



"We find out how old their system is, what their capabilities are, and try to understand their store."

Sunny Devnani,
P.E., Engineer at kW Engineering

Energy savings at grocery stores often start with a phone conversation.

"We like to gather as much information by phone so we can understand their operations and needs," says Sunny Devnani, P.E., Engineer at kW Engineering. "We find out how old their system is, what their capabilities are, and try to understand their store."

He's talking about working with grocery and convenience stores to help them use less energy and save money throughout the store. kW's engineers like Devnani work with Xcel Energy's HVAC +R program to provide information, available rebates, and suggestions to grocery stores of all sizes.

"We're smart about working within a store's budget," Devnani explains. "It doesn't do us any good to recommend expensive new equipment if the store doesn't have the capital budget for improvements or upgrades. Instead we focus our efforts on delivering immediate impact by identifying low-cost and no-cost adjustments that can be made first."

"kW Engineering has more than 20 years of experience and has worked with utilities across the country," says Shari Kelley, HVAC+R program manager at Xcel Energy. "Given the complexity and importance of the refrigeration within a grocery store setting, it is crucial to have a company with experience perform an engineering level assessment of a customer's facility. kW Engineering's customized approach has made them an industry leader."

Part of that customized approach includes getting remote access to the facility's controller, whenever possible. That provides Devnani and his team with additional insight into the store's functions, possible anomalies, and opportunities for savings.

Then it's time for a store visit.

"I like to have store manager allow us access first thing in the morning and then have the refrigeration technician show up around noon or so," Devnani says. "This allows us the time to evaluate and get an understanding of their existing systems and any opportunities to save. Then we can have a meaningful conversation to understand what is feasible from the person most familiar with the store's system."

They walk through with a list of questions, pointing out things that may be oversights or may be intentional.

"We don't want to change something and inadvertently melt a million dollars of ice cream," he says.



Oversights can then be corrected – frequently at no cost, or minimal cost to the customer. Then they wait a couple of hours to make sure everything functions the way it should.

ASSESS AND RECOMMEND

Before leaving the store, they recap what they’ve learned and provide a list of recommended measures that are specific to that store. They discuss changes with the store manager and only make changes with the manager’s consent.

“We’re very solutions-focused in delivering what matches their budget,” Devnani says.

Part of the service includes identifying rebates and any grant money that may be available through other channels.

“Customers really like instant return on their bills,” Devnani says, adding that most grocery stores average a slim 1-2 percent profit margin. A typical grocery store spends about \$4 per square foot on energy and Devnani’s goal is to save each store between 5 and 10 percent in overall energy savings. He says delivering big energy savings can make a big difference to the overall profitability of a store.

“Sometimes we recommend recommissioning as a first step that only involves adjustments,” he explains. “We’ll make the changes and agree to come back in a few months to see how it’s all working. If a small store can see lower bills in 4-5 months’ time at no cost to them other than a little bit of their time, they’re sold.”



Businesses that benefit from refrigeration upgrades

- Grocery stores
- Convenience stores
- Liquor stores
- Breweries
- Restaurants
- Retail stores with food
- Golf courses
- Schools

For more information about Xcel Energy’s HVAC+R program, please visit xcelenergy.com/HVACR.

Low and No Cost Energy Saving Measures

- Anti-sweat heater controls
- Case lighting controls
- Condenser fan VFD sequencing
- Condensing pressure adjustments
- Defrost controls scheduling
- HVAC scheduling
- Sales floor lighting controls
- Suction pressure adjustments

Refrigeration Rebates

- Defrost controls for walk-in freezers
- EC motors - display case
- Floating head pressure controls
- LEDs for refrigerated cases
- Permanent magnet synchronous
- Zero-loss energy doors

One Grocery Store Example

PROJECT	INSTALLED ZERO LOSS ENERGY DOORS, ANTI-SWEAT HEATERS, AND ELECTRONICALLY COMMUTATED MOTORS (ECMS).
Estimated project cost	\$35,000
Xcel Energy Rebate	\$9,990
Estimated Annual Energy Savings	127,078 kWh/ \$10,000
Demand Reduction	14.55 KW
Payback	3.5 years

