

Solar Energy: Is It Right For Your Restaurant?

Standard Renewable Energy helps restaurants that want to positively impact the environment.

By Jaime Lackey

Staff Writer



Installing solar panels on the roof of a restaurant. Solar panels are rated to withstand up to 90-mile-per-hour winds and 1-inch hail. The solar panels at Jason's Deli in Beaumont, Texas, even survived a direct hit by Hurricane Humberto.

There are several environmental benefits of solar energy, says Brett Sailors, vice president of sales for Houston-based Standard Renewable Energy. "Solar energy is a renewable resource, unlike fossil fuels used to generate most of our electricity. Solar energy produces no harmful emissions or pollutants, unlike fossil fuel electric generation, which produces emissions such as carbon dioxide, sulfur dioxide, nitrogen oxides, as well as particulate matter — all emissions that are linked to environmental

issues such as global warming, acid rain, smog and other climate change issues."

According to Sailors, "For every restaurant that installs even a 10 kW system, more than 25,000 pounds of carbon dioxide emissions could be prevented each year. This would have a similar environmental impact to planting 850 trees or taking 750 cars off the road for 1 day each year."

For a restaurant with a shared roof space, a typical system might be 10,000 watts (10 kW). A stand-alone restaur-

ant with more roof space available could potentially install a larger system. Approximately 100 square feet of roof space is required per kW of system size. (Approximately 1,000 square feet of space is required for a 10 kW system).

On average, system costs for a commercial system are approximately \$7 to \$9/watt of system size. The initial cost for a 10 kW system would be between \$70,000 and \$90,000. This cost can be offset 30% to 70% by federal, state and city rebates. For example, the cost



Houston-based Standard Renewable Energy was responsible for the installation of solar panels at two Jason's Deli locations and will install solar panels at three additional deli locations. The company is also installing solar panels at two Chipotle restaurants in Austin, Texas. Both restaurant companies are expected to expand their solar energy programs after testing the systems.

of a 10 kW system in Austin, Texas, or in Colorado may be \$19,000 to \$33,000 after rebates. (And the restaurant will also save on its electric bill every month.)

There are several federal incentives and rebates available nationwide for commercial installations of solar PV (photovoltaics) and solar thermal systems, Sailors says. Federal benefits include a 30% business energy tax credit. (The 30% credit is currently available until December 31.)

Businesses are eligible for an accelerated depreciation schedule of 5 years for solar energy improvements (Modified Accelerated Cost Recovery System – MACRS), which allows them to recuperate their investment more quickly.

Furthermore, increases in property value realized from the installation of a solar energy system are exempt from property tax.

State and local rebates are typi-



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cally paid as a subsidy on each watt of system size. For example, a typical small restaurant with shared roof space might install a 7,000-watt to 15,000-watt system (7 kW to 15 kW) and receive a rebate of \$2.50/watt to \$4.50/watt (\$17,500 to \$67,500). Higher rebate amounts are available as system sizes increase; restaurants with sufficient roof space could install larger systems and receive rebates up to \$500,000, depending on the location.

According to Sailors, Austin offers a \$4.50/watt rebate and San Antonio offers a \$3.00/watt rebate through municipally owned utilities (Austin Energy and CPS Energy). In Austin, commercial rebates can be up to \$100,000, and in San Antonio rebates can be up to \$50,000.

In Colorado, Xcel Energy offers \$4.50/watt rebates up to \$200,000. The company's service territory is much of Colorado's Front Range, including areas from Boulder to Denver.

New Jersey provides a rebate of \$4.10/watt, with no maximum set on the rebate amount.

Arizona offers a \$2.50/watt rebate in areas serviced by the Arizona Public Service utility. Rebate maximums are \$500,000 for commercial installations.

California provides a state incentive, and there are a number of local incentives on top of the state rebates. The rebates in California are a little different: instead of a rebate on the system installation cost, they actually pay a rebate based on the amount of electricity produced by the system, effectively paying the customer for the electricity produced on site.

"Solar panels also protect a business against electricity rate increases — for the portion of their energy production that is provided by their system," Sailors says. He notes that some utility companies plan to transition to a time-of-use or a tiered electrical rate structure. Time-of-use plans mean utility rates are higher during peak usage periods — the middle of the day, when solar systems tend to produce most of their energy. Tiered plans mean businesses may pay a higher rate based on

their usage class. For instance, a business that uses 10,000 kWh per month may pay 12 cents per kWh, but if that same business uses 20,000 kWh per month, they would pay 15 cents per kWh. A solar energy system can offset the highest time of use rates and can potentially keep a business in a lower electric rate class.

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merly NewPoint Energy Solutions) was responsible for the installation of solar panels at two Jason's Deli locations and will install solar panels at three additional Jason's Deli locations. The company is also installing solar panels at two Chipotle restaurants in Austin. Both restaurant companies are expected to expand their solar energy programs after testing the systems.



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“We are always happy to talk with individual businesses about how we can customize systems to their specific needs — whether it be for one store or for an entire chain,” says Sailors. “And we are open to partnering with businesses — for example, co-marketing.”

Restaurants located in areas with aggressive incentive programs are more likely to find solar panels an attractive option. But how do you know if your location would benefit from solar panels? “Ideal buildings for solar energy systems have flat roofs, composition shingle roofs, clay tile roofs, and some types of metal roofs. Obviously, locations with heavy shading or roof spaces with limited contiguous free space would require additional evaluation,” says Sailors. “However, even restaurants with less-than-ideal roof spaces have other options for installing solar energy systems. For example, restaurants can use solar panels on drive-thru overhangs or to create a covered

area over patios.”

He adds, “We can estimate the electricity production of a system based on historical weather data (the amount of sunlight a location receives over the course of a year), as well as the particulars of the system, including system size, the direction the system faces and shading. Estimates can vary [plus or minus] 15%, primarily due to changes in weather during a particular year.”

Some restaurants and landlords also have concerns about installing solar panels on rooftops. Sailors notes, “We take several steps to ensure that a solar system is installed properly and will perform for many years with virtually no maintenance. In fact, solar panels are rated to withstand up to 90-mile-per-hour winds and 1-inch hail. Depending




Solar panel system on top of a Jason's Deli location in Beaumont, Texas.

on the building, we will perform the appropriate analyses to properly engineer the system, including wind load analyses and structural engineering analyses. Solar energy systems are very reliable and with proper engineering there have been hundreds of commercial installations that have not caused any problems with the building. Solar energy systems are warranted for up to 25 years, and many systems have been producing energy for even longer than that.”

He adds, “The Jason's Deli restaurant in Beaumont, Texas, recently survived a direct hit by Hurricane Humberto without a scratch!”

According to Raymond Begnaud, director of facilities maintenance and development for Beaumont-based Jason's Deli, his restaurants won't see a tremendous return on investment from the solar panels, but the company is committed to reducing its footprint.

As Sailors says, “We can install wireless monitoring systems so restaurant customers can see how much energy is being generated by the solar panels. We are also working with our restaurant clients to put together displays where we can highlight that location's environmental impact and carbon dioxide emissions reduction.”

He stresses, “Benefits to restaurants that install solar energy systems extend beyond economic benefits. The customer goodwill and public relations benefits that result in increased patronage could more than pay for the cost of installation.” 



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