



PROJECT

Charter Medical, Ltd.

LOCATION

Winston-Salem, NC

DETAILS

LED lighting upgrade in 72,000 sq. ft. facility to reduce energy, expenses, and carbon footprint

RESULTS

62% REDUCTION IN ANNUAL LIGHTING ENERGY USE

2 YEAR PAYBACK PERIOD

\$22,022 SAVINGS IN ANNUAL OPERATIONAL COSTS

275,286 kWh REDUCTION IN ANNUAL ENERGY USAGE

\$48,383 SAVINGS IN ENERGY INCENTIVES



Charter Medical, Ltd. LED Lighting Upgrade: Saves \$22,022 in Annual Operational Costs, More than 50% of Project Paid for in Energy Rebates

The Challenge

Charter Medical, Ltd. has a 25-year history of developing and providing specialty single-use products to the blood transfusion, cell therapy, biotechnology, and pharmaceutical markets. Charter Medical itself on exceeding customer's expectations through a commitment to continuous improvement, and to that end, sought out the expertise of GreenTech Solutions Group to upgrade the lighting in its 72,000 square-foot facility in Winston-Salem, NC.

Outdated and costly lighting existed throughout the facility. The cleanrooms were subject to federal regulations, so any lighting upgrade had to be done thoughtfully and carefully. Charter Medical also required the upgrade to not only reduce energy and maintenance costs, but also to increase quality control throughout, especially at inspection areas. Charter also need the installation to not disrupt the work flow.

Because of the company's commitment to providing superior products, improving quality checks and making workstations brighter and easier to perform task in was top on Charter's list of requirements.

The Solution

GreenTech carefully assessed the current lighting configuration in Charter Medical's warehouse and office areas, and worked closely with the company to plan a strategy to replace the lighting in two cleanrooms and warehouse space. GreenTech provided photometrics on fixture allocation with light levels needed for compliance with federal regulations. Instrumentation was utilized throughout the process to monitor particle counts insuring that the cleanroom remained within compliance throughout installation.

GreenTech upgraded existing legacy T12 and T8 fluorescent troffers with high-efficiency LED panel fixtures in all office areas. **Light level dimming controls further increased energy efficiency** in these areas throughout the facility. The office lighting upgrade not only improved the overall quality of light, integrated dimming controls allowed each employee to customize light levels to a particular task or mood.

"We always strive to do more than just upgrade the lighting in a facility. We seek to make the resulting environment more conducive to productive work, and allowing employees to control the lighting in their individual spaces to their own needs is a great benefit," said GreenTech VP of Business Development Scott Jernigan. "This project, especially concerning the strict regulations on the cleanroom areas, demonstrates our commitment to keeping operations going smoothly during the installation process and ultimately delivering superior lighting products to our clients."

The Results

GreenTech's recommendations resulted in substantial energy and cost savings.

The summary of benefits were the following:

- 62% reduction in annual lighting energy usage
- \$22,022 savings in annual lighting energy costs
- 2-year payback period
- \$48,383 savings in energy rebates
- 275,286 kWh reduction in annual lighting energy use
- 62% reduction in greenhouse gas emissions

After installation, subsequent cleaning and verification, the cleanroom areas were returned to service with minimal impact to production. The cleanroom areas saw an increase in light levels, improving acuity and task performance.

Philips LED high bays were utilized throughout the warehouse for lighting. With proper fixture configuration, **warehouse lighting quality was dramatically increased, enhancing safety and efficiency.**



"All the employees noticed an immediate improvement," said Casey Vestal, Charter Medical's purchasing agent. "Charter Medical is focused on exceeding our clients' expectations, meeting quality requirements and providing the best possible service and products. GreenTech shares the same goals, and from start to finish we were very pleased with the performance of their team on this project."

GreenTech assisted in securing **more than 50% of the project's total cost in rebates** from Duke Energy: Smart Saver Incentive Program. The generous rebates combined with remarkable energy savings resulted in a **quick two-year payback period** for Charter Medical.

The lighting retrofit not only saved the company **\$22,022 in operational costs yearly**, it also delivered a 62% reduction in greenhouse gas emissions, the equivalent of taking 41 cars off the road or planting 159 acres of forest.

The LED upgrade provided Charter Medical with a better-quality light, brighter and more efficient spaces, while reducing their overall carbon footprint. Charter Medical has proven to not only deliver products that help improve the quality of life, but by upgrading its facility to energy-efficient LED lighting, it is also making an ecological impact that will have long lasting effects on generations to come.



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