

## Mosman Clean Energy for Eternity

# Homework

*No one can do everything but everyone can do something*

### 1. Find out and record your current average daily energy consumption

.....for your home, business, school, church or community organisation. If you would like assistance, email [mosman@cleanenergyforeternity.net.au](mailto:mosman@cleanenergyforeternity.net.au). In this way you will have a reference point for measuring your progress towards reducing your energy consumption by 50%.

Electricity	Gas	Fuel
kWh/yr	MJ/yr	Litres/yr

### 2. Download the GreenHome guide from <http://www.acfonline.org.au>

.....and read it from cover to cover! It is packed with ideas and weblinks to sources that will enable you to decide what energy reduction steps are easiest yet will make the biggest difference.

### 3. Identify five items that will form your personal energy reduction action plan

1	
2	
3	
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5	

### 4. Validate your plan by downloading and reading the Carbon Cops fact sheets

You can find these at <http://www.abc.net.au/tv/carboncops/>. There are fact sheets covering appliances, windows, pools, cars, lighting, heating and cooling, carbon trading and offsetting, building design, and transport.

### 5. Declare your intent, by putting yourself on the map

Go to <http://www.whoonearthcares.com/woec/home.action>. You can register, tick off the items in your action plan and feel a sense community by seeing yourself on the Mosman map along with everyone else in our community working towards reducing their energy consumption. The site will also allow you to send a personalised email, so that the politician of your choice knows what you are doing and what you would like him or her to do to assist the process. While you are on the internet, consider registering with Mosman Clean Energy for Eternity. Once we have your email address we will keep you informed of our activities, and the more registrations we have the stronger will be our voice. Go to the website: <http://mosman.cleanenergyforeternity.net.au>.

*By taking these actions you will have started the journey.*

*PS - tell your friends!*

# Mosman Clean Energy for Eternity

## Some FAQ answers. More on our website

### Is my roof suitable for solar panels?

In Sydney, solar panels will give maximum output when they are mounted on a North facing pitched roof at an angle of 30 degrees to the horizontal. Mounting systems allow for easy mounting flush with the roof on pitched metal and tiled roofs and require no DA approval. West facing pitched roofs generate almost as much energy, with peak production in the afternoon, when 'Time-of-Use' metering buy-back rate offered by your energy retailer is highest. Where the panels are to be mounted ideally needs to be free of shade, all day all year long. Small amounts of shade and a roof with less than ideal pitch and orientation may still be suitable and result in only a small percentage reduction on the predicted energy output. For a flat roof or a wall, panels can be mounted on a frame to give the required angle, but DA approval is required. A booklet "Electricity from the Sun" is available from the Australian Business Council for Sustainable Energy at <http://www.bcse.org.au/default.asp?id=310>.

### Could solar panels supply all my electricity?

An energy wise Sydney household uses between 10 and 30 kWh per day. A 3kW solar system can generate on average (allowing for cloudy days) 10 kWh a day. Depending on the efficiency of the panels a 3kW system would require an area of up to 24 square meters, a relatively modest amount of roof space. So it is feasible to generate your own electricity or a large portion of it, although of course you would be pumping excess power into the grid by day, and drawing it from the grid at night.

### Do the economics of solar panels add up?

When you install panels you will need to get a new digital meter that records how much power you are importing or exporting each second of the day. The rate charged for importing is the same as you earn for exporting: 5 cents a kWh in the low (night) period, 9 cents in the (morning) shoulder period and 25 cents in the peak (afternoon period). At present, even with subsidies, solar generated electricity is much more expensive than electricity purchased from the grid. The total out of pocket expense of a 3kW installation is at present of the order of \$30,000. Smaller systems such as 1kW producing between 15% and 40% depending on your power usage can be installed for as little as \$7500. Many items we buy are hard to justify as investments. It is very satisfying generating your own electricity and it provides a very strong incentive to keep your consumption matched to what you can produce. Early adopters of solar technology help make it more affordable. <http://www.energy.com.au/energy/ea.nsf/Content/NSW+Solar+Energy>

### What price trends can I expect?

As technology improves and demand rises panel prices are likely to fall. Grid energy price will rise rapidly.

### How can I switch to renewable energy if I don't use solar panels?

Solar hot water is already a very good investment. Systems are now available that can use your existing tank and preserve heritage value. There are also many Green Power products. It just takes a phone call. See <http://www.greenelectricitywatch.org.au>. 100% green power costs an extra 5 cents per kWh

### Should my next car be a hybrid?

First step is to reduce the km your travel. A Toyota Prius has double the fuel efficiency of a Corolla, and costs around \$40,000. The fuel efficiency bonus is even higher for all city driving. The Honda Civic hybrid has the same fuel efficiency and is priced mid way between the Corolla and Prius. The Citroen C4 is an example of a high efficiency Diesel. It produces the same atmospheric carbon as the Prius but emits more particulates, although on this score it is still superior to most other cars. For more comparisons, see <http://www.greenvehicleguide.gov.au>.

### What is the biggest source of energy consumption in my house?

The greater the heat involved and the greater the weight moved the more power is consumed. Hot water, home heating and cooling, pool pumps, washing machines, dishwashers and refrigerators all use a lot of power. What matters is how much energy the device uses, not so much its power, so for example a jug which uses a lot of power while it is on, but it is only on for a few minutes at a time. A single light may not use much power but there are a lot of them and they are on for lengthy periods of time so they consume considerable energy. If you have electric hot water, this is probably your biggest contribution to your electricity consumption. You can make a big difference to your carbon production simply swapping to gas.