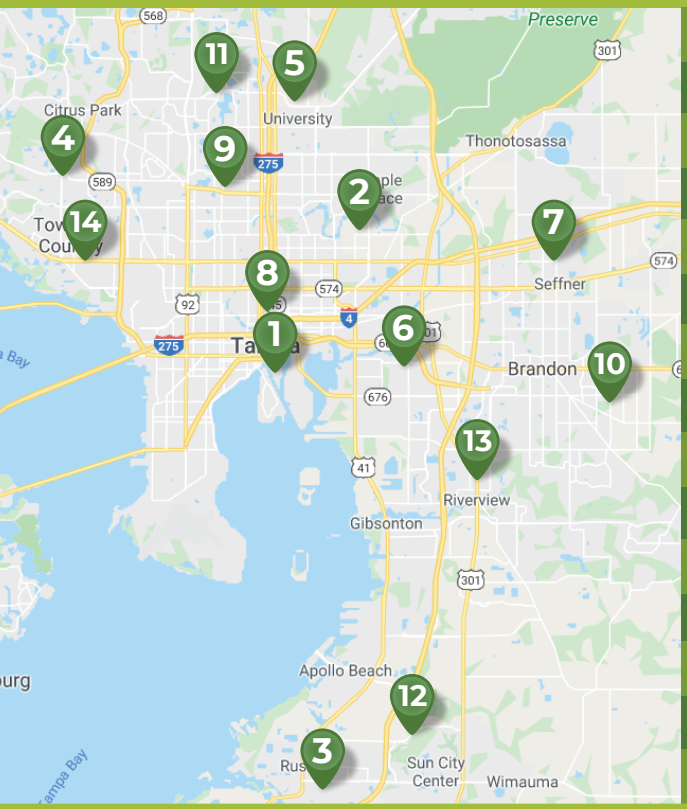
Resiliency Through Solar: How Hillsborough County is Planning for the Future with Sustainable Solutions

For more than a decade, Hillsborough County has been leading an aggressive effort to implement solar energy technologies throughout the community. The initiative was motivated by a desire to cut energy costs, reduce emissions, and create more resilient energy sources that could keep critical infrastructure and services running through hurricanes and other crises. A sustainability grant served as a catalyst for new solar projects, the first of which was the installation of a 195kW rooftop system at the Hillsborough County Courthouse in 2010. That same year, the county installed a 98kW system at All Peoples Life Center Gym. Together, these projects have offset over 6 million pounds of greenhouse gases since their inception.

The Hillsborough County Courthouse

The installation of a 59.0 kW canopy installation at the Southshore Community Resource Center and an 83.7 kW ground mount solar system at the Fawn Ridge Water Plant Administration building also helped create solar energy technologies at two other existing facilities. While multiple considerations must be taken into account when installing solar on existing buildings, efficiency can be optimized when solar is incorporated into the design of new construction. This was the case with the installation of a 52.4 kW rooftop system at the Arthenia L. Joyner University Area Community Library. Since then, county officials have identified eight additional libraries to have solar technology installed by the end of 2020. To highlight just how much clean energy is being generated, the county has installed 55-inch televisions in the libraries equipped to enable the public to watch real-time energy production.

Hillsborough County Solar Projects by the End of 2020



	Project	kW
1	Hillsborough County Courthouse	196
2	All Peoples Life Center Gym*	98
3	Southshore Community Resource Center	59
4	Fawn Ridge Water Plant Administrative Building	84
5	Arthenia L. Joyner University Area Community Library	52
6	Winston Park	42
7	Seffner-Mango Branch Library	63
8	Seminole Heights Branch Library	66
9	North Tampa Branch Library	117
10	Bloomingdale Library	180
11	Jimmie B. Keel Regional Library	115
12	SouthShore Regional Library	178
13	Riverview Branch Library	131
14	Town 'N Country Regional Public Library	68
	Total:	**1,449**

*Undergoing renovations starting fall 2020

Highlighted Project: Solar Traffic Control

Hillsborough County has integrated solar technology into hundreds of traffic control devices. Beyond simply cutting energy costs and reducing emissions, these solar devices also allow for rapid community response time and location flexibility. The battery storage in these units also makes them exceptionally beneficial for resiliency measures. After Hurricane Irma in 2017, the county began installing solar-powered emergency beacons at key traffic intersections. By the end of 2020, Hillsborough County expects solar to power 550 school zone signs, 300 traffic signals, 100 stop signs, and 40 pedestrian beacons. If conventional power goes out, these devices can continue to function, enhancing public safety during times of emergency.

A solar-powered school zone sign

The Hillsborough County Solar Co-op

Encouraging Residential Solar Adoption

To help local residents make the switch to more cost-effective home solar, Hillsborough County also partners with Solar United Neighbors. This national nonprofit organization helps coordinate local co-ops to make the solar purchase and installation process more convenient. This unique process helps bring neighbors together while lowering the cost of solar for everyone. Over 80 Hillsborough County participants have installed a total of 832 kW in generation capacity.

Cutting Costs: Water and EV Infrastructure Enhancements

Hillsborough County has a number of other innovative projects in the works. Among the highlights is a 2.0 mW system planned for the Valrico Wastewater Treatment Plant, which would save approximately $250,000 per year while also hardening critical infrastructure. The county is also working to combine solar energy with electric vehicle charging infrastructure at its facilities for both public access and fleet vehicles.

"The county's innovative approaches to sustainability have inspired other communities to follow its example and we're happy to help share what we've learned."

-Sheila McNamara
Hillsborough County
Sustainability Manager

The Future is Bright

Numerous local governments across Florida have turned to solar technology coupled with battery storage to meet their energy needs and build more resilient communities. Hillsborough County is one of the leaders in this space, and local officials have numerous new solar projects currently in the design process to complement the county's existing portfolio of clean energy technology. Officials are in the process of assessing all county buildings and facilities for rooftop, ground mount, parking canopy structures, and floating solar opportunities. The county is also investigating the use of micro-grids and solar security for lighting and access gates, and every new county construction project must be assessed for possible solar technology. By 2021, Hillsborough County will have added systems totaling about 3,000 kW at a variety of facilities.

The bottom line is that elected officials who see the immense value of solar can take forward-thinking steps to incorporate these cost-effective technologies and programs that will save money, benefit residents, and ensure that the community is hardened against potential threats to the grid.

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