

## Steve Harrison

### Some thoughts on sustainability

In our life we have spent many years trying to tread lightly on the earth and live a creative life of minimum consumption. In recent years the problem of global warming has been identified as a major problem, this has been largely caused by the burning of fossil fuels, so we decided to do what we could to reduce our use of them. Two of the main offenders seem to be the burning of coal to produce electricity and the consumption of petrol and oil in cars.

One of the most inefficient appliances that a potter uses is the electric kiln, as they consume vast amounts of energy, with only a very small percentage of the energy from the coal being used to heat the pots. I've seen figures as low as 5%. The firing of ceramics is a wasteful business when it comes to the most common firing combination used by artist potters – small kilns and intermittent firings. How do we cope with this looming challenge?

In the mid-seventies we moved to the outskirts of the city, growing our own vegetables, collecting our own rain water, cooking our food and heating our hot water on a wood fired stove, like the locals had done for a century before. We were always inclined to 'green' attitudes, although in those days, it was called weird, feral, alternate or self-reliant, depending on whom you spoke to.

In 1990, with talk of the Kyoto meeting, we started getting serious by replacing our old but reliable 1200cc Volkswagen beetle with a small 1 litre, fuel-efficient car. We now have an 850cc car. We installed a solar hot water system and paid \$35 each for the first low wattage light bulbs. Now they are available for free, so there is some progress. We collect all our own rainwater for both drinking and irrigation of our organic garden. We treat and recycle our own sewerage. We grow nearly all our own green vegetables, and a lot of our own fruit. We happily pay 35% extra per kilowatt-hour for certified pure-green zero emission electricity (from wind and solar power sources) when we need to purchase from the grid, e.g. at night.

We have recently started to buy carbon credits each year to offset the petrol that we use and other harmful things that we do, so that our lives are carbon neutral. We have 18 solar photovoltaic cells on our roof to create our own electricity, selling the excess back to the grid as green power. We recently upgraded our solar hot water panels from the old copper tube system to evacuated glass tube units which are

very much more efficient, minimising the need for off-peak boosting.

When we had to buy a new fridge/freezer in 1992, we purchased the most energy efficient model (5 stars out of 6) on the market at that time. There is now a fridge/freezer available that is twice as efficient and a fridge that is four times as efficient. We changed to a front-loading washing machine 15 years ago when our old one needed to be replaced; these machines are much more water and energy efficient than top loaders.

We recognised long ago that our politicians are as lazy as the voters who elected them are naïve and ill informed. If there was to be any progress, then we had to go it alone, and start to make that difference ourselves regardless of the political system and the mass market. We have been walking the walk for some time, now we can talk about it.

This process has been long and gradual. We are now carbon neutral, and slightly energy positive. We have achieved this on a low income and without too much pain. Sometimes, people ask me how we did it and what can they do. Well, what can you do? There are lots of things.

The next time you need to think about buying another car, don't get a big 6- or 8-cylinder petrol guzzling 4X4 dinosaur, buy a small car. You will find that your fuel bill will drop remarkably, giving you extra dollars every week. The money you save on petrol can be used to pay off the loan, if not in whole, then at least in part. Spend the remaining money that you would have had to spend on the bigger vehicle on photovoltaic solar panels for your roof and you will have free or, at least, very much cheaper electricity, for the rest of your life and the electricity utility company will pay you for any excess power, for the rest of your life. Now this small rebate from the excess electricity money can be used to purchase low-energy white goods like fridge, washing machine etc. over time reinvesting the green dividend. These new 'green' appliances will use less electricity, which cuts your energy usage further and means a bigger rebate from the electricity utility.

Just by changing your car, you might be able to make a bit difference. You can still fire your small electric kiln, as long as you buy some carbon credits to offset the coal used to generate the electricity. If you change to the slightly more expensive certified pure green energy, then carbon credits are not involved. It's worth thinking about.

