

Resiliency Through Solar: How Cape Canaveral is Protecting Residents with Independent Energy



Utility crews work to restore power following Hurricane Dorian in 2019

As a barrier island with only one bridge and central power line connecting it to the rest of Florida, the City of Cape Canaveral is particularly vulnerable to power outages caused by hurricanes. After enduring several years of powerful storms, the city saw an urgent need for a more sustainable and resilient energy source to ensure that emergency operations can remain powered when traditional energy sources become unavailable. The city turned to solar energy, with its resilient properties and added benefits of cost savings and reduced emissions. In 2019, the City of Cape Canaveral implemented six solar energy initiatives to harden its electrical grid against natural disasters.

Multi-Generational Facility: Resiliency for the Community

Cape Canaveral is incorporating solar arrays into the construction of the new Multi-Generational Facility. During storms and emergencies, it will be equipped to provide residents with life-saving services such as clean water, air conditioning, device charging, and Wi-Fi, all powered by solar energy. The facility, which could become the city's first resiliency hub, will have battery storage to back up its array within three to five years. Along with the resiliency benefits, the solar array will generate significant cost savings for taxpayers of up to \$242,200 over its expected 25-year lifespan.

Bright Ideas: Lighting the City with Solar

In February of 2019, Cape Canaveral installed low-cost, LED solar lights onto each of its eight covered bus shelters to increase visibility and security for those using the shelters at night. The City also completed the conversion of all exterior grounds lighting at the Water Reclamation Facility in August to solar variants. It is estimated at least 5265 kilowatt-hours of electricity have been removed from the plant's monthly energy demands. Both of these projects lower energy costs while increasing resilience to outages by giving them a grid-independent power source.



City staff converting outdoor lighting to solar-powered lighting

Cape Canaveral Solar Installations



Key Projects

kW

1	Multi-Generational Facility	50
2	CAPE Center	33
3	Water Reclamation Facility*	400

*In early planning stages

Mobilizing Solar Energy and Education

To further protect residents in the event of power outages, Cape Canaveral has a mobile solar generator. It's capable of powering numerous devices simultaneously, including cell phones, power tools, light fixtures, and certain appliances, which will help the City provide disaster relief operations. Its 1 kW solar array and battery can harvest enough energy to last multiple days on a single charge, and has been used to power various city events, including a Founder's Day concert. Its presence in the community has also educated the public on the capabilities of solar and battery technologies.



Mobile solar generator powering the Founders' Day event

"We've kicked solar energy initiatives into high gear over the past year, and it's evident that the community is excited about the changes and appreciative of the security they provide in the face of hurricanes and emergencies."

*—Zachary Eichholz,
City of Cape Canaveral
Sustainability Program Manager*

The Future is Bright

Over the next 30 years, Cape Canaveral will continue expanding solar energy projects as a part of its resiliency action plan. The goal of this resiliency plan is to achieve complete energy independence in order to create a more sustainable and secure community for the City's residents and visitors.

In January of 2019, the City partnered with FPL to become one of the first municipal SolarTogether subscribers. Over the life of the 30-year program, the City will see over \$385,000 in utility savings while helping to invest in a clean, renewable form of power. Additionally, City officials are currently working to incorporate solar energy into the renovations of the Culture Arts Preservation and Enrichment (CAPE) Center. Serving as one of the first city facilities to benefit from this resilient energy source, the CAPE center alone will save local taxpayers \$108,000 over its 25-year lifespan. The City also plans to facilitate energy independence for the Water Reclamation Facility. As the largest municipal consumer of electricity, this project will lower costs while increasing resilience to power outages. The City will also add more solar-powered pedestrian crosswalks and traffic control solutions to sustainably increase safety measures.



The Cape Canaveral Water Reclamation Facility

Through the implementation of solar technologies, elected officials throughout Florida are hardening their communities against threats posed by natural disasters while also bringing about significant cost and energy savings.



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