

TIPS FOR ENERGY EFFICIENCY

This brochure aims to highlight some of the simple actions hoteliers can make that will yield savings in the most energy intensive areas of your businesses.



Your chance to reduce your business energy usage by as much as 20%!

20% is a significant figure and reducing your energy bill by this amount could make a real change to your bottom line. By identifying where you can save and implementing the measures to realise those savings, you will be well on the way to achieving optimum energy efficiency in your business. Our objective at Digren Energy is to help businesses use energy efficiency measures to achieve greater success.

Energy Efficiency simply means using less energy to perform the same function. Reducing your energy usage is achievable. Digren Energy is committed to providing you with the right energy solutions for your business. This brochure is designed to help you see where your business can save and if you need any further assistance, our energy efficiency team are always here to help.



Lighting

Save 50%
on lighting
costs



Switch lights off when not required:

Promote a “Switch Off” policy. Lights should be switched off or dimmed in unoccupied areas. Light switches should be clearly marked indicating to staff which areas they control and which lights should be switched off in vacant rooms (or left on for guest comfort and safety).

Maintain and clean light fixtures:

Reflectors, roof-lighting and windows should be cleaned regularly to ensure optimum efficiency. This will reduce the likelihood of additional lighting being turned on to compensate for low light levels. Maintenance requirements should be considered when installations are designed, as luminaries that are easily accessible are more likely to be cleaned regularly. Regular lighting maintenance is essential. Keep windows, skylights and light fittings clean and light levels will be maintained.

Replace older, less efficient tubular fluorescent lighting:

T8 (26mm) fluorescents have similar light output compared to the older T12 (38mm) but use 8% less electricity. Fluorescent tubes should be fitted with appropriate reflectors to maximise light output. High frequency electronic ballasts should also be used, as these are 20% more efficient than conventional electromagnetic ballasts. T8 fixtures are also quieter, do not flicker, and reduce air conditioning costs as more efficient lamps produce less heat.

Replace standard incandescent light bulbs with compact fluorescent lamps (CFLs):

CFLs can provide energy savings of up to 75% when replacing incandescent bulbs while providing equivalent lighting levels. Increased lamp life also significantly reduces maintenance costs in many common applications formerly dominated by incandescents.

Install lighting controls:

Using energy-efficient control systems, which include manual switches, occupancy linked controls, time scheduling and daylight responsive controls, any combination of which can yield energy savings of between 30% and 50%.



Space Heating

Save up to 30% on heating and hot water costs



Service your boiler equipment:

Boilers should be serviced at least annually to ensure efficient and safe operation. A poorly maintained boiler can often use 10% more energy than necessary and may also be less reliable. A boiler efficiency test, including the adjustment of the air/fuel ratio, should form part of the annual service.

Insulate your boiler:

All pipes, valves and flanges should be insulated and checks should be carried out for leaks or corrosion, as wet insulation is no longer effective. Insulation should always be replaced when maintenance work is completed.

Check the temperature:

Use a digital thermometer to make sure that temperature set points are correct, because heating costs increase by about 8% for each 1°C overheating. The controls schedule should be reviewed each year to ensure it reflects occupancy patterns. Checking energy use outside normal occupancy can give an indication if controls are operating correctly.

Take account of the outside temperature and adjust heating levels accordingly. A multi programmable switch will accommodate varying requirements during the day. Location of thermostats is vital to efficiencies in heating systems. Thermostats should not be influenced by sunlight, radiators or draughts. Regular checks will ensure that they are working correctly.

Thermostatic radiator valves (TRVs) control the heat output from radiators and can contribute to savings.

We recommend the following temperatures for specific areas of your business as a guide:

Area	Temp. °C
Bedrooms	19° - 21°
Bathrooms	26° - 27°
Dining Rooms	22° - 24°
Bars	20° - 22°
Corridors	19° - 21°
Laundries	16° - 18°
Kitchens	16° - 18°

Reducing the temperature by 1°C may cut up to 10% off your heating costs.

Water and Water Heating



Heat your water to the correct temperature:

Hot water tanks should be fitted with a thermostat to ensure that the water is not heated more than necessary. The hot water temperature should be checked to ensure that it is maintained above 55 degrees to avoid legionella, and below 65 degrees to minimise energy use.

Insulate hot water cylinders:

With a 75mm or 3 inches thick BS Kitemarked insulating jacket. This measure may save up to 30% on your heating costs. Insulating all cold and hot water pipes especially those between the boiler and the hot water cylinder. Also consider the following water saving devices:

- Tap controls switch taps off after a certain time.
- Spray taps reduce the volume of water used.
- Urinal/Toilet flush controls.

Maintain your hot water system:

Hot water systems should be inspected to ensure that there is no build up of scale or air in the system.

Insulation



The condition of the building fabric can have a significant effect on energy use. A general maintenance programme should ensure that doors and windows are in good working order and draught stripping is fitted where appropriate. Install secondary glazing and heavy curtains. Fit automatic door closers and appropriate wall insulation if needed also.

