

# Energy Saving - Cellar

The cellar is a significant, yet often underestimated energy user within the pub. Typically the cellar will be 5-15% of a pub's energy cost because the cellar equipment is working all day every day.

The two main energy users in the cellar are cooling the cellar and remote inline coolers which chill dispense drinks. In basic terms, the cellar is a chilled box. To use less energy, the heat which is entering or created within this space needs to be minimised, much the same as with a domestic refrigerator.

The most significant energy saving opportunities within the cellar are:

## REMOTE COOLER CONTROLS

**Fact:** Remote Coolers usually run 24/7, even at night when there is no demand for drinks cooling.

**Did you know:** A typical pub cellar has two or three remote coolers. A typical beer cooler costs approximately £450 a year of electricity to run.

Energy saving controls can manage the remote coolers energy demand when the pub is closed and save around £100 per unit per year for a beer cooler and £50 a year on a soft drink cooler.

**How does this apply to me:** If you have remote coolers then you can make this saving. A typical pub can save £250 a year.

**How do I make the saving:** Standalone timer devices can be purchased from a number of vendors which control the units according to predetermined time schedules. Alternatively they can be intelligently controlled remotely as part of an integrated cellar energy and conditioning monitoring system.

Payback can be less than a year.

## CELLAR INSULATION

**Fact:** Only 40% of pub cellars have adequate insulation to prevent heat entering the cellar.

**Did you know:** A poorly insulated cellar can cost £200 – £300 more a year in electricity to cool.

**How does this apply to me:** A simple survey of your cellar will show how well insulated it is.

Look for holes to outside or other parts of the property, poorly fitting doors or beer drops, doors ajar or open for prolonged periods, thin or poorly insulated ceilings or walls, poorly insulated hot water or heating pipes.

**How do I make the saving:** Much of this can be done cheaply by a handyman. Sources of draughts or holes should be filled, draught exclusion and self-closing mechanisms fitted to doors, and insulation improved where possible.

Depending on work, payback can be as little as 1 year.

## REMOVAL/SEGREGATION OF HEAT GENERATING EQUIPMENT

**Fact:** Ice machines, fridges and freezers all produce heat. Locating these in the cellar causes the main cellar chiller to work harder costing you more in electricity costs. 38% of pub cellars have some form of heat producing equipment within them other than remote coolers.

**Did you know:** A freezer located in the cellar will cost around £110 more in cellar cooling costs per year.

**How does this apply to me:** Check your cellar – does it contain the items listed above? Does the equipment in the cellar need to be there?

**How do I make the saving:** If space is available the best option is to move these items to another area. Alternatively investigate if it is possible to divide the cellar to have a warm and a chilled area. This can be done cheaply using plastic strip curtain but is best achieved by installing an insulated partition. If possible ventilation should be provided to the warm zone.

## EQUIPMENT MAINTENANCE

**Fact:** 40% of pub landlords either do not maintain their cellar equipment or are unaware of the maintenance arrangements.

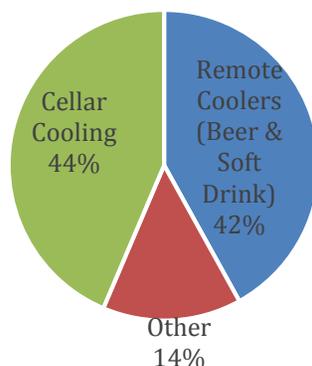
**Did you know:** Poorly maintained or broken cellar equipment not only results in inconsistent beer quality but also uses more energy. A poorly maintained or failing cellar chiller can use 25% more energy or cost £250 more per year to run.

**How does this apply to me:** Do you know if your cellar equipment is maintained or how often it is checked? Does someone check or maintain your remote coolers?

**How do I make the saving:** Cellar equipment such as the chiller and remote coolers should be monitored or checked according to a regular planned preventative maintenance schedule.

Integrated cellar equipment energy and condition monitoring systems are available that notify you when your equipment is performing below its optimum or showing failure signs.

Typical Cellar Energy Use



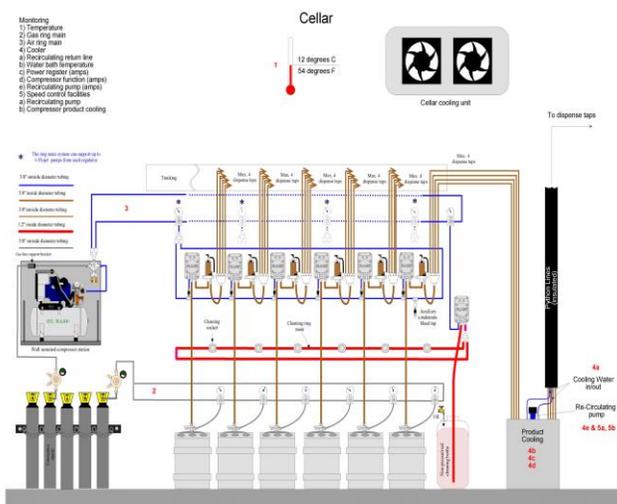
## CELLAR FREE COOLERS

**Fact:** 91% of pubs do not have a free cooler installed that cools the cellar with external air when the outside temperature are below 8°C.

**Did you know:** A free cooling system can save £200 per year by using “free” cooling from outside air in winter months when it is colder outside than in the cellar.

**How does this apply to me:** Installation requires external air to be blown into the cellar by a fan. This is most easily/cheaply achieved in an above ground cellar. If you have a large above ground cellar then this opportunity is best suited to you. Payback for smaller and below ground cellars can be poor.

**How do I make the saving:** There are several suppliers of free cooling equipment for cellars. Typical paybacks are in the region of 5-6 years.



## EQUIPMENT REPLACEMENT

**Fact:** Up to 2/3rds of the heat removed by the cellar chiller is created within the cellar by integral remote coolers and other equipment.

**Did you know:** Integral air cooled remote drinks coolers output their heat into the cellar.

If your coolers are nearing the end of their life; replacing them all with split water cooled remotes which dump heat outside the cellar can reduce cellar electricity use by up to £650 per year (Assuming one soft drink and two beer remote coolers).

**How does this apply to me:** If the grill on your remote cooler is warm when it is running then it is likely to be air cooled. Water cooled remotes have two additional hose lines from the back of the remote which are used to dump heat via a small box located outside.

**How do I make the saving:** Split Water cooled remotes are expensive and will only payback if new remote coolers are being purchased.

Split water cooled remotes are more expensive than air cooled but will pay back the additional cost in 1.5-2 years. Make sure if you are purchasing new remote coolers to specify that they are split water cooled.