



CLIPSAL®

Lean and Green.

Bright electrical ideas to help you
save money and the environment.



Domestic

The Future of Electricity

The National Electricity Market is the new competitive electricity structure now operating to varying degrees across many parts of Australia. It means that instead of having state-based supply, each state's electricity system will be integrated into a new national market.

In this booklet you'll find handy tips on how to choose energy saving products and how to take simple measures to get the most out of the National Electricity Market.

With so many changes, it is more important than ever to look at how efficiently we use electricity and to discover new ways to reduce consumption, save money and help the environment.

Bright ways to be lean

Throughout this booklet you'll discover practical ways to conserve energy and keep costs down. Keep an eye out for this 'Lean' icon to read about the kinds of savings you can expect.

Bright ways to be green

On the back page, you will be able to see how much money you can save **AND** how many **CO₂ emissions** you are preventing. Saving money will help you to save the environment!





Contents

- 4 Switched On Lighting Strategies**
 - Dimmers
- 6 Timer Switches**
 - Light/Fan Timers
 - Outdoor and Indoor Infrascans
- 8 Sunset Switches**
 - Time Clock Units
- 10 Tactics for Cooling**
 - Exhaust Fans
- 12 Ceiling Sweep Fans**
 - Roof Fans
- 14 Home Energy Management Systems**
 - C-Bus Advantage
- Project Example**
 - C-Bus In The Home
- 16 Quick Lighting Types and Tips**
- 18 Your Guide to Using Electricity More Efficiently**
- 20 Savings Summary Chart**

Switched On Lighting Strategies

Lighting can account for a large portion of any electricity bill, and offers one of the most immediate ways to start saving money.

Efficient lighting initiatives also do the most to reduce greenhouse gas emissions.

As a general rule, you should make sure there are enough light switches to give you flexible control over all lighting, and automate where you can.

Dimmers

Dimmers don't just set the mood, they can save you money too. Most of the time we don't need full brightness to light a room. And, quite simply, if you dim a globe's brightness you're using less energy to run it. You can connect groups of lighting to a dimmer as well for even greater efficiencies.

There are all kinds of dimmers to suit your situation:

Dimmer Scenario:	Energy Saved per Year (kwh)
To illuminate a living area using a 60 Watt globe connected to a dimmer at full illumination for 8 hours per day/7 days per week would consume:	175
If you used half brightness, half the time, consumption would be 149, saving you:	26

Clipsal Dimmers

There is an extensive range of Dimmers available, ranging from:

250VA	Ideal for small residential applications, up to a
2400VA	To suit larger residential applications
C2032E400	Ideal general purpose dimmer
2031E1000L	Caters for a larger residential area

For details on specific dimmers, please contact your nearest electrical wholesaler.

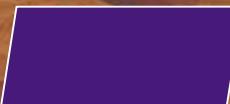




C2032E400

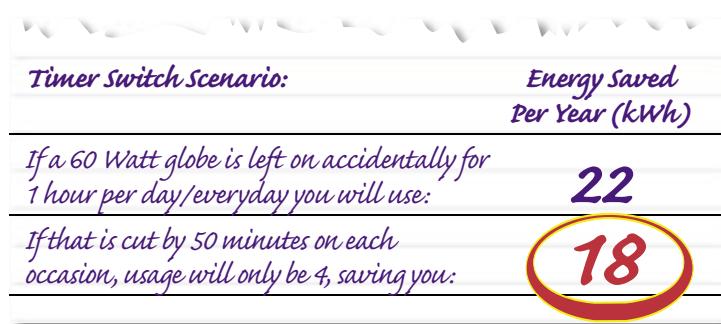


2031E1000L



Timer Switches

Another way to save is have a timer do the work for you. These are particularly useful in busy areas. Once you turn the light on it will automatically turn off after a pre-set period.



