

Energy Efficiency Fact Sheet: Refrigeration

Refrigeration is essential for many organisations yet it is often the most neglected area in terms of energy consumption. Poorly designed and poorly maintained refrigeration can easily use twice the energy it needs. If you work together with an energy auditor and an experienced refrigeration technician, up to 50% can be saved through energy efficiency.

Quick and easy things to do

- 💡 **Keep refrigerator doors closed.** Cooled air is quickly lost when refrigerator doors are open. Install plastic strip curtains if doors need to stay open for extended periods.
- 💡 **Keep refrigerator and freezer coils clean.** Keeping condenser and evaporator coils free from dirt, food, cobwebs, ice etc will ensure heat is removed efficiently, which will reduce energy consumption.
- 💡 **Provide sufficient ventilation around condensers.** Condensers need good ventilation to work properly. If a condenser is in a poorly ventilated space like a roof cavity, ensure there is adequate heat extraction.
- 💡 **Check door seals regularly.** Poor door seals can go unnoticed for long periods of time if the door is not checked regularly. Replace worn or damaged seals as soon as possible.
- 💡 **Keep refrigerators and cool rooms full.** Keeping air cool requires more energy than keeping food cool, so make the most of your refrigerated spaces by filling them up. Consolidate products from two appliances to one wherever possible then switch the unused appliance off.
- 💡 **Reduce night lighting.** Switch off lights inside and above display refrigerators at night. Install a separate light switch if necessary.
- 💡 **Switch off non-perishable drinks fridges at night.** Non-perishable drinks need not be kept chilled overnight. A simple timer switch can be used to switch fridges off when you close and on again an hour before opening.

Energy Savers



Plastic strip cool room curtain



Clean coils



Check door seals



PIR-insulated coolroom



Drinks fridge timer

Great ideas for longer term savings

- 💡 **Ensure display fridges have self-closing doors.** Energy is wasted when display fridge doors are left open, which may not be noticed for long periods. When buying new appliances, choose models that have this feature.
- 💡 **Install insulated covers on refrigerators, cool rooms and freezers.** Insulated covers provide an extra layer of insulation that can be tailor made to fit existing appliances.
- 💡 **Upgrade cool room and freezer room walls to PIR insulation.** PIR insulated walls resist heat up to 40% better than polystyrene walls, which reduces energy consumption in the compressor.
- 💡 **Reposition the solenoid valve from condenser to evaporator.** Moving the solenoid valve closer to the refrigerated space reduces energy losses in the gas pipe by 5% or more, depending on the distance it can be moved.
- 💡 **Install insulated roller shutters on open display fridges.** Roller shutters slide down to cover the open area, which minimises energy wastage in these appliances if they cannot be switched off overnight.
- 💡 **Upgrade to energy efficient products (e.g. glycol chiller for coolroom).** An energy audit will determine whether or not this is profitable for your business. Register for a free energy audit at 3eproject.org.au.

Did you know?

- 💡 Your cool room or freezer room temperature reading may be incorrect if the sensor is located directly in front of the fans.

“Our freezer room was costing us over \$6000 per year. The energy auditor found six problems with the system, which were adding nearly \$1500 per year to the electricity bill!”

- **Ignacio, Penrith**

For further information contact the 3E Project Team on 1800 242 845 or by email at info@3eproject.org.au

Energy Savers



Self-closing door



Ice-cream freezer cover



Insulated cover inside cool room



Move solenoid to evaporator



Glycol or CO2 chiller

