

General Growth Properties Registers big savings with energy efficiency upgrades

Shopping, strolling, dining and ice skating are just a few of the activities that patrons enjoy when visiting malls operated by General Growth Properties (GGP). A real estate investment trust, GGP owns, develops and operates 120 shopping malls across the United States.

Here in Maryland, GGP has malls in Baltimore, Columbia, Towson and White Marsh. The mall at Towson Town Center occupies 1.05 million square feet of space and is home to nearly 200 retailers. It's also where GGP made some key investments in improving the facility's energy efficiency—investments that will save about \$445,302 a year on the mall's energy costs. Incentives from the BGE Smart Energy Savers Program[®] totaling \$577,810 covered nearly 40% of the upgrade cost, making the projects much more affordable.

The opportunity

A few years ago, GGP began performing energy audits at its shopping malls to identify opportunities for reducing operating costs. These audits revealed a variety of energy-saving opportunities such as modifying escalator start and stop times, retrofitting lighting fixtures and upgrading the heating, ventilation and air conditioning (HVAC) systems.

Towson Town Center was built in 1959. An expansion in 1991 added third and fourth floors to the mall, and another in 2008 resulted in a new luxury wing and restaurants. As a result, much of the original 1959 infrastructure remains in place, with a combination of old and recently renovated systems all working together.

After the energy audit at Towson Town Center, Mike Sullivan, senior general manager at GGP, reached out to BGE for advice on replacing the outdated metal halide lighting in the parking garages with LEDs. "We knew we wanted to do an LED retrofit," Sullivan says. "But we were looking to make it more cost effective. Once we learned about the incentives available to businesses for energy efficiency upgrades, we worked with BGE to make sure we selected equipment that would qualify."



"We'd had our eyes on these technologies for a while, but they became more economical with the incentives that were available from BGE."

— Mike Sullivan,
senior general manager,
GGP

The BGE solution

GGP used incentives from BGE's Energy Solutions for Business Program to retrofit 1,920 old 150-watt metal halide fixtures in the mall's parking garages with 80-watt LED lamps and occupancy sensors.

"We researched and selected occupancy sensors that dim down to 30% capacity when no one's around," Sullivan says. "When the sensors detect a person or a car, the lights go back up to 100%."

The lighting upgrades were performed at night to minimize the impact on shoppers and employees. Just-in-time delivery eliminated the need to store large quantities of materials in the garage until installation.

Rooftop HVAC units provide warm and cool air for the mall's hallways, restrooms and food court. Before the upgrade, the units operated at 100% capacity at all times. The addition of 31 variable frequency drives (VFDs) to the rooftop units, however, enables staff to adjust the operating speeds based on the time of day and building occupancy. In addition, GGP performed an enhanced tune-up on all 77 rooftop HVAC units by thoroughly cleaning each unit's coils and repairing broken outside air intakes. This procedure helps restore the units to 90% or more of their original efficiency.

The benefits

From the onset, these projects delivered significant energy and cost savings. "Our kilowatt-hour consumption has dropped by around 20%," Sullivan says, "which reduced our operating costs without affecting comfort."

Employees report that the new lighting in the parking garages is brighter even though the foot-candle is the same as before. Another benefit is that LEDs have a longer life than metal halides, so the company expects lower maintenance costs too.

The availability of incentives from BGE's energy efficiency programs significantly improved the return on investment (ROI) for GGP's projects. "We are a partnership property," Sullivan says, "so it was important to make the ROI as attractive as possible to gain the approval of our partners to do this work."

Up next, GGP is planning energy efficiency upgrades at two nearby shopping centers: White Marsh and Mondawmin Malls. The company will take advantage of BGE's Building Tune-up Program, which provides incentives for monitoring, troubleshooting and adjusting electrical, mechanical and control systems to optimize energy performance.

"It's in our best interest to keep our operating costs down," Sullivan says. "As we reduce our energy expenses, we reduce the cost to retailers and help them increase their margins. It's a win-win. Doing the upfront work to identify energy-saving opportunities and work with BGE on the incentives paid off in a big way for us."

Savings at a glance

GGP outfitted the parking garages at Towson Town Center with LED lighting and installed VFDs on the rooftop HVAC units that keep the mall's common areas comfortable.

BGE program:
**Energy Solutions
for Business and
Building Tune-up**

Total project cost:
\$1,483,724

Electricity savings:
3,038,273 kWh/year

Incentives paid:
\$577,810

Cost savings:
\$445,302/year

Cost to the customer:
\$905,914

Payback:
24.4 months



The BGE Building Energy Performance Report provides a detailed analysis of how your building uses energy. It identifies which systems are performing well and which have the greatest potential for energy savings. The report provides recommendations for improvements and financial incentives available through the BGE Smart Energy Savers Program. For more information, visit [BGESmartEnergy.com](https://www.bgesmartenergy.com).

EmPOWER Maryland programs are funded by a charge on your energy bill. EmPOWER programs can help you reduce your energy consumption and save you money. To learn more about EmPOWER and how you can participate, go to [BGESmartEnergy.com](https://www.bgesmartenergy.com).