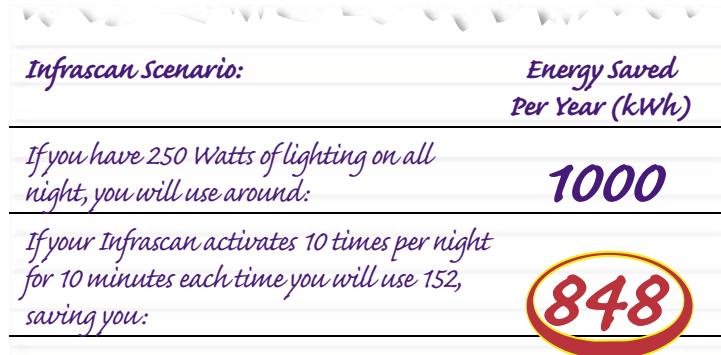
Light/Fan Timers

There are combination light/fan timers too. These are great in toilets and bathrooms where you want the fan to stay on a little longer once the light is switched off.

Outdoor and Indoor Infrascans

An outdoor Infrascan helps keep lighting costs to a minimum. Using infrared technology, it will only react to heat movement so that you only use lights when they are needed, making them ideal in carports, near front doors, or in the back garden.

Indoor Infrascans are just as effective. Hallways, thoroughfares, stairs, pantries and other rooms that are used momentarily can be lit for preset times. It means no more nagging reminders to switch off the lights because the Infrascan does it for you.



Clipsal Timer Switches

2031VETR Electronic time delay - 15 second to 254 minute push-button

2031VETR3 Electronic time delay - 15 hour push-button

319 Pneumatic time delay switch - Up to 5 minutes delay period



Clipsal Light/Fan Timers

2031VETF Pre-set timer light/fan timer switch

0W3394 Non-adjustable light/fan timer switch

Clipsal Infrascans

750WP Passive infrared detector 250V 5A - outdoor IP66

750WPR Passive infrared detector 250V 10A - outdoor IP66

751 Passive infrared detector 250V 2A - indoor model

751R Passive infrared detector 250V 10A - indoor model





► 2031VETR



► 750WP



► 751



Sunset Switches

These switches use a light sensor to turn on once natural light levels drop below the desired level. The best thing is, they also automatically adjust to seasonal changes. Some even have inbuilt timers which means you can achieve even greater savings.

Sunset Switch Scenario: *Energy Saved Per Year (kWh)*

If you are using 150 Watts of outdoor lighting and misjudge turning it on and off by 1 hour every morning and evening you are using: **109**

Through the use of a sunset switch you can expect to save this entire amount, saving you: **109**

Clipsal Sunset Switches

31VSSR	Weather-protected sunset switch - IP56. Can be set to turn off from 15 mins to 945 mins after sunset
56SSR	Weather-protected sunset switch - IP66 (as above)
56PEDD3	Weather-protected sunset switch without timer - dusk to dawn control



Time Clock Units

Time Clock Units can be used for general lighting, fountain pumps, pool pumps and much more. This basic energy saving tool simply switches power on and off at preset times.

Time Clock Unit Scenario: *Energy Saved Per Year (kWh)*

Running a swimming pool pump for 1 hour will consume: **456**

You could easily set a timer switch to save yourself that hour of operating time per day, saving you: **456**

Clipsal Time Clock Units

TC15/24	Switched socket with 24 hour time clock, 250V 10A
TC32V24	Flushplate mounted 24 hour time clock, 250V 10A
4TC	Mechanical DIN rail mounted timer, 250V 16A
56CTC	Surface mounting combinations with timer - IP56, 250V 10A
56TC	Surface mounting timer switch - IP66, 250V 15A





▶ 31VSSR



▶ TC32V24



▶ 56TC

Tactics for Cooling

Heating and cooling can account for up to 40% of electricity costs in a home. Insulation, keeping windows closed, weather stripping around doors and making sure thermostat settings are not too high or too low (20°C in winter, and 25°C in summer is recommended) are all good ways of saving money.

There are heating and cooling products that are more efficient too. For instance, some heaters can actually save money by running at lower temperatures without any loss of performance. Timers and thermostats can save you even more.

Exhaust Fans

This is a simple technique that works well. Exhaust fans are typically used to move air out. But you can use them to bring cooler air into a room too. Forcing air to other parts of the house can provide greater comfort without extra energy consumption.

