energia
Switched on





ENERGY EFFICIENCY
SCHOOLS

www.energia.ie





Your chance to reduce your school's 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 school. At Energia, our aim is to help schools 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. Energia is committed to providing you with the right energy solutions for your school. If you are a headmaster or a member of staff with responsibility for the running of a school you will benefit from the advice in this brochure.

Contact us on 1850 36 37 44 or email energy.efficiency@energia.ie

> **" Energy Efficiency simply means using less energy to perform the same function."**





> “ Energia is committed to providing you with the right energy solutions for your school.”

School Equipment

Making small adjustments to usage of equipment may save money.

Computer & Audio Visual Equipment:

- Introduce a switch off policy for computers, monitors and AV equipment. The monitor accounts for about half of the energy use of a typical computer.
- If equipment is not in use throughout a lesson, switch it off.
- Reduce screen brightness. The default brightness setting for screens on computers, laptops and tablets is often set quite high and consumes relatively large amounts of energy.

Printers & Photocopiers:

- An ink-jet printer consumes up to 90% less energy than a laser printer.





School Equipment

- Make it a policy to set default printing to duplex (double sided) and to print in black and white where possible.
- Photocopiers use most electricity to heat components that fuse toner to paper. Opt for inks that can fuse at lower temperatures.

Vending Machines:

- Savings may be made where vending and drinks machines or any other type of kitchen/catering equipment is used.
- Check if holding temperatures in vending machines can be increased or switched off at night without compromising food quality.

“ If equipment is not in use throughout a lesson, switch it off.”





" School kitchens can be one of the highest areas of waste."

Kitchens

School kitchens consume large amounts of energy and can be one of the highest areas of waste.

- Maintain and clean equipment regularly and seals and gaskets should be checked weekly to ensure the correct fit; gas burners should be checked for a blue flame and efficient burning.
- Refrigerators & freezers consume significant amounts of energy. Regular maintenance, keeping doors closed and defrosting regularly will save energy.
- Reduce energy consumption by 4% by increasing the cooling temperature by 1°.



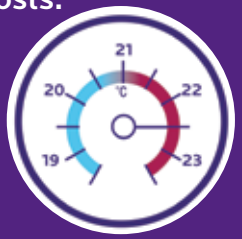
Recommended temperatures to be maintained for specific areas in schools:	
Area	**Temp. °C**
Standard Class Room	18°
Toilets	15°
Sports Halls	15°
Corridors	15°
Dining / Kitchen	19° - 21°
Staff Rooms / Student Common Rooms	19° - 21°
Library / Medical Rooms	21°

Heating

Heating can account for over **60%** of the total energy bill in schools. Heating costs can be reduced by **up to 1/3** by simply maintaining appropriate temperatures and using appropriate heating equipment and controls.

- Reducing the temperature by 1°C may **cut up to 10% off your heating costs.**
- Turn heating off in unoccupied areas.
- 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.

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







> “ Regular checks will ensure thermostats are working correctly.”



Heating

- Upgrading heating controls to systems that automatically adjust to account for weather / occupancy bringing buildings to optimum temperatures.
- Night setback controls reduce temperatures effectively during specific time periods.
- Zoning areas provides more efficient heating control and can reduce operating costs. Larger schools may need to provide different levels of heating in different zones. Creating heating zones will provide more efficient controls.
- Zoning should be considered where there are:
  - Different occupancy patterns
  - Different temperature requirements
- Maintenance - Service gas boilers once a year and oil boilers twice a year. Regular maintenance can save up to 10% on heating costs.





Lighting

Lighting costs may be **reduced by as much as 50%** with simple energy efficiency measures.

- Install low energy lighting by replacing standard light bulbs with compact fluorescent lamps/LEDs. **This uses up to 75% less energy.**
- Promote a "Switch Off" policy. Lights should be switched off or dimmed in unoccupied areas.
- Clearly label light switches to help staff only select the lights they need.
- Regular lighting maintenance is essential. Keep windows, skylights and light fittings clean and light levels will be maintained.
- Ensure timers are set to match school hours and occupancy/dimming sensors are clean and operational.
- Install occupancy sensors to ensure lighting only operates when someone is present and achieve **savings of up to 30%.**
- Control lighting with light sensors and optimise natural daylight.

" Promote a 'Switch Off' policy in your school."







“ Ensure windows and doors are closed, close curtains and blinds.”

Insulation

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.





Ventilation & Air Conditioning

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.

“ Avoid operating heating and cooling systems at the same time.”





“ Hot water at the optimum temperature of 60°C will save energy.”



Water

Maintain hot water at the optimum temperature of 60°C which will save energy.

- Hot water tanks should be insulated 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.







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