

# ENERGY-SAVINGS TIPS

## GROCERY STORES

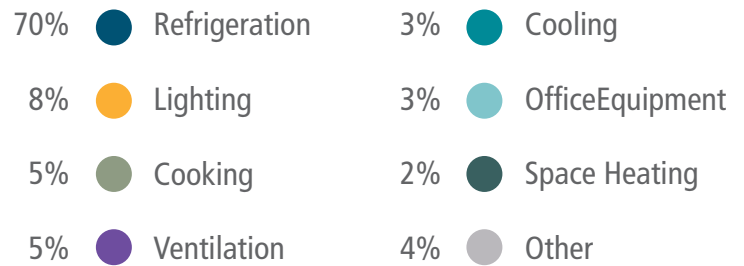


**Grocery stores are generally the most energy-intensive consumers in the commercial sector.**

Most energy efficiency upgrades also improve:

- Shopping environment
- Customer and employee comfort
- Visual appeal
- Safety
- Indoor air quality
- Equipment life

## Electricity Use in U.S. Food Sales



Source: Energy Information Administration  
Commercial Building Energy Consumption – 2016

## REFRIGERATION

- Upgrade refrigeration systems to include efficient controls technology, such as floating-head and floating-suction pressure controls.
- Use “smart” defrost controls to monitor several variables and optimize the number of daily defrost cycles.
- Consider efficient refrigeration equipment when remodeling. High-efficiency refrigeration systems can save 20% on energy use and often save money over their lifetime.
- Keep evaporator coils clean and free of build-up. Dirt and ice build-up can prevent heat transfer and make the refrigeration system work harder to maintain the same temperature.
- Seal refrigerator and freezer doors. Air gaps let warm air enter the refrigerator or freezer and make the system work harder to maintain the same temperature. If you can slide a dollar bill between the door and the case, it is time to reseal the refrigerator or freezer.
- Install strip curtains in the doorways of walk-in boxes to reduce air infiltration by 75%.
- Install auto-closers on reach-in case doors and cooler freezers.
- Install night covers on refrigerated cases to reduce off-hour cooling requirements.
- Add glass doors to open refrigerated cases to improve efficiency by up to 50%.
- Repair or replace damaged or missing refrigeration line insulation.
- Upgrade refrigeration systems. Include dew point controls for anti-condensate heaters on refrigerated cases and incorporate efficient cooling system components.
- Replace shaded pole and permanent split capacitor motors on evaporator fans with more efficient electronically commutated motors (ECM).

## LIGHTING

- Lighting upgrades can save 25 to 90% of lighting costs and easily fit into routine maintenance.
- LEDs can last up to 25 years. If you haven’t upgraded to LEDs, get a quote from a lighting vendor or contractor. Incentives are available and often lead to project paybacks of under three years.
- Turn parking lot and outside security lights off during the day and upgrade to LEDs.
- Upgrade case lighting to LEDs to save energy and reduce the refrigeration system load.
- Upgrade exit signs to LEDs.
- Install occupancy sensors in low-traffic areas like bathrooms, break rooms, and storage areas.
- Daylighting uses natural ambient light to reduce electric lighting needs. However, without lighting controls, daylighting may not save energy. Automatic photosensor controls that sense ambient daylight ensure electric lighting is reduced when enough daylight is available. People and products look better under natural light.
- Use timers to dim lights or shut them off at night when the store is closed, and include promotional lighting/neon signage.







## ENERGY FACTS

The average supermarket is 50,000 square-feet, operates **126 hours** per week, has 45 workers, and **10 walk-in** coolers and freezers.

Energy costs account for **15%** of a supermarket's operating budget. Every dollar in energy savings is equivalent to increasing sales by as much as \$60.

Refrigeration is the most energy-intensive system, consuming **70%** of a typical store's energy use.

Supermarkets and grocery stores use an average of over **57 kilowatt-hours (kWh)** per square foot.

## HEATING, VENTILATION AND AIR CONDITIONING (HVAC)

- Install a building automation system (BAS) to control HVAC systems. This allows for greater zone control by monitoring and adjusting lighting and HVAC equipment based on occupancy, environment, and weather. According to the Department of Energy, BASs can save 5 to 15% of the building's energy use with a cost of \$2 to \$4 per square foot (ft<sup>2</sup>).
- Have a licensed professional check, clean, calibrate and lubricate your economizers once a year. Consider installing economizers on units that don't currently have them.
- Decrease the amount of ventilation when occupancy is low. A demand-controlled ventilation (DCV) system senses the level of carbon dioxide in the air and uses it as an indicator of occupancy. DCV can save energy during peak cooling periods when occupancy is low.
- Regularly clean air conditioner coils, clean or replace air filters, and check ducts and pipe insulation for leaks that can be sealed.
- Install premium efficiency motors or ECMs where possible.
- Consider evaporative cooling condensers to save significant energy in the cooling season. Southern Idaho has an excellent climate to take advantage of these versus more typical air-cooled condensers.
- Consider heat reclaim or heat recovery to use heat waste from refrigeration systems. A 7.5 horsepower (hp) compressor can heat the hot water needed in a medium-sized supermarket.
- Re-caulk and weather-strip around leaky windows and doors.
- Install high-efficiency glazing chosen for each façade's relation to the sun and other variables. Choose a product that has high transmission in the visible spectrum but low transmission in the infrared to enhance energy performance during the summer. Install overhangs to limit direct sunlight coming in store windows. Window films, additional insulation, or reflective roof coating (also known as a white or cool roof) will also reduce building envelope energy use.



## Other Opportunities

- Benchmark your energy use against similar facilities. The EPA's ENERGY STAR® performance standards benchmark similar buildings and offer certification for the top quartile of buildings in each category. Use EPA's Portfolio Manager to measure and track energy performance and improve your operations.
- Use low-energy sleep functions on computers, printers, and copiers, and choose ENERGY STAR certified appliances when possible.
- After a full initial system commissioning, supermarkets will benefit from detailed on-site inspection and re-commissioning every one to three years to check control settings and the condition of gaskets, hinges, and motors. Small adjustments and upgrades can produce significant savings.

## Additional Resources

- Register for **My Account** at [idahopower.com/myaccount](https://idahopower.com/myaccount) to pay your bill, get account information, understand your use, and find more ways to save.
- Contact your energy advisor for support at [idahopower.com/contact-your-energy-advisor/](https://idahopower.com/contact-your-energy-advisor/).
- Idaho Power has programs available to help customers just like you save energy and money. To learn more, visit: [idahopower.com/business](https://idahopower.com/business).



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