Clipsal Exhaust Fans

OW1901 Commercial window and wall ventilator fan - 3 speed forward/reverse controller (50W)

OW7148 Smart window and wall fan - optional forward/reverse control (75W)

OW7155 Smart window and wall Fan - 3 speed forward/reverse controller (75W)

OW7205 Smart window and wall fan - optional forward/reverse control (40W)

OW7221 Smart window and wall fan - 3 speed forward/reverse controller (40W)

WK1901 Wall ventilator fan - 3 speed controller (50W)

Exhaust Fan Scenario:	Energy Saved per Year (kWh)
Using an air-conditioner for 1 hour per day could potentially consume up to:	1640
By using an exhaust fan to replace the use of air-conditioning for that hour per day, the power saved could be up to:	1626





OW1901



OW7148



WK1901



Ceiling Sweep Fans

Ceiling sweep fans are a great way to increase the efficiency of heating and cooling systems. Simply turn them on and they'll gently move air trapped near the ceiling to circulate it around the rest of the room.

Ceiling Sweep Fan Scenario:	Energy Saved Per Year (kWh)
If a home's air-conditioner is used for 20% of the time, and is a 12 kilowatt (heat/cool) unit, it will use:	7533
However, if it is made 20% more effective with sweep fans to distribute air, it may reduce consumption to 6000, saving you:	1533

Roof Fans

In summer, temperatures in the roof can reach up to 50°C. A roof vent system can be used to great effect by drawing hot air from a building's roof and exhausting it into the outside atmosphere. With hot air exhausted, air-conditioning will not need to work nearly as hard and so reduce operating costs.

Roof Fan Scenario:	Energy Saved Per Year (kWh)
A 100m ² area will generally use an air-conditioning system of 16 kilowatts (cooling) capacity, using:	7000
By removing heated air in ceiling space in summer, the air-conditioning system could be smaller, say 14 kilowatts (cooling) and use only 6550, saving you:	450