We have 18 photovoltaic cells on our roof (35 sq m) which generate approximately 3000 watts and pump out an average of 11 kW hrs of electricity per day over the year. We consume approximately 6 kW hrs on average of electricity per day over the year for the house, pottery

and kiln factory (we have operated a small kiln building factory, making custom built gas, electric and wood-fired kilns for other potters for the past 25 years. This involves the use of 300 amp Mig and Tig welders and plasma cutters). Even with the kiln business usage, we still produce, on average, an excess of 5 kW hrs of power per day, which we sell back to the grid as clean green solar power.

It might be possible to reverse the global climate change, although I doubt it. However, if you are willing to become informed, and then make a conscious decision to make a personal difference, it might be possible. It might be that all you can do just at the moment is to change vehicles, but there has to be some sort of change of mind. We have to take pride in having a small car, or no car, and to be proud to refuse air conditioning in both car and home. Janine and I have done just this. We don't own any of the usual consumer excesses like air conditioning, dish washing machine or large TV plasma screens. We own and use beautiful pots every day in the kitchen. It doesn't seem such a terrible chore to handle them as we wash them up each meal, and we mostly use soap for washing both pots and clothes, not detergents. As all our water is recycled back into our garden, we have to live permanently with any toxins that we introduce into our environment.

The time of small passive changes has probably been missed. The only solution now will be a technologically advanced ones. There are too many of us to go back to the forest, because it's been chipped. Our previous federal government in Australia was pushing us towards the nuclear solution (without any debate about the options) but I don't believe that it has to be nuclear. Why should future generations be asked to pay for our excesses through the maintenance and removal of spent reactors and their highly toxic waste? It is a sobering thought that no single spent nuclear reactor has yet been successfully decommissioned anywhere in the world, and the reason is that the costs are going to be stupendous, long term and on-going. This means that my children and grandchildren are going to be paying for the real costs of the electricity that we use.

In the seventies, Janine and I decided that we would only have one child, as every child born in an advanced, energy wasteful country like Australia, will consume so much extra energy that it would make this problem so much worse at a faster rate. This was in line with some fringe thinking at that time of ZPG & NPG.<sup>1</sup>

## **Some things to consider:**

- 1. Low energy light bulbs – they're free, ask your electricity provider.**
- 2. Change to green electricity – unaccredited is the same price as what you are paying now; fully accredited costs 35% to 50% more. I believe that it is worth it.**
- 3. Wash clothes in cold water most of the time.**
- 4. Install a water-efficient showerhead.**
- 5. Install solar hot water – it pays for itself over its life.**
- 6. Install a really big rainwater tank, one that makes a difference.**
- 7. Install double-glazing and other home insulation – it costs money, but so does air conditioning and heating.**
- 8. Switch off the air conditioner. If you have one, switch it down to as low as you can possibly tolerate. Think about better insulation.**
- 9. Don't put out garbage. Get a worm farm and a compost bin. Your local council might even give you a rates rebate.**
- 10. Change to a small car. Thinking people drive small cars.**
- 11. Go carbon neutral. Buy carbon credits. "What! Pay money for nothing?" Buying carbon credits doesn't solve the problem. It only delays it; only reducing consumption does that.**
- 12. Put solar photovoltaic cells on the roof and be a clean green energy supplier, or at least limit the amount of coal that is being burnt or remove the need for new nuclear reactors.**
- 13. Vote Green – you can still send your preferences to the major party of your choice. This will pressure the major parties into taking notice of you. Now that is probably asking too much.**
- 14. Become vegetarian!!!**

Janine and I have done most of the above except becoming vegetarian, but I'm working on it.

To complete the story: I fire in a small Bourry box kiln with an extended throat chamber for 12 to 20 hours, using home-grown wood or dead trees that need to be removed from people's gardens. The Bourry firebox is remarkably clean, firing with very little, if any, smoke and produces a very nice ash deposit. Because wood firing does not introduce new carbon into the atmosphere, it does not add to global warming.

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1 ZPG = Zero population growth, that is two children per couple, or one child per person.

NPG = Negative population growth, only one child per couple.

Steve Harrison's web site is;  
<http://www.hotnsticky.com.au>