



Public Sector and Healthcare



Contents

Get smart, save energy	3
Heating	5
Ventilation/air conditioning (VAC)	6
Lighting	7
Office and small power equipment	8
Catering	9
Building fabric (walls/floors/ceilings)	10
Swimming pools (educational establishments)	11
What's next?	12

Get smart, save energy

While our definition of public sector and healthcare is broad (see right), it's still possible to identify key areas where a range of organisations use a considerable amount of electricity.

The Carbon Trust, a not-for-profit company supporting the UK's move to a low carbon economy, says energy is 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 to cutting back on usage:

5 steps to reducing your energy consumption

1. Commit to continuous improvement – involve staff, set goals and track progress
2. Analyse your start point performance, develop benchmarks, and track improvements
3. Set realistic, measurable goals and target dates to see how you're doing
4. Choose the steps you'll take to achieve those goals and involve your employees
5. 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 saving reports on central government and local government, as well as those covering hospitals and primary healthcare plus further and higher education, as sources of information for the following suggestions.

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



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

Low cost



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 the needs of the site (see right)
- Turning thermostats to maximum doesn't 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)	19–21

Low-cost changes

- Clean/replace heating filters as often as manufacturers recommend
- If the location of your thermostats could affect their performance (e.g. because they're too close to sources of heat or heat loss), moving them – while implying an up-front 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 2 years e.g. a compensator regulates the temperature of a building based on the weather outside; an optimum start controller optimises 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 extraction fans and ventilation devices aren't left 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 needed
- 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 (e.g. office equipment left on when not in use; artificial lighting when daylight available)
- Adopt a temperature range (e.g. 19 – 24 °C) when heating and cooling are both off

Low-cost changes

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

Long-term savings

- Consider interlocked control with time switches and sensors – will automatically turn off ventilation when specific equipment is turned off
- Energy efficient fans may have a significant upfront cost, but the longer term savings make them worthwhile





Lighting

No-cost changes

- 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 the available daylight (rather than artificial light) where possible, and label switches to encourage people to turn off the right things
- Move people closer to daylight and have blinds open during the day

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 compact fluorescent lamps (CFLs) – they last 8-10 times longer and use 75% less energy
- See the Energy Saving Trust report: “ [The right light – selecting low energy lighting](#) ”

Long-term savings

- Occupancy sensors in toilets or less-used areas save 30% to 50% on lighting costs, while daylight sensors turn artificial light off when there’s enough daylight

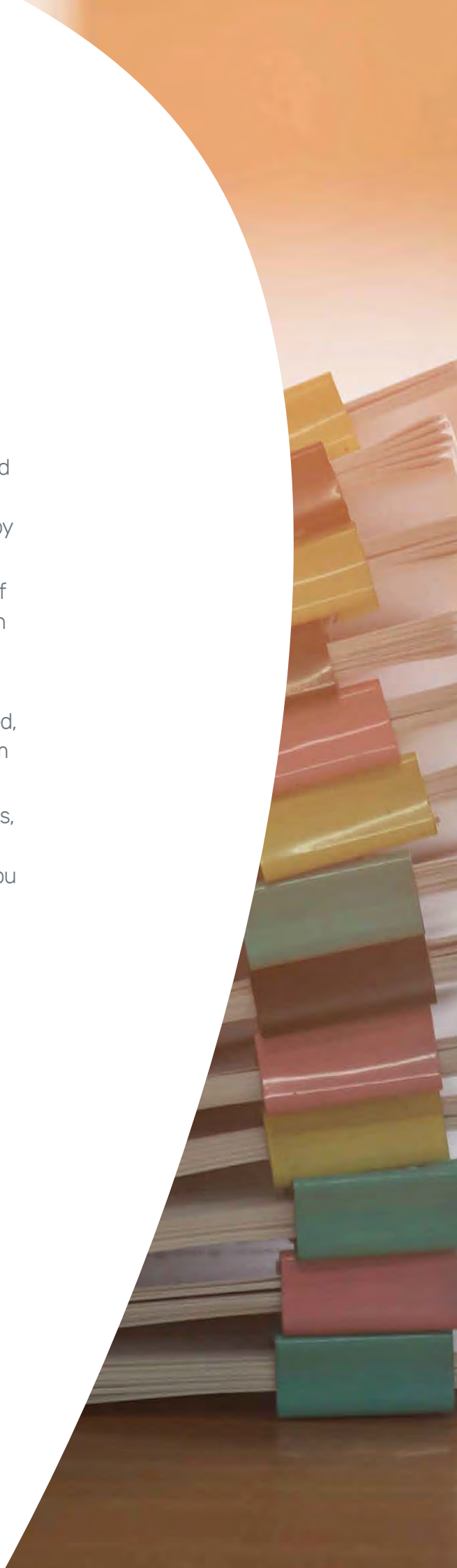
Office and small power equipment

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
- Using less paper leads to a more efficient workspace and reduces printing (and damage to the environment)
- In labs/educational areas where fume cupboards are used, ensure they have the right sash height and only use them when necessary – switch off when not in use
- For arts and crafts studios in schools/colleges/universities, make sure kilns are full before firing them up – and do the firing at night – and don't turn on soldering irons unless you need them (they consume a lot of energy)

