

GreenBy Stan Goldstein

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Cemeteries Turn to Solar for Power and Income

s the Archdiocese of Newark started to install solar panels on the roofs on some of its New Jersey schools in 2010, the idea developed to try solar energy in one of its eight cemeteries.

"We were trying to be more green following the lead of Pope Benedict XVI," said Joe Verzi, the assistant executive director of Catholic cemeteries. "We were changing our lights to make them more energy efficient."

At the Gate of Heaven Cemetery in East Hanover, New Jersey, a new wing had been added to its mausoleum, "And we thought this would be the perfect time to try solar," Verzi said. "We had an acre of land that was adjacent to the mausoleum. It was unused and not in the master plan for the next 15 to 20 years."

The 100,000 square-foot mausoleum had expanded from 9,000 spaces to 14,000 spaces and, "They're not inexpensive to heat," Verzi said.

"At the time, people were saying, 'You're going to do this in a cemetery?" Verzi said. "We had to explain it to a few people that nothing but good could come out of it.

"Andrew Schafer, the executive director of Catholic cemeteries thought it was a good idea, and he said, 'Let's move ahead."

Borrego Solar of Massachusetts covered the \$1.2 million cost of the project that installed more than 1,000 solar panels on that unused acre of land in 2012. Borrego owned and operated the panels and became the cemetery's energy provider before selling those rights.

"It would have been very expensive for us to install them ourselves," Verzi said. "The solar company absorbed the cost. They made it seamless and helped us get the project approved through the town. "East Hanover was 100 percent for it. They liked the idea. That solar field provides 50 houses worth of energy and the town feels it's being green as well," he added.

Eight years later, the cost savings have been significant.

"On an annual basis, it gives us about 57% of the power for the mausoleum," Verzi said. "Our bill here on a monthly basis was about \$4,000. After the solar panels, it was about \$1,700. When we first installed them, it saved us about \$20,000 a year in energy costs," Verzi said. "The field over the years has saved us about \$200,000."

A sign near the solar panels explains its mission to Gate of Heaven visitors:

"God's Green Acre: This one-acre field is occupied by more than 1,000 solar panels that supply half of the energy powering our mausoleum. This helps save money and protect Mother



Earth by reducing the use of fossil fuels, offsetting 4,000 tons of carbon pollution, which is equal to planting 75 trees or removing 1,000 cars from the road for one year."

The goal is to educate visitors about the benefits of going green.

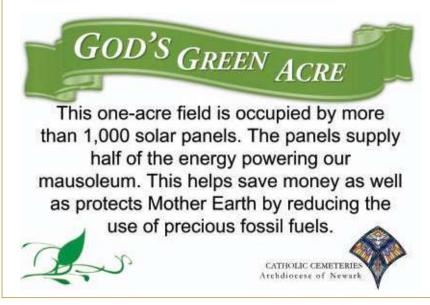
"We tell people to think about being green. We take them around and explain to them the lights we're using now," Verzi said. "We don't build a building on any of our properties unless they have LED lights. "We're in the process of planting 190 new trees at our cemeteries. We build bird houses as well."

On the drawing board is another expansion for the mausoleum. A new wing will be built with 5,000 more spaces. It's scheduled to be completed at the end of 2021.

"We're going to have 19,000 spaces 'in total'. They won't be all crypts. The first addition had 80% crypts and 20% niches. This new building will be 50/50 crypts to niches," Verzi said.

The new construction will not interfere with the solar panels.

"As part of our master plan, when we put the solar field in and later came back to do this addition, we made sure it would not block the solar panels," Verzi said. "The addition of the solar panels has worked out pretty good for us."



Top: The solar panel field at the Gate of Heaven Cemetery in East Hanover, New Jersey. Above: A sign near the solar panels explains its mission to visitors. (Photos courtesy of the Archdiocese of Newark)

Different Approach in Michigan

In Ypsilanti, Michigan, Highland Cemetery installed solar panels on its property in 2016 for an income stream, not as a power source.

"We're a cemetery that began in 1864. Most people think of the past, yet in order to preserve our history of the past, we are using the technology of the future," said Barry LaRue, the secretary of the board of trustees for Highland Cemetery.

Ypsilanti city officials contacted the Highland cemetery board in May 2015 about the possibility of leasing a roughly 150-foot by 1,000-foot parcel in the cemetery's unused north end to DTE Energy, the region's main utility company. DTE was looking for a location to install an array of ground-mounted solar panels to expand its renewable energy program.

