



Complete Guide to Green Clubs Sustainability Measures

How to use this document

This document provides an alternative format to access the tips provided in the Green Clubs tool on the Sustainable Clubs website. Use the index below to quickly navigate to advice on a specific topic area.

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Building energy use

The following sections provide tips and advice on measures that will help to save energy in your club building.

Lighting

Reducing lighting energy use can make a real difference to a club's electricity bills. There are a number of measures available which can save money.

Lighting controls

Occupancy sensors that turn the lights off when the room is not in use are an effective way to save energy, and are particularly effective in intermittently occupied areas. These cost from as little as £10 each to buy (plus installation costs) and will often pay for themselves in less than a year in situations where lights are frequently left on.



Example occupancy sensor

Re-lamping

Replace any conventional fluorescent lamps with compact fluorescent lamps (CFL, energy saving bulb) or LEDs. These will last longer than conventional bulbs (several times longer for CFLs, and 30-50 times longer for LEDs); meaning that less time and money is spent replacing them. CFLs cost around £3-£5 each and save up to 80% of energy use; whilst LEDs are more expensive at around £15 each but can save up to 90% of energy use.



CFL



LED



T12, T8 and T5 lamps

If fluorescent lamps are present that are either T12 (1 ½ inches) or T8 (1 inch) in diameter, you could also consider installing retrofit kits to convert the light fitting into a more efficient option which uses small diameter T5 fluorescent lamps. Retrofit kits cost between £11 and £35, can save up to £20 per replacement lamp and normally pay for themselves in at 3 years or less.

Flood lights

Flood lights are energy intensive and should only be on when required - the cost of lighting a typical pitch/court is around £4 per hour. Extended warm up times, or leaving lamps on for longer than necessary, can waste energy and money. The typical start up time for metal halide lamps is 1 – 8 minutes, and for high pressure sodium (SONs) is 10-20 minutes. Alternatively, installing timers will ensure that lighting is switched off automatically. For clubs with multiple pitches/courts, consider zoning individual pitches/courts or training areas to reduce the number of floodlights that need to be switched on at any one time.

When selecting lights, specify efficient 'low light loss' luminaires (light fittings). Modern efficient luminaires increase light output to the pitch/courts and reduce lighting spillage. Energy savings of 25% are achievable through using 3 x 2000W lamps compared to 4 x 2000W lamps without significantly reducing pitch/court lux levels. Lux Level Control is also available to reduce the light output of floodlights to match different requirements. If varying levels of lighting would be suitable, e.g. different levels for training or matches, contact a lighting installer to determine whether these controls could be retrofitted to current floodlights.

Communication



Notices can also help to remind people to switch off lights when they leave a room or finish using a pitch or court. Light switches should be easy to access - it may be appropriate to label them in cases where they are harder to spot.

For more information

[Read more about energy efficient lighting](#)

[Read more about energy efficient lighting in a sports environment](#)

Appliances

Hand dryers

Hand dryers can be energy intensive. When refurbishing or replacing hand dryers, consider buying an energy efficient high speed model. These can be up to 80% more efficient than conventional hand dryers. There are a range of models available costing from around £90 up to £900 each for the highest efficiency models (plus installation costs). Payback is estimated by manufacturers to be around five years for the most efficient models.



Example high efficiency hand dryer

Televisions

Televisions use electricity to run and should be turned off when not in use. Put a notice in your meeting room to remind users to switch the TV off as soon as they finish with it.

If you are considering buying a TV, make sure that you look at the energy efficiency rating - a high efficiency model, such as an LCD TV and LED backlighting, will save you money on your energy bills.

For more information

[Find out more about energy efficient televisions](#)

Kitchen appliances

Kettles

Make sure that kettles are only filled up with the amount of water needed. Over filling will use unnecessary energy - a simple notice will remind users to only add the water that they need.

