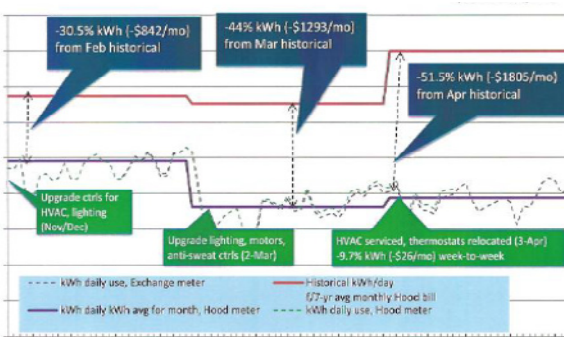
PROJECT CASE STUDY:

Energy Improvements for AAFES Shoppette Fort Hood, Texas



"We love the program! The installers worked very well with our team to coordinate, so as not to disrupt operations. Customers notice the difference, the store is brighter. Employees love it, sales floor is brighter and lights shine on the merchandise. Customers and associates enjoy watching the energy usage display in real time, some of them stop and read the trend. Most of all we like the approx. 45% energy savings!"

-Paula Gunderson, *General Manager,* Fort Hood Exchange

50% **Annual energy savings**

Fort Hood, Texas.

The pilot project for a national roll out program to improve energy efficiency, the Army and Air Force Exchange Service commissioned E4E Solutions to implement several of the cutting edge strategies that best serve the Fort Hood Express store's operational characteristics. The pilot project verified energy and maintenance savings from controls and equipment upgrades, proving that they will replicate across hundreds of Express facilities.

FINANCIAL IMPACT	
Construction Cost	$ 62,669
Annual kWh Savings	172,424 kWh
Simple Payback	3.9 yrs
ROI	42%

ENVIRONMENTAL IMPACT	
Annual CO2 Saved	119 metric tons
Equivalent in oil/yr	277 barrels

Highlights.

The primary focus in the Express pilot was on HVAC, refrigeration, and lighting, pairing equipment upgrades with an increase in the controllability of the systems while decreasing maintenance costs.

Electronically commutated motors (ECM) and controls on reach-in/walk-in refrigeration evaporator fans allow for increased efficiency and speed reduction, a **70-80% energy savings** over standard shaded pole motors. In combination with the electronically commutated motors, a new anti-sweat defrost system was installed on the glass doors to monitor moisture levels and only defrost as needed, reducing the load to be cooled and producing an **80-90% energy savings.**

Lighting received a complete overhaul without retail interruption, starting with light emitting diode (LED) bars and occupancy sensors on cooler case doors to achieve **90-95% energy savings.** High efficiency reflectors retrofit kits on overhead interior light fixtures provide superior light levels with fewer lamps for a **35-40% energy savings.** Outside, induction parking lot pole and wall pack light fixtures combine better lighting with significantly less energy and a longer life (100,000 hours) for a **74% energy savings.**