In an effort to offset the substantial electric usage of medical equipment, a health facility in Atlantic City, NJ decided to build a solar-powered carport for their employees and visitors. This project would also make sustainable use of otherwise unusable brownfield surrounding the facility. Despite unique challenges of building the system on a seaside brownfield, the completed project significantly offset the building's electric usage and reduced their carbon footprint.

TerraSol was tasked with the engineering, procurement, project management and commissioning of the sizable project, including design from electrical to structural, procurement of all solar equipment, management of all subcontractors, and quality & safety checks of the entire operation. The project was completed in early 2019 as a three-way partnership between TerraSol, JJ White Construction, and SunPower.

+ The Challenges

While the project was a major success, it was not without its difficulties. The scope and location of the facility came with unique challenges. Because it is just several blocks away from the beach, care had to be taken in determining the proper safety, wind bearing and snow bearing properties of the carport. It also meant builders would be working with sandy, wet soil types. Significant engineering work had to be done to ensure the foundations for the carport would be able to withstand hurricane force winds and other extreme weather conditions.

In addition, because this was a brownfield, anything taken out of the ground had to be disposed of safely, and any water that came out of these holes had to be properly treated. Finally, TerraSol had to consider intricacies in the electrical wiring. The outdoor equipment was in an area where employees and clients could easily access it. Therefore, the construction team would need to be knowledgeable and adept with this type of electrical installation to keep the site safe for the public.



+ The Construction

TerraSol, an award winning SunPower commercial dealer, had their work cut out for them – they'd need a construction partner that could handle the challenges safely and efficiently. They found their fit in JJ White Construction; the company was able to provide an experienced team that had worked with solar installation before.

The construction company is also well-versed in the current regulations and electric safety codes, both nationally and within Atlantic City. Finally, they knew how to work with the tricky coastal soil types, having years of experience working all along the eastern shoreline.

JJ White was responsible for all electrical work, as well as installation of all solar panels and inverters. In total, the project was comprised of 396 solar panels on the roof, and 660 solar panels in the rear parking lot. TerraSol used SunPower panels, as they provide the highest efficiency, highest wattage modules to maximize power per square foot.

During the entire construction period from December 2018 – January 2019, the lot was never completely closed to tenant use. In order to keep daily operations for the building's tenants running smoothly, construction was divided into two parts, and only one half of the lot was shut down for construction at a time.

+ Customer Benefit

With JJ White's construction expertise and SunPower's efficient solar panels, TerraSol Energies provided the tenants of 1801 Atlantic Ave. with a solar carport that offers coastal weather protection to 200 employees and visitors. It has offset the client's electricity usage by 33% -- meaning one-third of the power for the whole year is provided by solar panels. In addition, New Jersey offers valuable solar renewable energy credits, which provides a revenue stream for the client.



+ Turning Brownfield Into Gold

The once-brownfield parking lot with limited space now features 660 solar panels in the rear lot and a 396 panel system on the previously unusable rooftop. The carport provides protection for clients and employees of the building, and serves both to save utility costs and to reduce their carbon footprint.

Thanks to the panels, the facility is down 637 tons of CO₂ per year. All this was done in roughly 2 months, without ever needing to shut down the business or leave visitors without parking. The facility serves as a constant community example of how even “unusable” land can become both green and profitable.

TerraSol Energies, Inc. is dedicated to helping businesses reduce energy expenses that can be reinvested into the core company mission, while making a significant environmental impact.





“TerraSol was easy to work with, they were very considerate of our customers and staff during construction.”

*– Robert Powell, CCIM, SIOR
Vice President of Business Development & Marketing
Vineland Construction Co.*

QUICK FACTS

POWER

470 kW Total System Size

REDUCES

637 tons of CO2 per year
Carbon Footprint Reduction

GENERATES

587,500 kWh Estimated Annual Output

SIZE

396 Solar Panels (on the roof)
660 Solar Panels (rear parking lot)





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