Ovens and hobs

Inefficient use of hobs can waste both energy and money. Use training and signage to raise user awareness of the following:

- Make sure the correct size pots and pans are used for the job and that they are fitted with lids to conserve energy and cook the food more quickly.
- When pans come to the boil, turn hobs down to the minimum to simmer (boiling does not speed up the cooking process).
- Turn the hob off when not in use.
- Only use the hobs for cooking meals and not for heating rooms.
- Do not leave oven door open for longer than necessary.
- Be aware of how long it takes to heat the oven up to the required temperature so that it isn't turned on earlier than needed.
- When buying a new oven, ensure that energy efficiency is considered.

Moderate improvements could save up to 10% of the energy used.

Microwaves

Microwaves are more energy efficient than ovens, and should be used in place of an oven when heating up smaller amounts of food.

Ensure that energy efficiency is taken into consideration when purchasing a new microwave.

Fridge freezers

Fridge freezers are a significant energy user in club kitchens. Reduce the amount of energy used by making sure that they are positioned away from hot areas like hobs, that doors are not left open for longer than necessary and that seals on doors are kept in a good condition to maintain air tightness.

Keep fridge temperatures between 3 to 5°C. Turning up the temperature by just 1°C could reduce energy consumption by 2-4% without impacting on food quality. Freezer temperature should be kept at around -18°C, and the freezer should be regularly defrosted to



Fridge freezer door seal

prevent the build-up of ice from reducing its operating efficiency.

Compartments should not be overfilled, space is needed for the cold air to circulate and more energy will be used if they are too full.

When replacing a fridge freezer choose an energy efficient option. A++ fridge-freezers use over 50% less energy than A rated ones.

With moderate improvements in efficiency, and effective use of equipment, savings of up to 10% of fridge freezer energy use could be achieved.

Dishwashers

Dishwashers can use considerable amounts of water, energy, detergent and rinse aids. Make sure the dishwasher is only switched on when it is fully loaded, and always turn it off when it is not in use. Use the minimum temperature that provides satisfactory cleaning for the model. Make sure that the dishwasher is regularly cleaned and maintained so that it continues to operate efficiently.

When purchasing a new dishwasher, look for a model that is both energy and water efficient. Where possible, purchase eco-friendly detergents.

With moderate improvements in efficiency, and effective use, savings of up to 10% of dishwasher energy use could be achieved.

Tea urns

To save on energy used to heat water, make sure that tea urns are switched off overnight and at weekends. Fitting a seven day timer to the switch will mean that the urn automatically switches off and on again when needed. These are inexpensive (from around £8) and could halve the tea urn's energy consumption.



Example seven day timer

When purchasing a new tea urn, select an energy efficient model.

Deep fat fryers

Switch fryers off immediately after use to save on energy consumption.

When purchasing a new deep fat fryer, select an energy efficient model.

Extractor fans

Always turn extractor fans off when not in use. Use posters to create an awareness campaign that encourages people to turn equipment off after use. Clean the extractor hood at regular intervals as recommended by the manufacturer, in order to ensure that it maintains its efficiency. For larger extractors, consider fitting a variable speed drive (VSD) so that the speed of the fan can be varied, as it does not need to be on full power at all times. Using a VSD to slow down a fan from 100% to 80% of its speed can save as much as 50% on energy use.

With moderate improvements in efficiency, and effective use of equipment, savings of up to 10% of extractor fan energy use can be achieved.

For more information

[Find out more about energy efficient refrigeration](#)

[Read about other ways to improve kitchen energy efficiency](#)

[Understand more about identifying energy efficient products](#)

Drink chillers

Chilling drinks can be responsible for up to 10% of club energy use. If there are periods of time when the club bar is not used, make sure that fridges are emptied and turned off.

Avoid leaving fridge doors open for longer than necessary, and make sure that door seals are kept in a good condition to maintain air tightness.

Keep fridge temperatures between 3 to 5°C. Turning up the temperature by 1°C could reduce fridge energy consumption by 2-4%.

