

*High-End American Menswear
Manufacturer, Gitman Bros. Keeps
Focus on Quality, Craftsmanship
and Efficient Energy Use*

Summary

Gitman Bros., an upscale clothing manufacturer located in Pilot Mountain, NC, sought to maximize an important component of operational efficiency by enlisting NC State University's energy extension group, Energy Solutions, to perform an energy assessment of its facility. This collaboration provided the clothing maker with a targeted analysis of energy consumption and resulted in five recommendations for increased efficiency opportunities.



Gitman Bros., produces high quality men's neckwear and shirts. Their garments are sold by fine clothiers around the country and internationally. Photo courtesy of Gitman Bros.

Company Background

Gitman Bros. is a proud American manufacturer of high-end neckties and shirts and represents a collaboration of important names in menswear manufacturing. Despite a difficult economic environment for domestic manufacturers, they continue to focus on, and excel in, supplying the discerning client with carefully crafted items. Their products can be found in retailers throughout the country. [Click here](#) for an enlightening look into the firm's history and philosophy.

Site Background

The Brown and Church/Gitman Neckwear plant, a one-story, 26,000 square foot facility located in Pilot Mountain, North Carolina, produces approximately 120,000 units annually with a staff of 38. Major sources of energy use include lighting, air conditioning, sewing machines, electric boiler, and air compressors.

Assessment Approach

The energy assessment, conducted in December 2014 by Energy Extension Specialists, Harsha Holalu Ramakrishna and Daniel Paprocki, includes a tour of the facility as well as energy system data collection. Subsequently, data is analyzed including rate reviews and recommendations calculated with capital purchase and payback.

Energy Solutions has served as an energy resource for more than 40 years, providing assessments and recommendations to schools, government/commercial facilities, in addition to manufacturing clients.

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Results

Results are then presented to plant management for discussion and consideration. In Gitman’s case, there were five main areas of improvements in order to maximize the facility’s energy efficiency. The suggestions ranged from administrative (consolidating rate schedules) to ensuring the expenditure of energy only on an as needed basis (photo and occupancy sensors) to upgrading existing systems (lighting, boiler, water heating). If all recommendations were implemented, there would be an initial outlay of \$79,290. Cost savings would be \$10,191/year or 33% of total energy cost. This would cause a payback period of 8 years. This case study will be updated with the chosen and implemented energy conservation measures upon their completion.

Recommendation	Conservation (kWh/yr)	Savings (\$/yr)	Implementation Cost (\$)	Simple Payback (years)
1. Consolidate Electric Rate Schedules	-	\$230	\$0	Immediate
2. Upgrade Existing Light Fixtures	47,493	\$4,646	\$44,790	10
3. Install Photo Sensors and Occupancy Sensors	8,445	\$675	\$2,500	4
4. Investigate Wood Waste Fired Boiler	-	\$3,000	\$20,000	7
5. Investigate Solar Thermal to Preheat Makeup Water	20,530	\$1,640	\$12,000	8

About Energy Solutions:

Energy Solutions, a part of the Department of Mechanical and Aerospace Engineering at NC State University identifies opportunities in energy efficiency, co-generation and renewables that reduce energy, save costs and increase profits, resulting in a more competitive and sustainable base of industry. The group’s mission is to train the next generation of energy engineers while simultaneously strengthening business and industry in the Southeast through fuel- and technology-neutral energy solutions that yield reductions in energy upon implementation. Energy Solutions also serves as one of 24 U.S. Department of Energy Industrial Assessment