

LED lights showing the way

We're living in an increasingly LED (Light-Emitting Diode) lit world – and for good reasons.

PowerNet new energy analyst Eric Sng says traditional incandescent and fluorescent lighting is gradually being replaced by more energy efficient and longer lasting LED bulbs.

Energy consumption from lighting accounts for about 10% of the total energy consumption in New Zealand households. That means that about 700kWh of electricity is being consumed for lighting, giving an electricity cost of \$175 annually.

60W Incandescent	20W CFL	10W LED
		
Energy Usage - 60W	Energy Usage - 20 W	Energy Usage - 10 W
Bulb Lifetime : 1,000 hours	Bulb Lifetime : 10,000 hours	Bulb Lifetime : 20,000 hours

The average wattage for a typical incandescent lightbulb is 60W and a compact fluorescent light (CFL) at about 20W per bulb. An equivalent LED lightbulb with the same lumens (a measure of brightness of a bulb) has a wattage of 10W.

Whereas traditional incandescent bulbs might last 1000 hours, and CFLs 10,000 hours, LEDs have an average lifetime of 20,000 hours.

An EECA (Energy Efficiency and Conservation Authority) survey found the average number of lightbulbs in New Zealand homes to be about 23 per household.

If all these lightbulbs, previously a mixture of incandescent and CFLs, were to be changed to LEDs, a reduction of 690W would be realised. This in turn would mean an estimated annual electricity bill from lighting would reduce from \$175 to \$45 – a 75% reduction.

In terms of cost, an incandescent bulb can be as cheap as \$0.90 and a CFL, \$5 each. Compared to an LED, which would cost about \$20.

“These bulbs although expensive at first, are now becoming more affordable as LED technology advancements are made,” Eric says.

If we were to change all of the 23 lightbulbs in our household to LEDs – at the end of a 10 year expected bulb lifecycle, people would be \$840 better off.

Environmentally, LED bulbs are far superior with a longer life time meaning less waste. LED bulbs also do not contain toxic gases.

People may also notice LED lights increasingly being used in street lighting – alongside other enhancements such as lights being focused downwards to create less light-spill, helping to enhance our amazing southern night skies.

The possibilities for LEDs are endless – and Eric is encouraging people to check out the new trends using flexible LED strips.