Don't overfill fridges – space is needed for cold air to circulate effectively.

If replacing a fridge, choose an energy efficient model. A++ rated fridges use over 50% less energy than A rated ones.

Consider fitting a device such as the InnEnergy unit to drinks coolers. These allow the cooler to 'sleep' when not in use, but to switch on to cool the contents in time for trading hours. The unit also allows the coolant to be replenished in non-active hours. A unit costs around £60, and can save up to 40% of cooler energy consumption (based on manufacturer's estimates) and will payback in less than 10 months.



InnEnergy unit

For more information

[Learn more about energy efficient refrigeration](#)

Vending machines

Vending machines use energy for lighting, cooling and operation. For vending machines which do not require continuous refrigeration, install a seven-day timer so that it is turned off outside of the club's hours of use. Timers cost from around £8, and turning the vending machine off at night will save over 50% of its energy use.

Make sure that vending machines are running at the optimum temperature (in line with manufacturer's instructions) and aren't cooler than they need to be. Excessive cooling wastes energy and increases energy bills.

Gym equipment

Gym equipment such as treadmills and rowing machines uses energy to operate.

Turn this equipment off at times of the day when it is not in use, and always at night. A seven day timer to turn equipment off and on at the correct times, is easy to install, costs from around £8 and could save up to 50% on energy use.

If the equipment has a standby mode, make sure that this is enabled so that when it isn't being used it can go into a lower energy mode to reduce costs and prolong the life of the equipment.

When buying new gym equipment, always ask about the energy efficiency and purchase the most efficient models possible.

For more information

[Read more about reducing gym equipment energy use](#)

Water coolers

Water coolers use energy to maintain the temperature of the chilled water. Install seven-day timers on water coolers so that they are turned off outside of the sports club hours. Timers are easy and cheap to install from around £8 each. Turning the water cooler off overnight can save around 50% on its energy use.



**Mains filtered
water coolers**

Consider replacing water coolers which use bottles with a mains filtered water cooler which is plumbed directly into the mains water supply. These prevent the waste produced from the water cooler bottles and often cost less to run.

Building fabric

Windows

Heat is lost through the windows of a sports club. There are a variety of actions that you can take to help reduce the costs associated with this.

Draught stripping and sealing

Make sure that effective draught stripping is fitted around the windows. Inserting brush strips into the frames stops draughts, improves comfort, and provides savings on heating bills. Draught stripping is cheap (from about £2 for a 5m strip), easy to install, and has a payback of 1 to 2 years.



**Installing draught
stripping**

Curtains and blinds

Ensure that windows are closed when the heating or air conditioning is on and that blinds and curtains are being used effectively:

In winter – draw curtains and blinds at night to keep warmth in.

In summer- use curtains and blinds to help reduce solar gains and to reduce glare.

It may be helpful to position a notice in your meeting room to help raise awareness of these issues.

Secondary glazing

You may wish to consider fitting secondary glazing to any single glazed windows. This can deliver most of the improvements that would be expected from modern high-performance windows, and can reduce window heat loss by up to 50% with a payback of around five years.



Window replacement

Consider replacement of the windows with B-rated double glazing, although payback can be significant at over ten years. The cost of secondary or double glazing will be dependent on the number and size of the windows.

For more information

[Find out more about energy efficient windows](#)

[Learn about other ways to improve the efficiency of your building fabric](#)

Roofs

Heat is lost through the roof of a sports club. For clubs which contain a loft space and flat ceiling, the most cost effective measure to reduce this is to insulate, which can reduce heat loss by up to 25%. Loft insulation costs range from around £3 to £10 per square meter. Payback will depend on the nature of the club building, but can be expected to be around 4 or 5 years for a club which was previously un-insulated.

Clubs which already have loft insulation should check that it is at the recommended level. If there is 100mm or less, insulation should be topped up to 275mm.