Dave Strenski, the founder of SolarYpsi, a group of volunteers promoting solar power in Ypsilanti, recalls DTE looking for a suitable site to put up solar panels.



"An original site they looked at didn't work out and when DTE suggested the spot in the cemetery, it was perfect. I hadn't thought about putting them there, it was a surprise to me," Strenski said. "It has worked out better than I thought."

A 20-year lease deal was agreed upon and construction of the solar panels began in June 2016.

"It's a huge system. It's 2,520 solar panels arranged in four rows for a total of 844 kilowatts," Strenski said. "A typical house needs about five





Opposite page: The solar panels at Highland Cemetery in Ypsilanti, Michigan, help fund cemetery projects. (Photo courtesy of SolarYpsi) Above: Income from the solar panels has contributed toward the restoration of the Starkweather Chapel built in 1888 at Highland Cemetery. (Photo courtesy of Highland Cemetery)

kilowatts to be fully solar powered, so this is enough electricity, on average, to power 168 to 170 homes."

The panels were ready for use in November 2016. Highland receives about \$19,000 per year from DTE for the lease of the land according to LaRue.

"We were reaching the point of financial uncertainty and the board was looking at some capital improvement projects. We were fortunate to be approached by DTE for the solar project on the northern part of the property," he said. "The area was unsuitable for burial. We were sitting on this land we couldn't use, and it has become an income stream for our capital needs. It was perfect timing."

LaRue also didn't want the panels to alter the beautiful views visitors and families have of Highland.

"The panels were installed on an area that is a lower elevation than the gravesites and mostly would not be visible from other parts of the

cemetery," LaRue said. "It hasn't created any angst among our plot holders or any criticism from any of our families as far as aesthetics."

Panels Benefit Cemetery Projects

The income stream from the solar panels has helped fund projects in the cemetery.

"It has provided the cash flow to help us repair roads, water lines, put a new roof on the caretaker's cottage, the restoration of the Starkweather Chapel and the completion of a new columbarium," LaRue said. "It's been a fabulous income source."

The Starkweather Chapel was built in 1888 and designed by the Detroit architectural firm of Mason & Rice. It has been closed since the 1980s and LaRue's goal is to see it restored.

"I've been interested in trying to rescue the chapel since the 1980s. It fell into disrepair and it was padlocked," he said. "If we didn't have the income from the solar panels, we would have been behind on the restoration."



Work on the chapel has been progressing. The restoration of the roof is complete and two of the restored doors have been reinstalled. Interior work has also begun. LaRue, who has helped raise close to \$60,000 in non-solar income for the project and \$5,000 in a GoFundMe campaign, is optimistic it will be open in the spring of 2020.

"I do my best when I have a goal and I set a goal to have a dinner meeting in the chapel in May of 2020," he said.

Another project LaRue is working on is getting Highland Cemetery listed in the National Register of Historic Places.

"The solar panels were mentioned in our application along with the design and picturesque landscape of the cemetery – the rolling topography," LaRue said. "This will put us in line to be able to apply for certified local government funds from the Department of the Interior.

We already were reviewed and approved by Ypsilanti and the state of Michigan. Now it's in the hands of the National Register."

As for the future of Highland and solar panels, LaRue hopes it continues to work out.

"There's a certain life on those panels. Their effectiveness declines with age. Our current lease is for 20 years with an option for renewal," he said. "They could have better ones down the line, and we would be delighted with the continued income stream. We'll see what the future of alternative energy brings."

Strenski, who is known as the "Solar Guy" in Washtenaw County for his 14 years of promoting the alternative energy source, agrees that you never know how things will change.

"Technology advances so quickly. When I did my first panel in 2005, one panel was 190 watts and cost \$1,000. Today that same shape is

320 watts and costs \$200," he said. "Twenty years from now, the technology will advance even more."

Overall, the solar panels have worked out well for both Gate of Heaven and Highland.

"We like telling people about God's green acre," Verzi said. "We're a little outside the box and it's been a great opportunity for us to be part of something special. It has gotten us out in front of a lot of people."

Highland has contributed to Ypsilanti receiving national notoriety.

"Ypsilanti was mentioned in a 2108 Environment America article on 'Shining Cities.' We were rated as one of the top towns that has adopted solar energy," Strenski said. "A lot of this was driven by the cemetery project. It gives us a sense of pride. It's been fantastic. A win-win for all." •

