



Public sector and healthcare

Energy efficiency guide



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Get smart, save energy

While our definition of public sector and healthcare is broad (see right), it's still possible to identify common areas of high energy consumption and opportunities for savings.

The Carbon Trust, a not-for-profit company supporting the UK's move to a low carbon economy, says energy's one of the largest controllable costs within central government. It also states that electricity already accounts for over 50% of a hospital's energy costs.

So, there are areas where this sector should focus its energy efficiency activities – covered below – and some more general ways it can cut back on usage.

5 steps to reducing your energy consumption

- 01 Commit to continuous improvement – involve staff, set goals and track progress
- 02 Analyse your start point performance, develop benchmarks and track improvements
- 03 Set realistic, measurable goals and target dates to see how you're doing
- 04 Choose the steps you'll take to achieve those goals and involve your employees
- 05 Implement and measure results, communicating all wins, no matter how small

What do we mean by public sector and healthcare?

When referring to this sector, we're including:

- Central and local government
- Public administration, defence
- Emergency services, hospitals (including private)
- GP surgeries and health centres
- Opticians
- Dentists
- Children's nurseries
- Schools
- Colleges and universities
- Professional bodies offering training and short courses (e.g. Chartered Institutes)



How your public sector and healthcare organisation can save energy



We've used the [Carbon Trust's energy savings reports](#) as sources of information for our energy-saving suggestions. These include reports on central government and local government, and others covering hospitals, primary healthcare, and both further and higher education.

These tips highlight areas of consumption that, with improved efficiency, could deliver valuable savings. The amount you recoup depends upon your organisation and your investment.

To help with your budgeting and energy efficiency planning, the tips cover (where possible) three options: no-cost, low-cost, and long-term savings.



No-cost changes

You can make these simple changes quickly – and it won't cost a thing.



Low-cost changes

For a minimal spend you can soon achieve worthwhile savings – and relatively easily too.



Long-term savings

Make a more substantial investment now – and you'll see the returns over time.

Heating



No-cost changes

- Adjust room temperatures according to recommendations for specific areas (see below).
- Don't turn thermostats up to maximum in an attempt to warm up spaces faster – it just overheats them.
- Keep furniture and equipment away from radiators/vents to improve heat circulation.

Area	°C
Offices and other sedentary work spaces	16-19
Nurses' stations	19-22
Classrooms (normal teaching)	19-22



Low-cost changes

- Clean/replace heating filters as often as manufacturers recommend.
- The location of your thermostats could affect their performance, for example if they're too close to sources of heat or heat loss. In these instances, moving them - while requiring an upfront cost - could improve accuracy, avoid raising or lowering the temperature unnecessarily and save you money.
- Service your gas boiler once a year and the oil boiler twice a year to save as much as 10% on annual heating costs.



Long-term savings

- Insulate pipes, boilers and tanks to minimise heat loss.
- Upgrade your heating controls for a return on investment in about two years. Compensators regulate the temperature of a building based on the weather outside. Optimum start controllers optimise heating based on the time it takes to reach the desired temperature.
- Create zones within your buildings with different thermostats and different default temperature settings.

Ventilation / air conditioning (VAC)



No-cost changes

- Check that you don't leave extraction fans and ventilation devices running unnecessarily. Despite its small baseload, an extractor increases the need for heat by around 5%.
- Take advantage of natural ventilation by opening doors and windows where possible and without posing a risk to your staff or others on your premises.
- In healthcare settings, separate non-clinical from clinical areas to ensure infection control is in place where you need it.
- Align cooling times with working hours and occupancy, so you don't over-cool out of hours.
- Reduce AC use by minimising sources of unexpected and/or unnecessary heat such as office equipment left on when not in use and artificial lighting on when daylight's available.
- Adopt a temperature range - e.g. 19–24°C - when heating and cooling are both off.



Long-term savings

- Consider interlocked controls with time switches and sensors. These will automatically turn off ventilation when you turn specific equipment off.
- Look for energy efficient fans. Despite their higher purchase prices, they'll save you money in the long-run.



