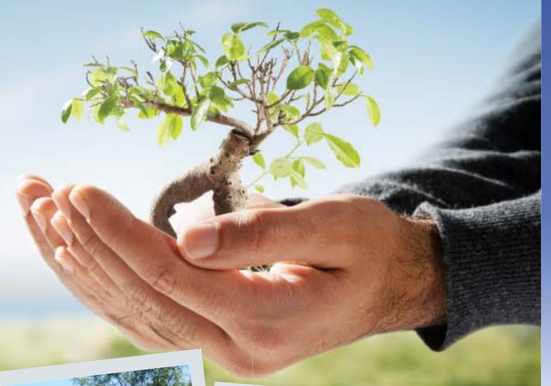
Story by Sophie Love.

power for the people

Or how to take control of your energy usage, expenditure and eco responsibility.



There are so many buzz words being bandied around by green organisations and politicians – climate change, falling fossil fuel reserves and rising fuel prices, eco responsibility, environmental technology and individual responsibility, but what do they actually MEAN for you, for me and for our daily lives?

There is no doubt now that the level of pollution generated daily by our high tech, high consumption lives has permanently altered the earth's atmosphere and the only fact that everyone can agree on is that global temperatures and weather patterns are changing – but nobody can predict what the future will bring us. There are limits to everything in life, and our fossil fuel reserves are no different. Common sense dictates that as coal, oil and gas become scarcer and harder to find, their prices to the consumer will rise, so not only do we have an individual responsibility to do what we can to limit the amount of own household's contribution to pollution and climate change but the clever consumer will make far reaching decisions NOW which will affect his energy bills far into the future.

Last year the Howard government announced the phasing out of incandescent light bulbs by 2010 as part of their commitment to climate change. Contrary to popular opinion, fluorescent globes do not give off a harsh white light (so unflattering to those of us over 40!) but come in all sorts of soft tones and wattages to suit the needs of every home and use up to 5 times less power so simply by changing all your bulbs over can make a big difference to your energy usage. One of the little known facts is that the oh so common, so called 'low voltage down lights' are big drains on the energy grid – while each bulb only uses the same kilowatt per hour as a single 'normal' globe, BUT you need three times as many down lights to light an area as you need 'normal' bulbs as they only 'spot' and don't produce diffused area light.

The other big drains on your energy usage are any household items which have a heating element – the iron, breadmaker, toaster, hairdryer, electric grill, front loading washing machine, toasted sandwich maker, electric frypan, air conditioner, heaters, hot water service etc. Actually turning off lights is not nearly as helpful as getting rid of a few of the above! And although it sounds like one of those draconian measures last advocated in the dark despondency of the second world war, actually turning all those appliances off at the switch will make a big difference to your power bills! Having the TV, video, microwave etc on standby drains a surprising amount of energy from the power source, and pennies from your pocket!

And while you might not be much of an eco warrior, I would urge you to think of your hip pocket. All the electricity companies have already publicly stated that electricity costs passed onto their customers are set to increase by UP TO 40% over the next five years . . . NOW are you interested in looking at some alternatives??

Alternative Power

Where Australia should be leading the global revolution in solar technology (after all we have more sun than most other places on earth!) unfortunately we are lagging far, far behind Europe. Germany is currently the world leader and has been running solar boats on the River Rhine for over a decade, and the Dutch are not far behind having just won the World Solar Challenge Car Race in Australia's dry and dusty heartland. They are also pioneering solar yachts. And these are two of the greyest, wettest, coldest countries on earth – go figure! Seville, in Southern Spain, opened Europe's first commercial solar power station which powers up to 6,000 homes a day. A concrete tower, 40 storeys high, stands bathed in bright white light as 600 huge mirrors bounce sunlight up to a collector on the top of the tower which, in turn, uses the heat to generate steam which turns the turbines. Ultimately the entire plant will generate sufficient power to feed all the homes of Seville's 600,000 inhabitants.

If you believe that we should be utilising similar technology to harness the sun's ferocity in Australia, write to your local Federal Member.

Grid Connect

What is this? Simply speaking the easiest way to offset your electricity bills and make a contribution back into the electricity grid (which you are paid for). You invest in a solar system which is connected back into the local electricity grid. You create energy which is used firstly to power your house and then the EXCESS is pumped back into the grid and your monthly bill is therefore a balance between what you have used and what you have generated. Your local solar expert will advise you about the best size of system for the kilowatt hours you are currently using, and also how to become more energy efficient and reduce your usage and maximise your output (wouldn't it be nice to have Country Energy sending you a cheque every month rather than demanding one??) As a guide, a 1 KW (kilowatt) grid connect system, producing (on average) five and a half KW hours a day, will cost around $15,000.00. The Federal Government will give you an $8,000.00 rebate on this system, you will earn 21 RECS (Renewable Energy Certificate) currently worth $46.00 each (value increasing weekly) and Country Energy will pay you per kilowatt hour what they are currently charging you for your usage. However, new South Australian legislation requires that small solar power producers are paid TWICE the amount for energy they feed into the grid, as they are charged for take-out (currently 44 cents per KW/h) and the ACT are currently lobbying for a bill which increases the input tariff rate to a mighty 67 cents per KW/h – which is on a par with what solar producers in Germany are currently earning. It is only a matter of time before the NSW Government is forced to pass similar legislation.