Installing loft insulation

For more information

[Learn more about how to improve the energy efficiency of your building](#)

Exterior walls

Heat loss occurs through the walls of a sports club. There are a number of ways to reduce this heat loss, depending on wall type.

Draft stripping and sealing

Consider using draught stripping to seal any gaps where draughts can be felt around areas such as skirting boards and roof joins. This is a cheap and effective measure which normally pays back within 1-2 years.



Sealing a gap by a skirting board

Wall insulation



If the club does not have cavity walls, solid wall insulation can potentially be added to the inner or outer face of walls. However, this can alter appearance, and access to building systems (e.g. heating and electrical). If your club is of a cavity wall construction type then the best way to insulate is to add cavity wall insulation. Cost will depend on the size of the club, and payback is generally less than six years.

Adding cavity wall insulation

For more information

[Find out more about improving the energy efficiency of your building](#)

[Read about the costs and other practicalities of installing draught proofing](#)

Exterior doors

Exterior doors can be a major source of heat loss. For example, a 3mm gap around the door could let in as much cold air as a brick removed from a club wall!

Keep doors closed when heating or cooling is turned on. Fit draught stripping around the edges of outside doors. Brush strip draught excluders for the bottom of a door can cost as little as £3 per door (plus installation costs) and could pay for themselves in less than a year. Carry out regular maintenance to draught proofing to make sure it is adequate and replace it if necessary. Heating and cooling bills can be reduced by up to 10% when a leaking building is fully draught proofed. Draught



Brush strip draught excluder

proofing doors will make an important contribution to this saving.

There are also some refurbishment options which prevent draughts and reduce heating and cooling bills such as fitting draught lobbies to main entrances – this allows one set of doors to be closed before the other set opens. Upgrading your door to a modern very well insulated version, can also make a significant difference to heat loss.

For more information

[Find out more about improving the energy efficiency of your building](#)

[Read about the costs and other practicalities of installing draught proofing](#)

Building plant and systems

Boilers and heating systems

Space heating and hot water are responsible for the majority of energy use in a sports club. Timing controls on heating systems should be checked to ensure that they anticipate the occupancy pattern of the club, and that the heating is not running for longer than necessary.

Making a small change to the temperature setting on a thermostat make a significant difference to heating bills - a 1°C reduction in temperature could reduce a club's annual heating bill by up to 8%. If the club heating system includes a thermostat, make sure that it is fitted in the right place. It should be away from draughts or heat sources such as sunlight, radiators or office equipment.

For clubs that also have air conditioning a temperature gap (known as a 'dead band') should be maintained between the air conditioning and heating control settings. This prevents them switching on at the same time and competing against each other, wasting both energy and money.

Get the most out of radiators to ensure that they are not wasting energy. Make sure that they are not obstructed by furniture, and that they are turned off whenever the room is not in use. Fit Thermostatic Radiator Valves (TRV) to radiators to give more control over their heat output. These cost from around £10-20 each (plus installation costs), will save around 17% on radiator energy use per year (if used effectively) and will payback in around 5 years.



Example thermostatic radiator valve

Make sure that boilers are well maintained. They should be cleaned and serviced at least once a year. A well maintained boiler can be up to 10% more efficient than a similar poorly maintained one.

Check hot water temperature – the ideal temperature range is 60-65°C. Always consult a boiler specialist before making changes because the water needs to be hot enough to prevent Legionella.

Insulate hot water and central heating system pipe work, valves and flanges. This can reduce heat losses by more than 70%. The price of insulation starts from less than £1 per meter, and the payback

period for insulating hot water distribution pipework is usually 1 to 2 years for a previously un-insulated system.

Replace boilers that are more than 15 years old. Older systems are usually 10% to 30% less efficient than modern systems.

For more information

[Read more about saving energy use in club boilers](#)

[Find out more about replacing your boiler](#)

[Learn more about energy efficiency in boilers](#)

Wood burners

If your club has a wood burner, or is considering installing one, make sure that it is as sustainable as possible.