Approximately 50% of the heat is lost from buildings through walls, floors and ceilings. Improving this loss will result in lower energy costs.

- Insulate, Insulate, Insulate! Ensure all external walls, roof spaces and hot water pipes are insulated and check the condition of the insulation regularly.
- Maintaining buildings and dealing with issues around gaps and holes quickly will save energy.
- Check regularly for damp as it may cause significant damage to insulation properties.
- Keep the heat in! Ensure windows and doors are closed, close curtains and blinds at the end of the day in winter.
- Improve window glazing. Double glazing is now standard and triple glazing is recommended for north facing walls.

Kitchens



Kitchens consume large amounts of energy and can be one of the highest areas of waste. As approximately only 40% of the energy consumed is used in the preparation and storage of food, effective energy management can provide substantial savings.

- Equipment should be switched off or turned down when it is not required. Create a culture where grills, fryers and hobs are switched off immediately after use.
- Maintain and clean the equipment regularly. Seals and gaskets should be checked weekly to ensure the correct fit.
- Gas burners should be checked for a blue flame and efficient burning.
- Never use catering equipment to warm the kitchen. This is the job of the building's heating system.
- Purchase equipment with its running costs in mind. Always consider the energy used over the lifetime of the product, not just on capital cost.
- Equipment that automatically switches off can save up to 25% on energy costs

Refrigeration



Refrigeration can be a significant energy user in the hospitality industry. Regular maintenance and some simple measures may help reduce energy usage.

- Refrigeration equipment may gradually use more energy and break down if not properly maintained. A simple maintenance schedule may save on energy costs.
- Ensure defrost procedures are followed and door seals on cold rooms, freezers and fridges are checked and replaced if damaged.
- Condensers and evaporator coils should be kept clean and free from dust, and the system should have the correct amount of refrigerant.
- Products such as canned drinks do not need to be in the refrigerator cabinet at all times. Store them in a cool place and put them in chilled cabinets only as required as per the manufacturers guidelines.

Leisure and Fitness Facilities



Leisure facilities can be major energy users. By implementing a few simple energy efficient measures, costs can be kept to a minimum.

- Swimming pool temperatures - maintain water temperatures at the minimum level to meet comfort conditions. Swimming pools are usually heated to 28°C - 30°C.
- It is important to ensure that the pool hall air temperature is maintained at 1°C above the water temperature to limit evaporation from the pool surface. Staff should be trained to use controls effectively.
- Backwashes - swimming pool filters need to be cleaned by backwashing. All of the captured matter must be removed from the filter. In some cases heat from the backwash water can be used to pre-heat new pool water through the heat exchanger.
- Install a pool cover - swimming pools may only be used for a number of hours a day, yet require 24 hour heating and ventilation. Using a pool cover when the pool is not in use can cut energy use by 10-30%.

Ventilation & Air Conditioning



The ideal set point for cooling buildings is 24°C. Cooling much below this results in significantly higher costs.

Preventing unnecessary air loss reduces energy consumption and saves costs. If hot or cool air escapes through doors, windows, the fabric of the building or the ventilation system energy is wasted.

- Ensure ventilation and cooling systems are set correctly and consistent with the occupancy in the building.
- Minimise the cooling requirement by reducing the amount of heat from other sources such as sunlight, equipment, artificial light and vending machines.
- Maintaining systems is essential as energy consumption may increase with dirt collecting in air ducts, fans and components.
- Avoid operating heating and cooling systems at the same time and set a temperature 'dead zone' which is a gap between the temperatures at which the heating/cooling cut in.
- Recover heat from exhaust air by recirculating some of the exhaust air with fresh air. This combination can be controlled using an indoor air quality sensor.

Combined Heat and Power (CHP)



Combined Heat and Power (CHP) can offer an economical method of providing heat and energy which can be more environmentally friendly than conventional methods.

CHP equipment usually burns fossil fuel, such as gas or oil. With CHP, the heat generated producing the energy is recovered on site and used for domestic hot water or heating the swimming pool, thus making the process more efficient.

With year round requirements for electricity and hot water, most hotels are suited for CHP, especially those with a swimming pool. Sites need to be surveyed for suitability.

The aim should be to maximise the use of all the heat and hot water the system can produce. A well designed and appropriate CHP application can reduce energy bills. Many hotels due to their requirement for both electricity and heat are ideal for the installation of CHP units, which have total efficiencies in excess of 90%.

Energy Audit

An energy audit is essential for establishing a baseline of where you currently stand in regard to energy efficiency. It is the tool required to develop your energy plan and to measure and monitor your energy strategies.

Measure & Monitor

Monitoring your power consumption enables you to identify areas of heavy useage but also identify areas of wastage. Monitoring equipment puts you in control and allows you to implement, manage and measure and energy reduction strategies you implement.





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