Solar Hot Water

Rather than paying the electricity company to heat up your water, you make an initial infrastructure investment and then enjoy free hot water for ever more! Solar Hot Water systems are a really cheap and effective way to make a difference both to the environment and your monthly electricity bills. (Water heating is the largest single source of greenhouse gas emissions from the average Australian home, accounting for around 28 per cent of home energy use (excluding the family car). Installing a climate friendly hot water system can shave $300 to $700 off an average family's electricity bills each year.)

Solar Hot Water systems have evolved dramatically over the last few years and there is now a wide choice of styles, makes and models to suit your roof, budget and household size (for instance round solar tubes to blend in with corrugated roves, hot water tanks on the ground rather than with the panel etc.,) and you can choose between having a gas or electricity booster systems for those cool cloudy days.

An installed 315 litre solar hot water system with gas booster will set you back somewhere between $4,000 to $6,500 dollars and you will get a rebate from the State Government of between $600 and $1,500 (dependant on the system) and from the Federal Government a means tested $1,000.00. You will also receive approximately 30 - 35 RECS (Renewable Energy Certificates) which are like renewable energy shares but unlike most shares on the stock exchange, the value is constantly increasing – in September 2007 they were worth $36.00 each and now they are an amazing $46.00 each.

Stand-Alone Solar Systems

Of course if you are investing in a rural property, sick of rural blackouts, or if you are really committed to being energy efficient or carbon neutral, you can invest in a stand-alone solar system which means that you are independent of the power companies and effectively your own little energy sub-station. It's a big investment but it is a nice feeling and bliss not to have to deal with escalating power bills and the vagaries of the weather on commercial supply. It means saying goodbye forever to all those power hungry modern gadgets we mentioned earlier (actually I refuse to forsake either my hairdryer or toaster!) and checking the batteries once a month but despite our lousy summer and three months of rain, we only had to use the generator for power twice which is pretty impressive. Of course, solar panels convert even a little daylight into power so cloudy days don't necessarily mean no power, and the more panels and batteries you have, the more you can store for a rainy day!

A stand-alone system for a small house with two people will probably cost in the region of $20,000 - $30,000. The Federal Government will give you a 50% rebate on a stand-alone solar system (up to an installed value of $200,000)

Wind Power

The general rule of thumb in Australia is that unless you live right at the ocean's edge, with a constant supply of wind, you are always going to create more energy with solar. It's different in Europe where the sun is less of a constant and the wind more so. However hybrid systems (combining both solar and wind) are great for boat owners and coastal dwellers, meaning whatever the weather does, it still equals power for you.

Water Turbines/Hydro Power

Rural landowners sometimes have access to a watercourse with a good water fall or 'head' which enables them to provide their own power by harnessing the energy from the water to create their own hydro power plants. Talk to your local energy efficiency expert for a site visit and cost and energy projections.

Rebates

The new Rudd Government has not announced any change to Howard's rebate structure, which the industry expected to see substantially increased. Peter Garrett's media spokesman said 'that is subject to the budget process and I cannot speculate on that process.' Which would appear to be Canberra double-speak for 'I have no idea!' Counter-productively, and contrary to all expectations, the new Rudd Government last year announced a cap to the number of households Australia-wide they would grant rebates to in any given year. This stands at either 3,000 or 5,000 homes Peter Garrett's spokesman was unable to confirm which – either way this limits the accessibility of rebates in any given year, so if you are seriously considering a solar option . . . get your skates on! Please be aware, however, that both State and Federal Governments are extremely sluggish in processing the cheques – last year the wait was six months for the State Government rebate (solar hot water) and up to 8 months for the Federal rebate. But they do come eventually!

Even if you are not yet ready for the move to clean, green power for any part of your home or office, you will be well served in talking to an expert about becoming more energy efficient – not just for the sake of the environment and keeping this pristine area pollution free, but because the less you use, the less you pay for! There is no doubt that solar power is the only viable future for Australia's energy needs. And sooner or later we have to take responsibility, both collectively and individually for our power requirements so that civilisation can grow in a sustainable way. Let's hope it's this generation that takes a stand, embraces solar, and makes a difference! And that the new government will practice what it preaches for the electorate and power Australia not by digging deep into the earth, but by looking up!

> For more information about the author, go to www.thezenpen.com.au