

Green Energy Supermarkets, Inc.



# Project Profile

Amelia's Grocery outlet  
Various locations Central Pennsylvania

## Sustainable Initiatives

The two existing rooftop heating/cooling systems were replaced with new high-efficiency units that use HFC-410A refrigerant which does not harm the ozone layer. All new ductwork was installed for more efficient air movement. Heat recovered from the refrigeration system is used to help heat the backroom warehouse area.

the store's black roof was replaced with an Energy Star<sup>®</sup>-rated, white TPO roof that reflects the heat from the sun in the summer, keeping the roof 50 degrees cooler than a black roof while saving 10-15% in building cooling costs and reducing the building's "heat island effect." in Mechanicsburg, the roof was designed to accommodate a future solar panel installation.

Refrigerated cases were retrofitted with electronically-commutated motors (ECM) that reduced energy use by 65% compared with the original

motors. The fluorescent lights in the glass door frozen food cases have been replaced with LED lights which provide better lighting on the product using less energy and are designed to last 65,000 hours before needing replacement. Anti-sweat heaters used to prevent condensation on the glass door cases are now controlled by humidity sensors which reduce the annual run-time of the heaters by 50%. Open-top frozen food cases and open, multi-shelf dairy cases were retrofitted with pull down night curtains to preserve product temperature and reduce energy by 50% during the store's closed hours.

All of this reduction of energy in the refrigerated cases, in turn, reduces the load on the refrigeration system. The new central refrigeration system, designed to use an ozone-friendly refrigerant, has multiple compressors to match the refrigeration load with the capacity for optimum energy efficiency. The air cooled condenser on the roof,



### FAST FACTS:

- Project: Amelia's Grocery Outlet stores
- Locations: Manheim, Mechanicsburg, York, PA
- Construction Value: \$340,192+ lighting
- KWH reduced: approx. 45%

the part of the refrigeration system designed to reject the refrigeration heat outside, was also retrofitted with ECM motors to further reduce energy use.

# Project Profile (Cont.)

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A computerized facility management system, which senses refrigerated case temperatures, refrigeration unit pressures, store temperatures and humidity, controls all aspects of the store's refrigeration, HVAC and lighting systems including night setback for HVAC and lighting and refrigeration case and walk-in temperature and defrost control for maximum energy savings while providing refrigeration temperature alarming to protect the integrity of the refrigerated products 24/7.

The general sales area lighting was retrofitted with ALANOD MIRO aluminum reflectors, an advanced technological material which, reflects 95% of the fluorescent light from the fixtures and redirects the light to accent the products on the store's shelves. The store's lighting power was reduced over 50% while at the same time providing the customer with better product visibility. The lower lighting wattage also reduced the amount of heat needed to be removed by the store's air conditioning system.



We provide utility cost containment to our clients, offering them a 10% savings on electricity expenses and 100% savings on maintenance costs.

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