

Waikato

ENVIROSCHOOLS



Home Energy Audit

GETTING READY FOR WINTER

Wintertime can make our power bills creep up as we spend extra energy on heating. That's why it is now a perfect time to carry out a 'walk-through' energy audit of your home!

You'll probably discover some opportunities to save on power and increase energy efficiency.

Gains can be made in two ways:

- Equipment and materials (appliances, fixtures, etc.),
- Practices (how we use energy).



IDENTIFYING ENERGY-SAVING OPPORTUNITIES

You can conduct a simple home energy audit at www.homefit.org.nz. It is user-friendly and easy to follow. If you are up for a more in-depth challenge, try the more comprehensive audit attached. This audit looks at short-term as well as longer-term action areas in four categories: lighting, appliances, heating/cooling, and hot water. It also looks at overall energy management.

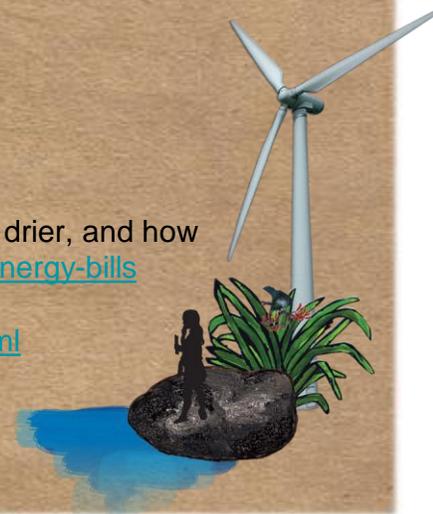
You'll be able to see how things are currently going, as well as identifying action for now and in the future; all you need to do is complete the form and decide if an action has a priority rating of High, Medium or Low. Then, start implementing the High Priority actions.

ADDITIONAL RESOURCES

This activity is from the Enviroschools 'Energy!' Theme Area.

Energywise has great resources on how to help make your home warmer and drier, and how to lower power bills: www.energywise.govt.nz/at-home/simple-ways-to-lower-energy-bills

Energy saving tips: www.sciencekids.co.nz/videos/nature/energysavingtips.html



'Walk-through' Audit Record

A 'walk-through' audit allows you to do an assessment of where there may be opportunities to make improvements in your Enviroschool's energy use practices. Gains can be made in two aspects:

- Equipment and materials i.e. fixtures, fittings, appliances, types of fuel
- Practices i.e. what people do day-to-day

This audit looks at short-term as well as longer-term action areas, in four categories: lighting, appliances, heating/ cooling and hot water, as well as overall management. You can give each of these a check-up, and see where future action should focus, by assigning a priority rating of High, Medium or Low to each action.

Let everyone know about your plans, and then go on a hunt for opportunities to improve your Enviroschool's energy performance!

Lighting

Short-term opportunities	Yes/No	Priority (H/M/L)
Are low-wattage bulbs in use?		
Are lights turned off when rooms are not in use?		
Are lights turned off when there is enough natural light?		
Are lamps and light-shades/ diffusers clean and free of dust?		
Is vegetation trimmed back from windows to admit natural light?		
Long-term opportunities	Yes/No	Priority (H/M/L)
Is the level of light appropriate? (e.g. bright lighting is needed in areas with detailed work; lower lighting is needed in corridors)		
Does switching enable specific areas only to be lit?		
Are use-related switching technologies in place e.g. timers, dimmers, movement sensors?		
Do interior paint colours minimise artificial light requirements?		

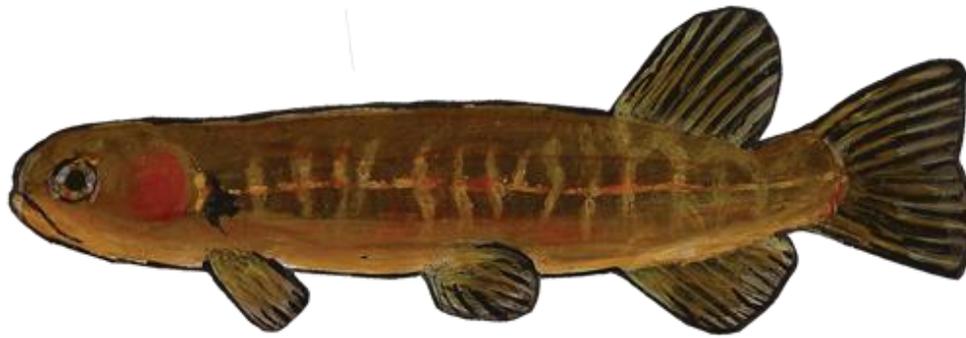
Appliances

Short-term opportunities	Yes/No	Priority (H/M/L)
Are appliances turned off at the wall when not in use/ overnight? <ul style="list-style-type: none"> - Are screens and monitors switched off when not in use? - Is the projector turned off when not in use? - Are devices unplugged once they are fully charged? - Are photocopiers and printers turned off overnight? - Are fridges and appliances turned off during holidays? 		
Are freezers regularly defrosted?		
Is the dishwasher used on economy setting and only when full?		
Is the swimming pool filter pump running only when needed?		
Long-term opportunities	Yes/No	Priority (H/M/L)
Are switches easily accessible?		
Do appliances have a high energy-star rating?		



Heating/ Cooling

Short-term opportunities	Yes/No	Priority (H/M/L)
Do all opening windows close tightly, especially louvres?		
Are exterior doors closed in winter or fitted with spring-closures?		
Are doors and windows draught-proof?		
Are doors and windows closed when heating/ cooling is on?		
Are we making the most of natural ventilation in summer?		
Are curtains closed overnight in winter?		
Do heaters have timers, and are they set with the right time?		
Do heaters have thermostats, with the temperature set at 18-20°?		
Has the boiler had a check/ tune-up in the last year?		
Does the boiler have a timer and is the timer working properly?		
Is the temperature control on the boiler adjusted properly?		
Do pipes from the boiler to classrooms have lagging/ insulation?		
Is the heating/ cooling system turned off when not needed?		
Are heat pump filters cleaned of dust regularly (monthly)?		
Are high wall-mounted heat pumps set to direct warm air downwards in winter and to direct cold air upwards in summer?		
Long-term opportunities	Yes/No	Priority (H/M/L)
Are all rooms well insulated (ceilings, underfloor, walls)?		
Are windows double glazed?		
Are efficient heater types used (e.g. heat pumps not fan heaters)?		
Does the boiler use non-fossil fuels (i.e. not oil, diesel, coal or gas)?		
Are radiators in rooms the right size and fitted with thermostats?		
Can we orient new buildings for passive solar heating and to maximise potential for photovoltaics?		



Hot Water

Short-term opportunities	Yes/No	Priority (H/M/L)
Do hot water cylinders and pipes have effective insulating wraps?		
Are hot water taps free of drips and leaks?		
Is hot water in the range of 50-55° at the tap?		
Is the swimming pool cover used (in and out of school hours)?		
Are unused hot water cylinders turned off during holidays?		
Long-term opportunities	Yes/No	Priority (H/M/L)
Do showers have low-flow heads (less than 10 litres/min)?		
Is there solar thermal water heating installed?		
Is solar energy used to heat the swimming pool?		
Is the type of swimming pool cover easy to use and effective?		

Overall Management

	Yes/No	Priority (H/M/L)
Are there student energy monitors rostered on?		
Is there someone in school management responsible for energy?		
Are cleaners and caretakers clear on what is needed?		
Are the BOT and property manager involved in plans and action?		
Is the best electricity rate being accessed?		
Is off-peak electricity being used as much as possible?		
Is there on-site electricity generation?		