

## Case Study: Save-A-Lot Food Stores



Randy Rabban is a small business owner and operator of six grocery stores, three of which are within the city limits of Detroit. Randy purchased his first Save-A-Lot in 1992 at 15001 Houston-Whittier in Detroit. Originally constructed in the 1960s, the store has since expanded to its current 15,300 square feet and offers tremendous opportunity for improvements in energy efficiency.

Grocery stores have the highest electrical consumption of all commercial buildings, averaging over \$5.00 of electricity and \$0.38 of natural gas per square foot annually. Refrigeration alone accounts for over 50% of electrical consumption in grocery stores, whereas it represents just 4% of consumption in the average commercial property. In an industry in which the average profit is 1%, controlling energy costs is critical to success.<sup>1</sup>

Recognizing the value of increased energy efficiency, Rabban installed several measures, including programmable thermostats, infrared gas heaters, anti-sweat heater controls, ECM motors, and 84 feet of vertical night covers. DTE Energy's Independent Grocer's Special Incentive Program was there to help with over \$5,300 in incentives, defraying the cost of materials and installation. The project resulted in an estimated annual cost savings of more than \$7,000 and is expected to pay for itself in just over a year and a half.

<sup>1</sup> [www.energystar.gov](http://www.energystar.gov)

# Energy Efficiency Program For Business

## Programmable Thermostats

Keeping grocery stores at a comfortable temperature for customers and employees while keeping refrigerated items cold is costly. In fact, space heating accounts for 75% of natural gas consumption in grocery stores!<sup>2</sup> Rabban Save-A-Lot installed three programmable thermostats, allowing store operators to adjust temperatures to accommodate customers and employees during operating hours and saving money when the store is closed. This simple, cost-effective step is expected to reduce Rabban's natural gas bills by nearly \$600 each year and electric bill by \$200.

## Infrared Natural Gas Heaters

Most of Rabban's stores do not have enclosed entrances, so when customers enter and exit during frigid Detroit winters, cold air creates a draft, allowing the heated air from the roof top units to escape the store. In an effort to keep customers and employees comfortable, Rabban installed two natural gas infrared heaters. These units are more effective at heating people, not the ambient surroundings, reducing or eliminating the load on the roof top gas units. An estimated annual cost savings of \$360 will result from the addition of these infrared units.



## Anti-Sweat Heater Controls

One of the easiest ways to reduce energy costs in grocery facilities is to install controls for the "anti-sweat heaters" on refrigerated display cases. Anti-sweat heaters prevent the formation of condensation on refrigerator doors when open. Controls allow the heaters to operate only when needed.

Easy to install and maintain, the controls are relatively inexpensive and typically pay for themselves in a year or less. Rabban installed 22 controllers in his store, resulting in anticipated savings of nearly \$2,700 annually and paying his investment back in under four months!



## ECM Motors

Rabban also replaced 22 existing motors with Electronically Commutated Motors (ECMs). These included 11 shaded pole motors in display cases and 11 in walk-in coolers. Shaded pole motors are very inefficient, operating at approximately 20% efficiency. ECMs typically operate between 65-72% efficiency, providing big savings. Rabban's Save-A-Lot will save over \$2,350 annually.



## Vertical Night Covers

Vertical night covers are a great tool to increase energy efficiency. The covers, which are easy to install, keep cool air confined in display cases, reducing the amount of energy required to keep the cases cool. An additional benefit is that night covers extend the shelf life of perishable goods. Rabban's Save-A-Lot added 84 feet of vertical night covers to its coolers, saving an estimated \$1,100 annually in electricity costs.

## Energy Savings Summary

The energy savings results of these measures are summarized as follows:

Measure	Annual Deemed Energy Savings (MCF)	Annual Deemed Energy Savings (kWh)	Estimated Annual Cost Savings
Programmable Thermostats	59.7	2,415	\$800
Infrared Natural Gas Heaters	36.0		\$360
Anti-Sweat Heater Controls		32,758	\$2,700
ECM Motors		28,391	\$2,350
Vertical Night Covers		13,440	\$1,100

Rabban is pleased with his decision to participate in the program: "I love the idea of saving money while I am doing what is environmentally right. I also really like the feel of the store!" He isn't alone. According to Rabban, "Both our customers and employees are very positive about the store's comfort and product freshness."

The grocery business isn't easy. Tough competition and low margins are the norm; however, there are many opportunities to increase efficiency while protecting your bottom line. With support from DTE Energy's Independent Grocer's Store Incentive Program, Rabban Save-A-Lots are well positioned to continue delivering value to their customers for years to come!



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## About the Program

Grocery and convenience stores can lower their monthly utility costs by implementing a few simple energy efficiency measures. DTE Energy's Energy Efficiency Program for Business offers a comprehensive set of incentives designed to help you invest in energy efficient technology. Since a portion of energy costs are a controllable operating expense, every dollar saved can make an impact on the bottom line. Following is a description of three ways to save:

### Prescriptive Incentives

Prescriptive incentives provide predetermined incentives to DTE Energy's business customers for the installation of energy efficient equipment, including but not limited to lighting, controls, HVAC, refrigeration and food service equipment. Incentives are provided for qualified improvements and equipment commonly installed in a retrofit or equipment replacement situation. Prescriptive incentives are paid based on quantity, size and efficiency of the equipment.

### Custom Incentives

When a customer cannot find a prescriptive measure that fits their project, they can apply for custom incentives. This program provides incentives to customers for measures installed in qualified projects that are less common or more complex than prescriptive measures. Custom incentives are paid based on the first year of energy savings (kWh and/or MCF). A pre-application is required for all custom incentives.

### New Construction and Major Renovation Incentives

If a customer is building a new facility, changing usage of the space or adding load, new construction and major renovation incentives are available to assist them with off-setting the cost of energy efficient upgrades allowing them to save operating costs long-term. There are two categories of new construction incentives. Whole building incentives are based on three tiers of efficiency and require energy modeling. There are also system approach incentives which are predetermined to optimize the energy efficiency of individual systems. A pre-application is required for all new construction and major renovation incentives.

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## Contact Us

We are available and eager to help you understand the incentive requirements and available resources. Call today, to check your eligibility and learn how to make the program work for you.

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Save energy.  
Save money.  
Together we will.