



# Thomas Jefferson Solar Array Gains Energy Independence for Mount Rushmore

## Challenge

Xanterra Travel Collection, the concessioner at Mount Rushmore National Memorial, set an ambitious climate change mitigation and greenhouse gas reduction goal of 50% by 2025 in support of the memorial's designation as a climate-friendly park. On-site solar energy generation is a key part of their strategy to achieve these goals.

## Solution

SunPower Commercial Dealer, Pivot Energy, developed the Thomas Jefferson Solar Array—a SunPower® Long Span Carport built on top of the site's parking garage. The 346-kilowatt system features 975 SunPower P17-355 panels and is the second largest solar project in South Dakota.

## Benefit

The solar system at Mount Rushmore will help the park reach its carbon emissions and financial savings goals. In addition, it provides over 50 percent of the electricity used at its gift shop and restaurant, contributing to prestigious LEED Platinum and 4-Star Certified Green Restaurant® certifications.



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## Quick Facts



346 kW

System Size



SunPower® Long  
Span Carport

Installation Type



450,000 kWh

Estimated Annual  
Production



\$1.1 million

Estimated 25-Year Savings



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“It shows that solar energy can be a cost-effective and practical solution, not just in California or Arizona, but also in the heartland of America.”

**Mat Elmore**

Managing Director of Pivot Energy's  
Mountain Region

## Making National Parks Climate Friendly

The National Parks system is one of this country's greatest assets, both culturally and environmentally. But as the number of tourists visiting national parks grows each year, so too have concerns over rising carbon emissions.

A participant in the National Park Service's Climate Friendly Parks program, Mount Rushmore National Memorial belongs to a nationwide network of parks putting environmentally sustainable practices at the forefront of park operations.

The Thomas Jefferson Solar Array, aptly named for the primary author of the Declaration of Independence, represents the idea that energy independence is attainable for all. Funded by the park concessioner, Xanterra Travel Collection, the project was commissioned in early 2019 and in its first full year generated more than 50 percent of the electricity needs of the park's restaurant and gift shop.

Together with other sustainability improvements—new LED lights, HVAC upgrades, a rooftop vegetable greenhouse, and electric vehicle charging, among others—the project is helping the memorial get one step closer to true energy independence.

## Solving Aesthetic Challenges at a Historic Site

The system went through a rigorous review process to ensure that it did not negatively affect the visitor experience at Mount Rushmore. Minimizing the visual impact was highly important and one of the main factors in selecting the final design with the primary surface sloping up toward the monument. The high power density of the SunPower modules also allowed for a smaller structure.

As a result of these efforts, Pivot Energy, a Denver based solar developer, received the 2018 SunPower Intelephant Award for Excellence, recognizing exceptionally well-designed and installed commercial solar projects. The project was also named “Coolest Carport” by Solar Builder magazine's Best Projects of the Year in 2018 and an “Act of Excellence” by the South Dakota Hall of Fame.

Over the next 25 years, the park expects to generate an estimated 10 gigawatt hours of clean electricity, saving approximately \$1.1 million. The system is designed to eliminate approximately 121 metric tons of CO<sub>2</sub> from the atmosphere annually—the equivalent of taking 26 passenger vehicles off the road each year.

A key component of the Climate Friendly Parks program is education. The Mount Rushmore solar array is a shining example to park visitors that beauty, energy independence, cost savings, and freedom can all successfully coexist.

“This system promotes energy independence and highlights the cost-saving and environmental benefits of distributed solar energy generation,” says Mat Elmore, Managing Director of Pivot Energy's Mountain Region. “It shows that solar energy can be a cost-effective and practical solution, not just in California or Arizona, but also in the heartland of America.”

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