Low-cost changes

- Inexpensive plug-in timers on non-essential equipment can be set to cut power automatically outside of working hours (let your people know in advance)
- Clean equipment parts regularly for optimum efficiency
- When buying new equipment, account for energy efficiency ratings (buying equipment rated at least A+) and not just the initial cost



Catering

No-cost changes

- You could reduce your energy bill just by raising awareness with your people 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 that automatically switch off when not in use
- Buy ovens with large double-glazing viewing windows (to reduce how often doors are opened, since this leads to heat loss)
- Consider installing heat recovery units in the kitchen to heat water



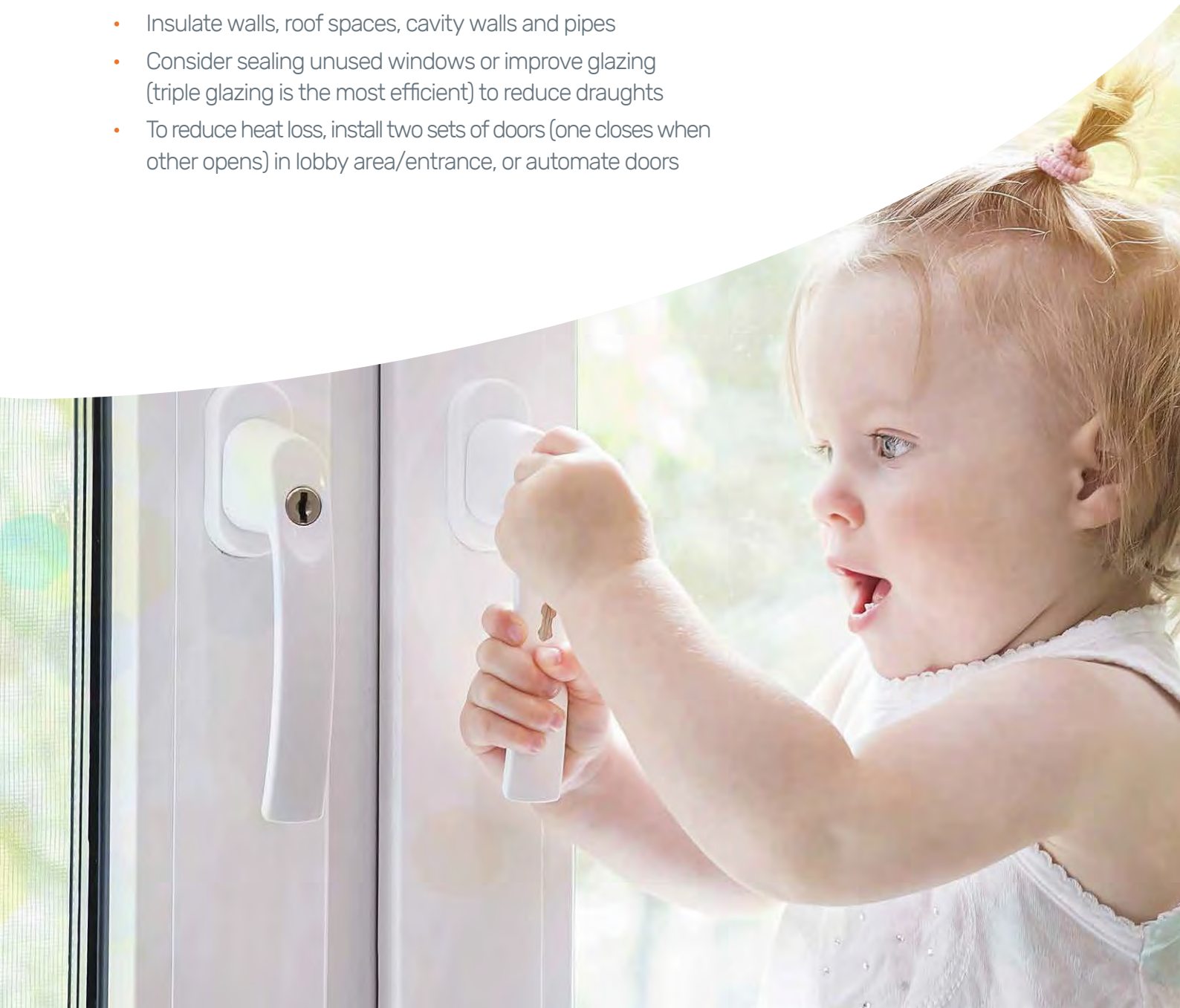
Building fabric (walls/floors/ceilings)

No-cost changes

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

Long-term savings

- Insulate walls, roof spaces, cavity walls and pipes
- Consider sealing unused windows or improve glazing (triple glazing is the most efficient) to reduce draughts
- To reduce heat loss, install two sets of doors (one closes when other opens) in 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
- Consult the manufacturer details for backwashes, to avoid over-using this process

Low-cost changes

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

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
- A humidistat will automate when ventilation is needed
- Consider solar thermal technology to heat the pool water (and the building)





What's next?

For further information email us at
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The cheapest unit of energy is the one
you don't consume
www.digitalenergyrevolution.co.uk