When choosing a wood burner to install, look at efficiency. A more efficient burner will produce the same amount of heat for less wood use.

When buying wood, make choose a sustainably managed source. Ask your supplier for evidence of where they source the wood from.

For more information

[Read more about the benefits of wood burners](#)

Cooling

Air conditioning can be energy intensive. Check that the controls are set to the correct temperature for the requirements of the room. Each additional degree of additional cooling will add 8% to club air conditioning energy bills per year.

Make sure that air conditioning equipment and control settings are properly maintained - energy consumption can increase by up to 30% if regular maintenance is not undertaken. Cleaning fans, filters and air ducts can greatly improve efficiency.

For more information

[Read more about improving the energy efficiency of your air conditioning](#)

Drink pumping equipment

Make sure that any cellar pumping equipment is well maintained and regularly cleaned so that it can continue to operate at its optimum efficiency. Always turn off equipment after use - give someone

the job of checking the cellar before the club closes, and switching off anything that does not need to be left on.

Computers

Computers left idling for long periods waste energy. Ensure that computers and screens are switched off when not in use. Use electronic communication where possible to reduce printing and faxing.

For more information

[Learn more about running a green office](#)

[Find out about office energy efficiency](#)

Waste

The following sections provide tips and advice on measures to help you to manage your club's waste as sustainably as possible.

Recycling

Recycling waste is better for the environment as it means that less energy and raw materials are required to make new products and the burden on landfill is reduced. It could also save money on waste disposal costs - simply separating out cardboard could reduce waste costs by 10% (depending on waste collection arrangements in the locality). Separation and recycling of other waste types such as paper, plastic and food, could also result in further savings.

Most office-type waste can be recycled. Make sure that recycling facilities are readily available in the office, and that they are clearly labelled. Buy recycled paper. This is readily available in ranges that have equivalent quality, 'printability' and appearance to virgin papers.

If you use paper towels in your club toilet, make sure that you buy a brand which uses recycled paper. This will help to reduce the demand for paper to make new products.



Labelled recycling bins

Make sure that bins are clearly labelled so that users understand what they can put in each one and what can be recycled.

For more information

[Learn more about recycling](#)

[Find out more about reducing your waste costs](#)

Composting

Composting is the most environmentally friendly option for your green waste. Make sure that separate compost bins are available for waste such as grass cuttings and leaves. The compost generated may be helpful in maintaining your pitches and other outdoor areas.

Make sure that your bins are clearly labelled so that users understand what they can put in each one and what can be recycled.

For more information

[Read more about reducing your waste costs](#)

[Learn about using compost to improve sports turf](#)

Water efficiency

The following sections provide tips and advice on measures to help you to reduce water use at your club.

Sinks

A tap can use up to 20 litres of water per minute, which is often much more than is needed.

If an isolating valve is in place then this can be turned down to reduce an overly high flow rate. Alternatively, installing a flow restrictor allows the tap flow rate to be manually adjusted, this costs around £10 per valve (plus installation costs) and can result in savings of up to 10 litres per minute, depending on the existing flow rate of the tap. The payback period is usually around one year.



Isolating valves

Depending on water pressure and tap type, it may be possible to fit tap aerators, which screw onto the end of the tap and act like a sieve, reducing the amount of water that leaves the tap. They also mix air and water together under pressure, increasing the apparent flow rate. Tap aerators cost around £5 each and are easy to fit. For a typical tap that is used 20 times a day for 15 seconds, they could save up to £13 a year per tap, meaning that they will pay back in around one year.



Tap aerator

Installing self-closing taps (push-down taps) means that the tap cannot be left on. These cost from about £20 per tap (plus installation costs). Savings will vary depending on the delay time set at installation, but payback is typically 2-3 years.



Example self-closing tap

Electronic infra-red sensor taps allow the water flow to be controlled through a sensor which detects the presence of the user's hands under the tap. These sensors cost about £65 each (plus installation costs), and payback in around 2 years.



