

# lighting

There are many issues that need to be considered when installing or replacing lighting in your winery. This includes the impact of lighting on neighbouring properties during night time operations, day and night time requirements, natural lighting opportunities and energy efficiency.

To reduce energy costs, review your lighting needs and make the appropriate changes. It's also worth considering the impact of heat generation from the lighting on your air conditioning systems as up to 80% (dependent on light style) of the energy used for lighting is converted directly into heat which in turn adds to your refrigeration costs.

## Reducing energy costs

- All light fittings should have reflective polished silver or gloss white reflectors that, when kept clean, direct the light more effectively to your work areas. Good reflectors combined with well-directed lights will also help minimise night time lighting impacts on neighbours.
- Install daylight or lighting sensors for areas with sky lighting or natural lighting and consider using timers and dimmers in less used areas.
- Install sensor lighting in areas that are infrequently occupied.
- Windows and solar roof sheeting can be retrofitted to improve natural lighting. Artificial lighting located near natural lighting should have separate switching so it can be turned off when not required or light sensors could be utilised.
- Reduce the number of lamps where possible if there is excess lighting in a work area, this may be as simple as removing a fluorescent tube, globe or installing separate switches.
- Convert your lighting to fluorescent lamps where possible. These use up to 70% less energy than incandescent and halogen lighting and also produce less heat. Triphosphor fluoro's are even more efficient and, as with standard fluoros, their efficiency can be further improved with electronic ballasts.
- High intensity discharge (HID) mercury vapour and metal halide lamps are often used in highbays or outdoor areas. These are relatively inefficient and can be replaced by the more efficient high pressure sodium (HPS) lamps or high output triphosphor fluorescent lamps (*see next point*).
- Compact Fluorescent Lamps (CFL) are extremely efficient to operate and are now available with increasing output capacity so they will be able to replace HPS and HID globes in highbay lighting.
- The effectiveness of your lighting can vary greatly depending on the building material and surface finishes, which will either absorb or reflect light to varying degrees. White gloss finishes will reflect lighting well and reduce your lighting requirements.

## Operational safety

It is worth noting that there are Australian Standards (AS 1680.1) that provide recommended minimum lighting levels in the workplace and it is important that this standard is complied with from an operational safety perspective.