Low-cost changes

- Regular maintenance and performance reviews will ensure your VAC systems are operating at maximum.

Lighting



No-cost changes

Lighting can account for up to 8% of total energy costs in the primary healthcare sector.

- Have a 'switch off policy' and use simple light switch stickers so everyone feels confident they're turning off the right lights.
- Keep windows, skylights and light fittings clean to let through as much natural light as possible. Use available daylight (rather than artificial light) where possible.
- Move people closer to daylight and have blinds open during the day.



Long-term savings

- Invest in energy-efficient technology. Occupancy sensors in toilets or less-used areas save 30% to 50% on lighting costs. Daylight sensors turn artificial light off when there's enough daylight.



Low-cost changes

- Use blinds that redirect daylight to the ceiling or the wall rather than block it altogether and open blinds when there's no glare.
- Use timers to match artificial lighting to working hours and/or occupancy.
- Replace conventional bulbs with LEDs.
- See the Energy Saving Trust report: ['The right light – selecting low energy lighting'](#).

Office and small power equipment



No-cost changes

- Encourage your people to turn off non-essential items at the end of the day to save energy, lower cooling costs and extend the lifespan of the equipment. A single computer left on 24/7 costs £45 per year; using turn off and standby could reduce it to £10.
- Place heat-emitting equipment like printers in a cooler area of the office - e.g. north side of the building - with good ventilation.
- Use less paper for a more efficient workspace and to reduce both printing and damage to the environment.
- In labs / educational areas with fume cupboards, ensure they have the right sash height and only use them when necessary – switch them off when not in use.
- For arts and crafts studios in schools/colleges/universities, make sure kilns are full before firing them up. Don't turn on soldering irons unless you need them as they consume a lot of energy.



Low-cost changes

- Use inexpensive plug-in timers on non-essential equipment by setting them to cut power automatically outside of working hours. (Make sure you let your people know in advance!)
- Clean equipment parts regularly for optimum efficiency.
- When buying new equipment, account for energy efficiency ratings rather than just the initial cost.



Catering



No-cost changes

- You could reduce your energy bill just by raising awareness among your employees and advising them to:
 - Avoid switching on appliances before they're needed.
 - Avoid using the ovens to warm the kitchens.
 - Switch off cooking appliances after use, plus lights and extraction fans when not in use.
 - Keep the doors of refrigeration units closed, defrost them regularly, and ensure they're well-ventilated.



Long-term savings

- Buy equipment with an A+ energy rating that (preferably) has built-in sensors to automatically switch off when not in use.
- Buy ovens with large double-glazing viewing windows. These reduce the number of times your staff open the doors, which wastes heat.
- Consider installing heat recovery units in the kitchen to heat water.



Building fabric (walls, floors and ceilings)



No-cost changes

- In autumn, check your building(s) for damp and faulty gutters or downpipes.
- Retain heat – keep windows/doors closed (unless you want natural ventilation) and close curtains/blinds at the end of the day.



Long-term savings

- Insulate walls, roof spaces, cavity walls and pipes.
- Consider sealing unused windows or improving glazing (triple glazing's the most efficient) to reduce draughts.
- To reduce heat loss, install two sets of doors (one closes when the other opens) in your lobby area / entrance - or automate doors.



Swimming pools (educational establishments)



No-cost changes

- Keep the water temperature 28–30°C, and air temperature no more than 1°C above this, to reduce condensation and prevent unnecessary use of ventilation.
 - Don't backwash the pool more than necessary - refer to manufacturer guidelines.
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Low-cost changes

- If you can insert a 1p coin on its side between a window/door and its frame, fit draught strips.
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Long-term savings

- Buying a pool cover to maintain the heat and reduce ventilation costs could save tens of thousands of pounds, with a payback period of 18–36 months.
- Install a humidistat to automate ventilation only when it's necessary.
- Consider solar thermal technology to heat the pool water (and the building).





What's next?

Smart meters are the first step towards energy efficiency, automating your readings and enabling insights into your energy use. But they can also support you on your journey to net zero, too.

Join the smart revolution by registering your interest in smart meters today. Call 01473 617213 or email smart@drax.com.

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