



GreenSTAR Spotlight Dunbar Mechanical Inc., Toledo, OH

Dunbar Mechanical Creates Energy-Saving Solutions for Belmont Country Club



Located in Perrysburg, OH, Belmont Country Club is a private, member-owned facility that operates four buildings, maintains a championship-level golf course, provides year-round tennis and hosts a variety of social gatherings. With a menu of upscale amenities and a reputation to uphold, Belmont needed to maintain the standard of comfort to succeed. However, the building's HVAC system lacked the ability to control temperatures and track energy usage and costs and, members, guests and the staff were paying the price. That's when Belmont's Building and Grounds Committee reached out to Dunbar Mechanical Inc. (Toledo, OH) to regain control over its facility and devise a renovation plan.

Introducing Dunbar

What started as a small, family-owned plumbing and well-drilling company more than 75 years ago has become one of the 100 largest full-service mechanical contractors in the United States, as ranked by *Engineering News Record*. With annual revenue exceeding \$50 million and a staff of more than 250 employees, Dunbar serves the Ohio and Michigan marketplace with HVAC, building automation and energy-saving solutions.

The Energy Audit

Prior to Dunbar's renovations, Belmont's management had received numerous complaints from members and guests. The facility had an outdated pneumatic system. As such, the temperature and air flow in the building were uncomfortable and the energy costs exceeded the desired budget. "It was critical that Belmont have better control over their system," said Todd Cleghorn, Dunbar's Controls Manager. "They didn't want member complaints. They wanted people to say that they enjoyed having their event at the club."



After reviewing the situation, Dunbar proposed an energy plan to upgrade the overall controls system, replace mechanical equipment and benchmark data to qualify for FirstEnergy incentives. Because FirstEnergy typically deals specifically with equipment and lighting, Belmont needed to apply for a custom incentive program to receive a rebate. This required Dunbar to calculate energy predictions and run a system analysis on the building to guide their process.

Belmont approved Dunbar's plan and the company proceeded to install new Varied Air Volume controls on the main building's return fan and air handling units so the airflow and temperature could be adjusted in each individual room. They also installed a new Building Automation System. Additionally,

sub-metering was added to track each building's usage individually and allow for more accurate budgeting and cost allocation.

The Payback

The impact of Dunbar's work speaks for itself. Dunbar forecasted a 10 percent reduction in both gas and electric usage. Belmont is already realizing a 13.97 percent (153,400 kWh) reduction in electric energy usage and a 13.65 percent (nearly 3,500 CCF) reduction in gas energy usage. The total cost of modifications was \$78,325 and approximately 15 percent of the project's costs were covered by custom rebates amounting to \$12,000 in incentives. Overall, Dunbar has saved Belmont approximately \$17,230 annually through renovations with a four-year payback. Dunbar has also secured Belmont additional savings in maintenance and service costs.

The Future of Energy Savings

After the project's completion, Belmont and Dunbar entered into a two-year energy monitoring program, allowing Dunbar to provide additional energy savings, measurement and system improvements. Dunbar's success at Belmont has already piqued interest from other local country clubs. Despite the proven success of this and other energy service projects, Cleghorn says that owners are still often reluctant to enter into negotiations. "I think there is more interest in energy services," he said, "but people are still uneducated about what they can do and what direction to go in. It's hard to get owners to commit. Everyone is looking for very short paybacks. These projects require some capital investment to get you to a system with the necessary sophisticated sequencing and operation, which of course makes the payback a little longer."

Dunbar is making strides to combat the stagnant knowledge issue. One way they are accomplishing this is by offering free benchmarks for properties. "Benchmarks are a way we educate owners on how their building is doing...and get a foot in the door," said Rocco Donofrio, Dunbar's Mechanical Service Director.

Dunbar's advice for contractors trying to break into the energy services space? "Keep at it," said Kevin Armstrong, Dunbar's HVAC Commissioning and Testing Manager. "It hasn't been an easy road for us. Just be consistent and educate yourself and your clients on what you can do for them."

THE RESULTS

Cost of Modifications:
\$78,325

Incentives:
\$11,831

Net Cost After Incentives:
\$66,494

Annual Dollar Savings:
\$17,230

"Dunbar has done an outstanding job and is one of our preferred vendors. We got rid of our other two contractors and we're just using Dunbar right now. They've definitely done what they said they would do, and it's been working great."

-Ron Hanna
Belmont Country Club
Buildings & Grounds Committee

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