Quick wins

Get to know your energy use

Measure and monitor your energy use through meter readings and/or fuel usage. Get to know not just how much you are using, but where and when it takes place – doing so in detail will likely identify some areas of waste that require no investment at all. Work with your staff to not only identify areas of waste, they will likely already know where opportunities lie, but also work with them on reducing it. Things to think about include:

- Are there any heaters, lights or machines left on in rooms that are not occupied?
- When making a cup of tea, is the kettle being filled when it only needs to be partially filled?
- Is there a fridge or freezer situated in a hot room when it could be situated in another? Is there a dishwasher situated in a cool room that has an air-conditioning demand?
- Inspect compressed air systems regularly for leaks. The leak rate on an unmanaged compressed air system can be as much as 50% of the output. (Also turn off when appropriate – when idling compressors can consume between 20-70% of their full load power.)

More information on how to conduct an energy audit is available here.

Monitor heating and cooling

Purchase a desk thermometer to monitor temperature, is it at the desired level? Is it too high? Lowering by 1°C can save over 8% on heating costs! Ensure a dead band of 4-5°C between heating and cooling to ensure they are not working simultaneously.

Installing more effective controls

Installing more effective controls for heating or cooling can lead to cost effective savings of over 15%. Zoning (floors, rooms, south facing areas etc) upgrading timer controls, installing (thermostatic temperature controls) TRVs and weather compensators are some options.

Draught proofing

Around 35% of heat loss from a building can be from ventilation and air leakage. Draught proofing involves fitting rubber, brush or wiper strips around the edges of window or door frames, it is also possible to draught proof letter boxes and key holes.

It is a cheap and extremely effective way to reduce energy costs and also improve thermal comfort, as the feel of a cold draught makes a room feel colder than it is.

Where self-installing is possible for simple windows and door frames, draught proofing likely to cost less than £100 for an entire small commercial building. Professional draught proofing is more expensive but still very cost effective.

More information on draught-proofing is available here

Switch to LEDs

Lighting commonly equates to around 15% of office buildings electricity costs. Upgrading to LEDs could reduce this by 50% with payback of around 3-5 years. If you are using 50W or 60W bulbs all of the working week, switching to 5W LEDs would likely pay themselves back in 3 years or less than 1 year if just switching the bulbs. If you are installing LEDs, also consider motion sensors in appropriate areas such as corridor, kitchens, or bathrooms. More information on LEDs is available here.



For further support and details of any opportunities for grant funding please contact a Carbon Charter advisor.

Upgrade non-condensing boilers

Upgrading from a non-condensing boiler that is over 10 years old could save between 10-30% on heating costs.

The best condensing boilers can give a seasonal efficiency of around 90%, compared to around 80% for modern non-condensing designs, those more than 20 years old have seasonal efficiencies of 70% or less. The low cost, especially of domestic scale boilers results in paybacks that can be very economical.

Timer and temperature on hot water cylinders

A domestic hot water cylinder thermostat should be set at 60-65ºC this is high enough to kill off harmful bacteria such as Legionella and any higher is likely an expensive waste. You could also install a timer to ensure water is not heated overnight or at weekends. In fact, you may only need it to be pre-set for peak times for an hour or so each day.

Insulate roof cavity space

As much as 20-25% of a building's heat loss is through the roof. If there is currently no insulation in your roof cavity this could be reduced by up to 90% with a payback of 1-4 years. If there is already insulation in the roof space it may be worth topping up particularly if there is less than 15cm (6 inches) of insulation.

Secondary glazing

Secondary glazing involves adding another slim-line window in addition to your existing windows, enabling similar thermal benefits to that of replacement double glazing for a fraction of the cost. It is also recommended by the Energy Saving Trust, English Heritage and Listed Property Owners Club as an ideal solution if you are unable to replace your existing windows with double glazing due to listed building constraints as it allows the original windows to be retained unaltered.

It can reduce the U-value of a typical single glazed window from 5.4W/m^{2}K to 2.5W/m^{2}K, or as low as 2.0W/m^{2}K with low emissivity glass. It can be as simple as a layer of acrylic sheeting or glass that is fixed or removable. Professional installation can include sliding or opening fittings, or simple installations can be self-installed to reduce costs. More information on secondary glazing is available here.

Switch to green energy

Although not an energy saving measure and should not replace energy efficiency improvements, switching your electricity supply to a low-carbon or green tariff can be seen as a way to decarbonise your electricity procurement. This involves paying a premium to have your electricity 'supplied' by green sources rather than the average UK electricity fuel mix.

There is a lot of debate about the validity of this as you do not actually draw green electricity from the grid, but rather your supplier matches your consumption with supply of renewable electricity to the grid. Research different tariffs and suppliers and make an informed decision on whether it is the right choice for you. More information on green tariffs is available here.



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