Clipsal Ceiling Sweep Fans

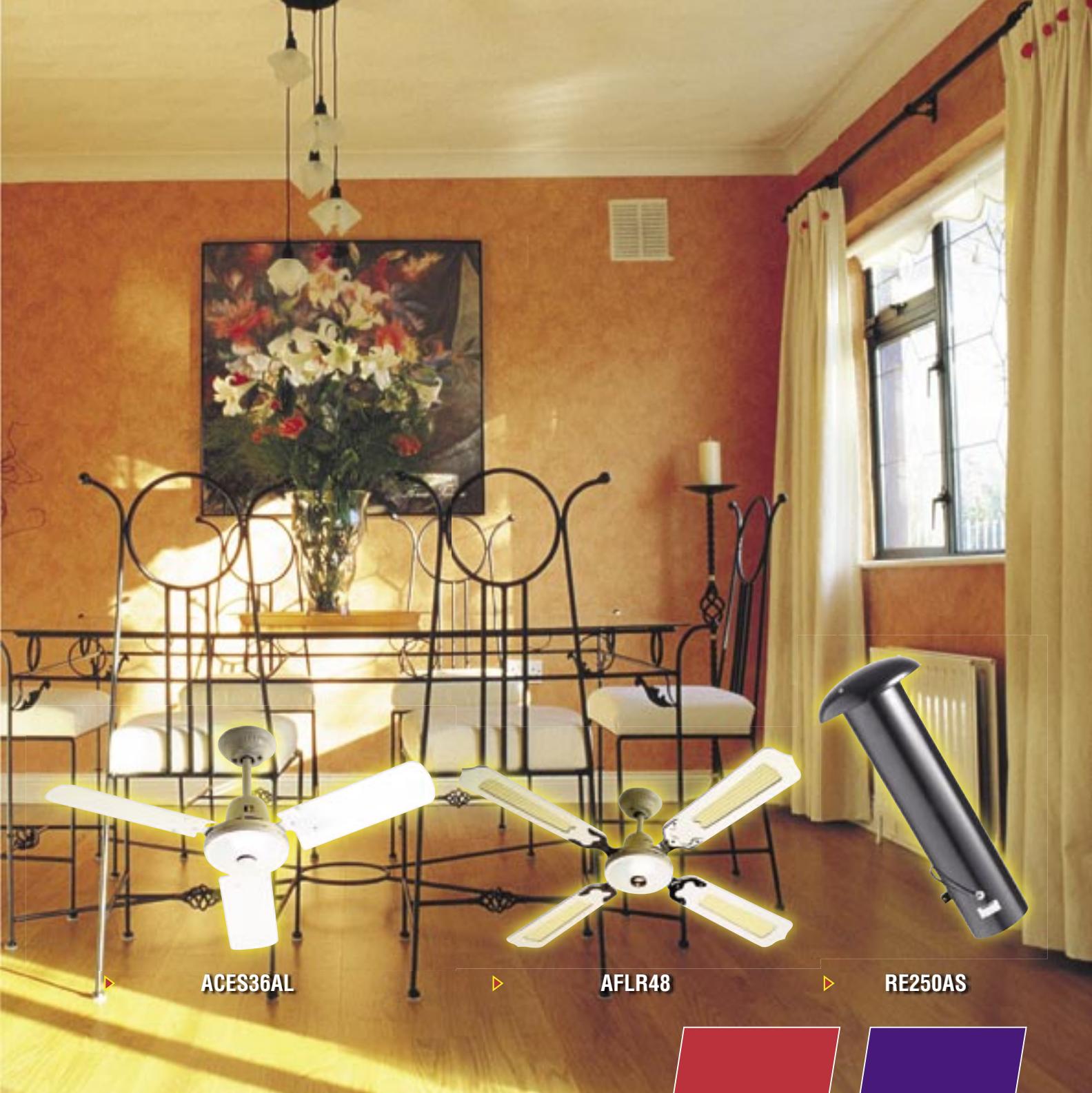
ACES36AL	Reversible ceiling sweep fan - 3 aluminium blades, hang sure (900mm)
ACES36JAL	As above, with j-hook (900mm)
ACES48AL	Reversible ceiling sweep fan - 3 aluminium blades, hang sure (1200mm)
ACES48JAL	As above, with j-hook (1200mm)
ACES56AL	Reversible ceiling sweep fan - 3 aluminium blades, hang sure (1400mm)
ACES56JAL	As above, with j-hook (1400mm)
AFLR48	Reversible ceiling sweep fan - 4 rattan timber blades, hang sure (1200mm)



Clipsal Roof Fans

RE150AS	150mm roof airshifter - combined airshifter and roof vent
RE200AS	200mm roof airshifter - combined airshifter and roof vent
RE250AS	250mm roof airshifter - combined airshifter and roof vent





ACES36AL

AFLR48

RE250AS

Home Energy Management Systems

We demand more from our homes today than ever before...not only do they have to be comfortable, but functional and energy efficient as well. Whether you're entertaining, working from home, or just relaxing, there are savings to be made by properly managing the different ways in which electricity is used.

C-Bus Advantage

C-Bus is an advanced wiring system offering flexible control of your electrical services. Its most appealing feature is that it saves time and offers many conveniences. But it can also have a positive impact on a home's energy usage.

Best of all, C-Bus adapts to new technology as it becomes available. The modular design means you can change or add new electrical services to it whenever you need to. For more information about C-Bus Energy Management System contact **Clipsal Integrated Systems** on (08) 8269 0560.

Project Example

C-Bus In The Home

C-Bus offers great efficiencies in commercial situations but is also an affordable reality now offering all kinds of lifestyle advantages and efficiencies in the home.

In a typical installation C-Bus might represent around 3 to 4% of the cost of a new home. As was the case for a recently built house at Eight Mile Plains in Queensland. The house itself cost \$250,000 with C-Bus costing around \$10,000 to install (which included a state-of-the-art security system).

Indoor and outdoor occupancy sensors ensure lighting efficiencies around the home and external lights are programmed to operate only between sunset and sunrise. Meanwhile, inside occupancy sensors turn lights on and off for you.

