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Technology Profile
Refrigeration

Refrigeration can account for nearly 40% of energy consumption at food sales businesses, which includes grocery and convenience stores, and 15% of energy consumption at food service businesses, which includes restaurants.[1, 2] By upgrading to energy efficient equipment, you can take more control of your electricity costs. PECO Ways to Save can help with financial incentives for high-efficiency refrigeration systems, anti-sweat heater controls and cold-tolerant LED lighting.

Opportunities Abound

Energy-saving opportunities related to refrigeration are plentiful—and profitable. Achieving a 10% reduction in a grocery store's energy costs is equivalent, on average, to increasing net profit margins by 16%.[3] In addition to lowering costs, energy efficiency improvements can enhance store appearance, improve aisle comfort, help prevent food waste and increase visibility in display cases.

Don't Sweat It

When warm, humid air from a store's interior meets the cold surface of a refrigerated display case, condensation can build up on door gaskets to create fogging and "sweating" on doors, obscuring the merchandise and potentially affecting sales. Anti-sweat heaters reduce condensation, but if these heaters run continuously, even when the store's humidity is low, it can lead to energy waste.

A simple way to reduce energy costs is to install humidity-sensing controls that ensure the anti-sweat heaters are used only when necessary. With the energy savings achieved from the controls and an incentive from PECO Ways to Save, anti-sweat heater controls are likely to pay for themselves in a short amount of time.

Blowing Less Hot Air

Shaded-pole fan motors typically run continuously, even though—on average—full airflow is only required about half the time. Replacing a shaded-pole motor with an electronically commutated motor (ECM) lowers energy costs and significantly improves the performance of walk-in coolers and freezers.

In field studies, evaporator fans with ECM motors were shown to consume 37% less energy in comparison to shaded-pole motors.[4]

Take Control of Fan Speed

While refrigerant is flowing, evaporator fans need to run at full speed about half the time. During periods of non-refrigerant flow, fan speed can be reduced 75% while the fan circulates cool air.

Evaporator fan controllers sense the flow of refrigerant, reducing fan speed when full airflow is not required. The motor consumes less energy, less heat is added to the refrigerated compartment and the compressor runs less often.

Show Food in a Better Light

Fluorescent light output in cold temperatures can drop significantly. LED lighting efficacy improves at lower temperatures, according to the US Department of Energy.[5]

Installing more efficient lighting can also extend product life. Due to the absence of ultraviolet radiation and the ability to maintain colder case temperatures, LED lighting can extend the retail life of packaged meats.[6] Minimize product spoilage and benefit from more appealing displays by upgrading to LEDs in your refrigerated cases.

Get Money to Save Money

PECO Ways to Save offers incentives for a wide range of high-efficiency refrigeration solutions, including door heater controls, fan motors, case shields, LED lighting and various ENERGY STAR® certified equipment.

▶ Contact Us Today!

For more information, visit
1-844-4BIZ-SAVE (1-844-424-9728)
or visit **peco.com/business**.

[1] eia.gov/consumption/commercial/pba/food-sales.php
[2] eia.gov/todayinenergy/detail.php?id=60241
[3] epa.gov/sites/production/files/2016-03/documents/2015-03.pdf
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[5] eere.energy.gov/buildings/publications/pdfs/alliances/techspec_refrigcaselighting.pdf
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FS-RF-2039-RB-05312025

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