

# Success Briefing

The Army & Air Force Exchange reduces energy consumption by 45%



## Project Overview

### Company

Customer: The Exchange (The Army & Air Force Exchange Service)

Contractor: E4E Solutions  
“Engineered for Efficiency”

### Industry

C-Stores, Grocery, Retail.

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

### Gexpro’s added value

- **Complete solutions** encompassing **multiple disciplines:** HVAC, lighting, motors, motor controls, cooler case controls and complete project material logistics.

## The Exchange – Retrofit Pilot Project Demonstrates Potential for Energy Savings Nationwide



**The Army & Air Force Exchange Service (also known as the Exchange) is a joint military activity providing quality merchandise and services to active duty, Guard and Reserve members, military retirees and their families**

### The Challenge

Engineer and orchestrate a national program to do a comprehensive retrofit of over 500 AAFES locations in the US. The Fort Hood Shoppette acted as the pilot project for the national program rollout. AAFES commissioned E4E Solutions to engineer and implement the several cutting edge strategies that would best serve the Fort Hood store’s operational characteristics. The pilot project proved the potential for energy and maintenance savings from controls, lighting and other equipment which will serve as a model for the national roll-out.

### The Approach

Gexpro, a leading supplier of energy management products and solutions, teamed up with E4E Solutions and The Exchange to implement a comprehensive energy retrofit of the pilot facility. The refrigeration case retrofits included replacing the existing motors, lighting, and controls with new energy efficient motors, LED light bars, and smart controllers. The existing retail floor lighting was replaced with longer life, energy-efficient lamps, ballasts and reflectors. Non-retail areas also maximized their lighting system savings through energy efficiency technologies.

### The Solution

- Active8 energy efficiency solutions provided by E4E and Gexpro: E4E Energy Audit, Energy Conservation Measures installation, and Rebate Management were included in a single national IDIQ vendor contract.
- Energy rebates were included in selecting ECMs, calculating BLCC and SIR, and funding the project.
- Gexpro Active8+ software to manage complete material logistics and project tracking.



“The Exchange has set an ambitious, but achievable, target for energy reductions across their portfolio of real estate. In addition to the demonstrated energy savings, the retrofit measures improve the retail lighting, reinvigorating the overall look and feel of the store.”



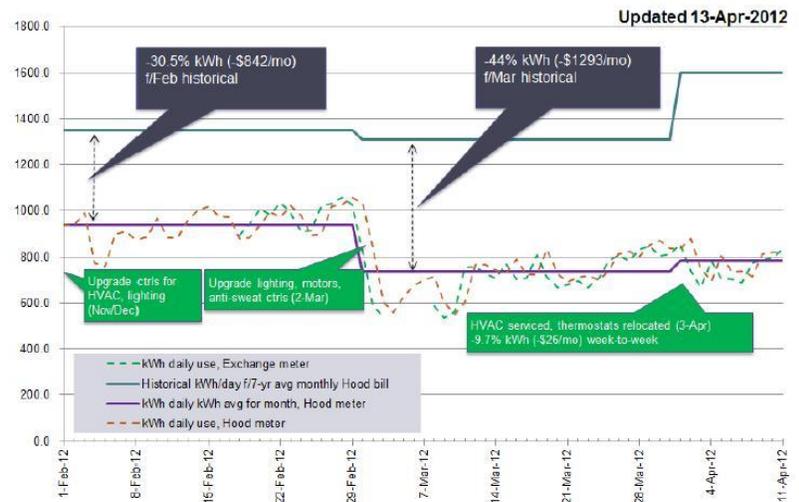
Electrical Supplies. Powerful Service.

Mr. Josh Long, CEO of E4E Solutions

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**.



For more information, please contact:

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#### About Gexpro

Gexpro is one of the largest electrical distributors in the US and serves the construction, commercial, industrial, utility, and OEM markets with more than 2,500 professionals in over 150 locations around the globe. Our customers experience an unmatched level of service and support to help them turn challenges into successes. Gexpro bundles the electrical supplies our customers need with services and solutions to add value, improve performance and save money on every project. By combining productivity tools, large local inventories and dedicated specialists, Gexpro leads the industry in delivering on customer needs and building competitive advantage for our customers. Gexpro is a division of Rexel, one of the largest electrical distributors in the world with over 2000 locations globally. Go to [www.gexpro.com](http://www.gexpro.com) for more information.

#### About The Exchange

Formerly known as The Army & Air Force Exchange Service, The Exchange is a joint non-appropriated fund instrumentality of the Department of Defense and is directed by a Board of Directors which is responsible to the Secretaries of the Army and the Air Force through the Service Chiefs of Staff. The Exchange has the dual mission of providing authorized patrons with quality merchandise and services at competitively low prices and generating non-appropriated fund earnings as a supplemental source of funding for military morale, welfare and recreation programs. To find out more about the Exchange history and mission or to view recent press releases please visit our website at <http://www.shopmyexchange.com>.

#### About E4E Solutions

E4E Solutions, based in Atlanta, Georgia, specializes in the development, design, engineering and implementation of innovative solutions to save energy, reduce operating costs, improve building performance, and help the environment. Our team is comprised of industry leaders, professional engineers, certified energy managers, and project managers that provide unmatched experience in energy technologies and their deployment to our commercial, industrial, institutional and government clients around the world. To find out more about E4E Solutions, visit [www.e4esolutions.com](http://www.e4esolutions.com)