Tap with infra-red sensor

For more information

[Read about ways to save water in washrooms](#)

[Read more about ways to save water in your club](#)

Showers

Showers are responsible for the majority of hot water use in a club. There are many ways to save water without compromising on performance.

Fitting a shower aerator between the hose and showerhead, or replacing the existing shower head with an aerating version, will mix air and water together under pressure, reducing water use, but increasing the apparent flow. Depending on the original flow rate, an aerator can save up to 6 litres of water per minute and costs around £5 per shower. This measure is simple to fit yourself. For a shower used twice a day for five minutes you could save £30 each year in water costs per shower. Further savings will also result from a reduction in the amount of energy needed to heat the shower water.



Shower aerator

Installing a flow restrictor allows a high shower flow rate to be manually adjusted, saving on water use. These are cheap to buy at around £10 per valve (plus installation costs), and generally pay back in around one year.

Another option is a push button shower, which stops after a set period of time. Cost and savings for this measure will be dependent on the delay time set during installation.

Always ensure that showers are regularly maintained, as soap deposits or scale can build-up and cause blockages and reduce performance and efficiency.



Push button shower

For more information

[Read more about reducing water use in showers](#)

[Consider products on the Water Technology List](#)

Toilets

There are a number of low cost options available to reduce WC water use. For cisterns installed before January 2001 (7.5 litres or more), a cistern volume adjuster such as a 'hippo' bag can be fitted at minimal cost, saving up to 2.5 litres per flush. It is worth asking your water company about hippos, as it may offer them to customers free of charge. Hippos should never be fitted to cisterns which were installed after January 2001, as after this date all cisterns use a 6 litre flush and fitting a volume adjuster will result in a poor flush, and a higher volume of water being used.



Hippo bag



Dual flush

Retrofitting a variable flush or dual flush where possible can also reduce the volume of water used for flushing. This measure will save around 45% of WC water use (~2 litres per flush on a short flush). It will cost about £20 to buy (plus installation costs), and will usually pay for itself within a year.

For more information

[Learn more about reducing water use in WCs](#)

[Read about other ways to save water in your club](#)

Urinals

Many urinals do not have controls meaning that they flush continuously, even when there is no occupation. Consider installing passive infrared motion sensors, which control flushing by detecting movement. These can save up to 75% on urinal water use, cost around £350 (plus installation costs), and usually payback in less than a year for larger clubs. Alternatively, consider installing waterless urinals. These have a retrofit cost of around £80-90 (plus installation costs and on-going chemical costs of around £50-£75 per year). They can save up to 90% on water use (some water is required for cleaning), and payback can be less than one year for a large club.

For more information

[Read more about reducing urinal water use in washrooms](#)

[Consider products on the Water Technology List](#)

Rainwater harvesting

Rainwater collected from guttering can be used in pitch maintenance. This will help to reduce water bills and will save on a valuable resource that would otherwise be lost. It may also help to supplement water supplies at drier times of the year. The cost of a tank to store the water will depend on the tank size. Prices for a 10,000 litre water tank start at around £1,000 (plus installation costs). Total system costs will vary depending on whether the tank is installed below ground and whether it is linked to an automatic irrigation system.



Example rainwater harvesting system

For more information

[Read more about rainwater harvesting](#)

[Find out more about using alternative sources of water for irrigation](#)

[Listen to an account of installing a rainwater harvesting system](#)

Cleaning

Cleaning has a variety of impacts on the environment, including the use of water and chemical cleaning products. Speak to cleaners (or volunteers) to make sure that they are using water efficiently when cleaning the club. Get feedback from on the level and extent of cleaning required. This will help to strike a balance between water efficiency and effective and hygienic cleaning practices. At the same time, review the cleaning products that are purchased for the club. It may be possible to purchase more environmentally-friendly equivalents for a similar price.

For more information

[Read more about sustainable cleaning](#)