During holidays, lights switch on and off to create a lived-in look. Which means you don't have to leave lights or appliances on constantly to create the same effect.

In fact, the new owners of the C-Bus system are now finding that efficiencies and lifestyle advantages are only limited by their imagination.



L5504RVF



5034N



5751L



Quick Lighting Types and Tips

Incandescent Lamps



Regular light globes and low-voltage dichroic lamps have poor life and efficiency but excellent colour rendering quality. That is they render colours 'true to life'. These types of lamps are best used in areas where lighting is only needed for short periods of time or instant on-off lighting is required.



Fluorescent Lamps and Tubes

These come in "Compact" shapes or in "Linear" lengths that are most suited to efficient office type lighting. Triphosphor fluorescent tubes offer long life, good colour rendering and are the most economical way to light typical low height ceiling commercial spaces for long periods of time. New slimmer 16mm Ø (T5) are fast replacing the 26mm Ø (T8) tubes that have been the industry standard for many years.

High Intensity Discharge (HID Lamps)

There are small through to very large sizes, shapes and wattages available for many different applications. These lamps produce very intense, large amounts of light and are particularly suited to high ceiling, factory, foyer or outdoor area, sports, or perimeter building lighting. There are 3 main types, *Mercury Vapour, Metal Halide* and *High Pressure Sodium*. Each has its own performance characteristics from efficiency to colour appearance and colour rendering etc. But their long life and high light output make them ideal for large area lighting situations or highlighting of merchandise.





Your Guide to Using Electricity More Efficiently

Believe it or not, electricity is a controllable cost. All you have to do is work out how to cut back without cutting back on what you need it for. Best of all, Clipsal has a range of energy saving products to help you start saving immediately.

Even with minimal effort you can expect to save money, improve your surroundings, and help the environment. The larger the home or building the more generous the benefits can be. With some energy saving products the savings can seem relatively small at first. But with a little effort in a number of areas you can start to generate significant savings for yourself.

Lean and Green is a practical guide to the kinds of Clipsal products that are being used right now to save on the cost of electricity.

Two booklets have been produced - **Domestic** and **Commercial/Industrial**. Each booklet takes a special look at the kinds of products and savings you can expect depending on your situation.



**Like to know how you
can save in a
commercial or industrial
environment?**

Visit the Clipsal website at clipsal.com
and ask for:

- *Lean and Green -
Commercial / Industrial*

For more information and advice about
the products in this guide as well as
other cost saving products, call your
local electrician or visit clipsal.com

Savings Summary Chart.



Product	Pg.	Order Nos.	\$ Amount Saved Per Year	CO ₂ Emissions Saved (p/yr.)
Light Dimmers	4	C2032E400, 2031E1000L (250VA up to 2400VA)	\$4 / globe	8 kg
Timer Switches	6	2031VETR, 2031VETR3, 319 / 2031VETF, OW3394	\$2.70 / globe	5 kg
Outdoor Infrascans	6	750WP, 750WPR	\$127	255 kg
Indoor Infrascans	6	751, 751R	\$127	255 kg
Sunset Switches	8	31VSSR, 56SSR, 56PEDD3	\$16	30 kg
Time Clock Units	8	TC15/24, TC32V24, 4TC, 56CTC, 56TC	\$68	137 kg
Exhaust Fans	10	OW1901, OW7148, OW7155, OW7205, OW7221, WK1901	\$246	500 kg
Ceiling Sweep Fans	12	ACES36AL, ACES36JAL, ACES48AL, ACES48JAL, ACES56AL, ACES56JAL, AFLR48	\$230	500 kg
Roof Fans	12	RE150AS, RE200AS, RE250AS	\$68	135 kg
C-Bus	14	Application dependent - Contact Clipsal (08) 8269 0560	Application dependent	Application dependent

The cost savings indicated in this brochure are estimates only and are not warranted by Clipsal or the manufacturer of any of the products. Actual energy and cost savings will depend on individual usage patterns and local conditions.

This brochure has been printed on a wood-free, recycled paper manufactured from de-inked fibres and 50% chlorine-free bleached pulp.