

Utilising renewable energy can cut bills and even generate income due to government schemes – but it also benefits the environment. **Tony Hanson** overviews the easiest ways a typical golf club can cut carbon emissions

Energy costs have increased by nearly 30 percent in the last three years and the chances are that this rate of increase will continue over the coming years. In addition to the financial pressures, there is an increasing ground swell of feeling that we should all do what we can to make sure resource use is minimised.

The difficulty for any golf club is to try to identify the technologies available, how much the project will cost and whether there may be any funding available. It is essential that you identify the areas offering the greatest savings and which are a lower priority and may form long term

maintenance. I will restrict myself to replacements and updates of existing equipment although additional technologies are available such as voltage optimisation.

With many technologies, and even more installers, you will need to ask what would happen to the quoted savings if you were considering additional projects. This may result in less attractive paybacks with capital expenditure returns becoming too long to justify proceeding.

AWARENESS

Without doubt the most cost effective method to reduce consumption is to

'turn it off'. This will require a campaign including posters, newsletters and website announcements to spread the message and try to make sure everyone works with you.

Displaying real time consumption in reception will also help to announce the club's intention to reduce consumption. If it is placed by the final exit door and base flow is higher than normal then it may help identify if anything has been left on.

Encouraging suggestions of ways to help reduce consumption can be useful, sometimes it isn't the suggestion it is simply the fact that everyone is thinking about consumption that will create savings.

INSULATION

The first area to consider is the structure of the building and its ability to hold on to the warmth in the winter or cool in the summer. This involves walls, windows and the roof although clearly window replacement is expensive.

The most cost effective policy is roof insulation although this will depend on the configuration of the roof space, whether you have plant and equipment located in the space and the use of GU10 and MR16 recessed spotlights due to the heat that may be generated. Cavity wall insulation may also be desirable but the efficiency and payback depend heavily on the percentage of the wall area that can be filled

AUTOMATED SOLUTIONS

I am not suggesting you rush out and invest in a building management system (BMS). I am suggesting that you look at automatic door closers, passive infra red light controls to switch off lights in unoccupied areas (be aware of

health and safety) and zoning heating either by central control or individual thermostatic radiator valves (TRV).

HEATING

Rule one of heating a public space is to make sure the controls are not accessible to anyone other than staff. If they are accessible then no doubt someone will turn it up when they come in and forget to turn it down again.

The most common heating system is gas fired, with a boiler heating the water and radiators distributing the heat around the building. Most have a simple thermostat and timer control so you set on and off the time and the temperature desired.

Modern condensing boilers do provide more efficiency, but much of the saving they achieve comes from the control system. Before you get rid of your old boilers it is worth speaking to your heating engineer about boiler controls.

In simple terms, boiler controls will monitor internal and external air temperature and flow water temperatures around your system. The benefit of this more advanced control is that you can set the desired internal temperature and it will check the external temperature to bring the boilers on at the right time to achieve the correct temperature at the desired time. This will help on warm spring or autumn mornings by bringing the boilers on later, saving you fuel. The flip side is that on a cold morning it will bring the boilers on earlier, which uses more fuel!

Where a boiler control can help save fuel is by monitoring the heat exchangers to prevent the system generating heat when the heat exchanger cannot utilise it. This is known as dry cycling, and without a boiler control system the boiler would fire and produce heat that the heat exchanger cannot use, venting it straight to the flue. So boiler controls may help, but it is not a silver bullet.

COOLING

Many clubs will spend much more energy on cooling than they think. If you are using old fridges, freezers, bottle coolers and cellar chillers it is worth speaking to your refrigeration

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maintenance company. They should be able to discuss the options on cellar chillers and walk in fridges and freezers in terms of retro-fit efficiency controls.

As far as the bottle coolers and domestic fridges are concerned, the savings provided by modern A-rated are substantial. This should be part of any sensible planned maintenance programme of replacement.

LIGHTING

Most of the clubs I have visited have already started to use compact florescent lights (CFL) commonly known as 'energy saving bulbs'. These are a cheap and effective solution for many light fittings.

In bar and receptions areas many clubs have 50w recessed spot lights that can be replaced with a new and growing range of LED lights. The light rendition and spread has improved tremendously over the past two years, so LED's can now offer a very efficient alternative to GU10 and MR16 bulbs.

Florescent strip lights in driving

ranges and corridors also offer opportunities for substantial energy savings. The older T12 and T8; four, five, six and eight feet fittings can now be replaced by T5 or a new range or LED strips that plug in to existing fittings.

WATER

Clubhouse water supply and meters should be checked on a regular basis to ensure there are no leaks. Turn off all the taps and have a look at the meter to see if it is still turning. If it is, you may have a leak, or you have something flowing that you have forgotten about.

Flow rates for your taps will depend on mains pressure, and whether your taps have flow control built in. A flow rate of four litres per minute is suggested for hand basins and six litres per minute for kitchen sinks. If you have older taps it many be worth considering fitting flow restrictors that are relatively cheap. If you have a problem with taps left running than it could be worth replacing your existing taps with self-closing taps that have a four litre per minute flow rate. Similarly, dual flush toilet systems should be considered together with urinal flush controls that sense use rather than flushing at fixed time intervals.

Any organisation wanting to reduce consumption should start by conducting a walk around survey to identify where they are spending the most, and working through the hierarchy of no cost, low cost and replacement to find acceptable solutions.

Finally, as always, seek advice from a number of sources and review the advice carefully before committing yourself to any major capital expenditure. **GCM**

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