

# LIGHTING

## - Illuminating ways to reduce your energy costs

Lighting accounts for 15 - 20% of supermarket energy use and it is a good place to start if you are looking to reduce energy costs. Improvement opportunities often cost very little to implement, and they can deliver savings in the order of 30 - 80% of your lighting energy use.

Retailers understand that lighting plays an extremely important role in attracting customers and making sales. Used effectively it can draw customers into the store, highlight merchandise, set the mood, and facilitate transactions. A key advantage of new technologies and practices means that it is now possible to simultaneously increase lighting levels and use less energy with careful consideration and planning.

### COMMON LIGHTING INEFFICIENCIES

Effective lighting in a supermarket or bottle shop calls for tailored approaches in different departments: bakeries, meat, produce, and general packaged foods, along with the built-in lighting in refrigerated cases.

Inefficient lighting systems often provide more light than you need to display your products in their "best light". This can arise because high-level room lighting is installed before the premises' layout has been decided upon. Additional specific lighting is often then installed as well to highlight specific products, without considering the opportunities to reduce the room's lighting overall.

Some other common examples of lighting inefficiencies include:

- Dirty lamps that produce less light and more heat
- 'Over-lighting' by using too many lamps in some areas
- Operating lights at full power when the store is closed to customers for example, when the store is being cleaned, shelves are being stacked, or during stock takes
- Leaving lights on unnecessarily, for example:
  - external signage lighting during the day
  - security lighting during the day or when there are no people in the area
  - warehouse and cool room area lighting when there are no staff working there
  - lights on in staffrooms or rest rooms when they are vacant



### SAVE MONEY BY INCREASING LIGHTING ENERGY EFFICIENCY

You can improve the performance and cost effectiveness of your lighting system in six ways:

1. Decide the function of lighting across your store's different departments, considering lighting levels, types of light and colour

- Map your existing lighting including levels, types of lights and lamp wattage. Determine the extent to which your existing system achieves your needs.
- Regularly clean and maintain your lighting system, which will reduce your energy consumption immediately. Make sure you recheck your lighting levels after cleaning as you may have more light than you thought.
- Improve the lighting performance of your building by using light coloured paints and using natural light where possible
- Reduce the use of lights where possible. Encourage staff to turn lights off when they are not needed, remove lamps where lighting levels are sufficient without them, and implement simple controls to automatically switch them off when no one is around or it is day time.
- Upgrade aging lamps and lights with cost-effective energy efficient versions. As these produce more light, you may find that you can now use less lamps overall.

## SUCCESS STORIES

### Queens SUPA IGA, Geraldton

Queens SUPA IGA cuts lighting energy use in their Geraldton store by paying more attention to when their lights are on.

Rather than rely on existing automatic timers which turned all the lighting on at 4am and turned it off after hours, the Geraldton IGA teams played with different lighting combinations – such as half-lighting during after-hours night-filling and departmental only lighting, for example when the bakery staff arrived each morning.

All department managers and staff were instructed how and when to turn on and off lighting within their section using colour coded light switches.

The Queens SUPA IGA store is 3,200 m<sup>2</sup> with a peak usage of 420 kilowatts before the changes were made. The store is now saving about \$3,000 per month in energy costs without any capital investment.

Given the savings, the store is now trialling different lighting technologies to replace the existing high-bay systems and investing in solar PV to generate its own electricity.

Cost	\$\$
Benefit	☺☺☺
Simplicity	✓

"We just started a manual system instead of the automatic timers and it's just a matter of training staff to go and turn them on at certain times. In summer we were looking at saving about \$3,000 in a month. It was massive and that wasn't through changing lights or anything, that was just through putting 12 hours into breaking down our light times and then just staff training after that."  
- Queens SUPA IGA Manager, Stuart Bain

## THE BUSINESS CASE – SEGREGATED LIGHT SWITCHING

Increasing the control you have over the lighting levels in your store can save you a significant amount of money. Consider a business with the following operational needs. This example shows that a business can reduce their lighting energy bills by nearly 40% simply by installing a switching system that enables them to reduce the number of lights that are on.

Cost	\$\$
Benefit	☺☺☺
Simplicity	✓

Lighting Control	12-6am Closed	6-7am Staff	7am-7pm Open	7-8pm Staff	8-11pm Cleaning	11-12pm Closed	Average Lighting Power
No switching	100%	100%	100%	100%	100%	100%	100%
On/off switching	0%	100%	100%	100%	100%	100%	71%
On/off switching	0%	66%	100%	66%	33%	0%	61%

## MORE INFORMATION

For further information about improving your lighting energy efficiency, an action planning checklist, and advice about the types of lighting solutions that could work for your premises, refer to **Section 4.3** of the Handbook.

Cost	\$ = lowest cost, \$\$\$ = highest cost
Benefit	☺ = lesser energy efficiency, ☺☺☺ = greater energy efficiency
Simplicity	✓ = requires external/technical expertise, ✓✓ = can be undertaken in-house but may require some external expertise, ✓✓✓ = can be undertaken in-house.