

# Energy efficiency checklist

Use this checklist to walk around your site and identify opportunities for energy savings. Refer to **Section 4** of the toolkit for further background information on each area.

Heating, ventilation and air conditioning	Action required
Section 4.1 – Page 11	
Check temperature setpoints (optimum settings are 20 °C for heating in winter and 24 °C for cooling in summer).	
Can a dead band be set around the temperature setpoint?	
Do staff know how to control the air conditioning? Do they over-ride the controls? Why?	
Are temperature sensors located in areas that will represent the room's temperature? (not blocked by furniture or next to entry ways)?	
Are any empty areas being air conditioned?	
Where can timers or occupancy sensors be linked to the air conditioning?	
Ensure that 100 per cent outside air is not being used when not required.	
For centralised air conditioning systems, are outdoor air economy cycles, variable-speed drives or timers and controllers used?	
If a centralised air conditioning system is being used, is the supply and return ductwork and pipework insulated?	

Heating, ventilation and air conditioning	Action required
Section 4.1 – Page 11	
<p>Are any air conditioning units past their end of life? (refer to <b>Section 4.1</b>). If so, investigations should be made into upgrading these.</p>	
<p>Is a maintenance schedule followed for cleaning and replacing filters, and inspecting ducts and pipework for signs of damage or wear and tear?</p>	
<p>Ensure system operating hours match the times when heating or cooling is required as needs vary throughout the day. Fit time switches to automate this process.</p>	
<p>Can carbon monoxide detectors be installed for carpark ventilation systems?</p>	
<p>If you have a gas central heating system, are gas boilers serviced regularly? Is a combustion analysis undertaken during this service? Ask for this to be included. Running efficiencies should be at least 80 per cent.</p>	

Lighting	Action required
Section 4.2 – Page 14	
Are windows, light fixtures and skylights clean?	
Are there areas where skylights could be installed to reduce the need for artificial light?	
Buy a lux meter and find out what your lux levels are. Check these against the standards.	
Are there any opportunities to delamp in overlit areas?	
Do staff know where light switches are, or how they are controlled? Are switches labelled?	
Are any empty areas lit unnecessarily?	
Where can timers, occupancy sensors or daylight sensors be linked to lighting?	
Do you have old T8 fluorescent lighting? These can be replaced with T5s.	
Do you have 50 W halogen lamps? These can be replaced with Light-Emitting Diodes (LEDs).	
Do you have large banks of fluorescent lights (e.g. in a car park) where a voltage reduction unit could be installed?	

Gaming machines	Action required
Section 4.3 – Page 17	
Are your gaming machines switched off when not in use?	

Catering	Action required
Section 4.4 – Page 18	
Is your exhaust fan running when the kitchen is empty? Investigate the potential of putting this on a timer, heat sensor or installing a Variable Speed Drive (VSD) on the fan motor.	
Check refrigerator and cool room door seals.	
Are condensers and evaporator coils clean and free of dust? Do any condensers need replacing?	
Check that temperature sensors in cool rooms are in a suitable location and that they work (either by dropping them in an ice bath or with another thermometer).	
Ask your maintenance contractor to check that refrigerant levels are correct.	
Do you know when your defrost cycles occur? Can these be reduced or moved to off-peak times? (check with the manufacturer's recommendations)	
Does your cool room have Electronically Commutated (EC) fans? If not, consider retrofitting these.	
Do you have a startup and shutdown schedule for kitchen equipment?	
Do you need to purchase new kitchen equipment? Take the operating energy costs into account when weighing up the costs of different equipment. Gas appliances will be cheaper to run.	

Hot water	Action required
Section 4.5 – Page 19	
Do you have water-efficient devices in bathrooms and kitchens? Reducing your use of hot water will also reduce your energy use.	
If your pipework is insulated, at what temperature are you running your hot-water storage? A minimum of 60 °C is required. Reduce the temperature to meet this and check outlet temperatures at the end of pipe runs.	
If you have a separate hot-water system servicing your laundry or kitchen, install a timer on its recirculating pump to turn it off overnight.	
Is it time to upgrade your electric hot-water system? If so, investigate options for a solar or gas hot-water system.	

Building fabric	Action required
Section 4.6 – Page 20	
Check ceiling space for insulation. Is there 100 per cent coverage, could it be improved?	
Are there any opportunities to add external shading or tinting to windows that receive a lot of summer sun?	
Are windows fitted with curtains and pelmets to reduce heat loss during winter?	

Other opportunities	Action required
Section 4.7 – Page 20	
Is equipment left on out of working hours or when not required?	
Install timers on equipment where you can (e.g. printers, zip boilers, vending machines)	
Upgrade to a multi-function device instead of using separate printers, photocopiers and fax machines.	
When buying new appliances check the energy star rating label.	
Does you use a pool blanket on your swimming pool?	
Do you have a building management sytem? If not, consider purchasing one. If so, can it be optimised?	
Check your power factor and install power factor correction equipment if appropriate.	
Do you have space on the roof suitable for solar panels?	
Do you have a significant enough need for heating (such as an indoor pool) to consider a cogeneration system?	