

How to save 10% on your carbon emissions in 2010 - your challenge!



Start with the big impact choices:

1. Fly less

when you holiday, especially avoiding short-stay long-haul trips around the planet. To see how much carbon an international flight emits compared to a domestic NZ car, train or bus journey, visit the free travel calculator at www.carboNZero.co.nz

New Zealand can offer great places to visit not too far from home. Make 2010 the year to rediscover your part of New Zealand, to spend time with friends, cultivate a garden and relax!

2. Drive less

on your own, especially on the short trips of a few kms in town where you could instead walk, cycle, take a bus or share vehicle use. Perhaps get to and from work without the car one day each week as an excuse to increase exercise, picking the nicest weather. Car engines burn more petrol or diesel per km when starting up and moving slowly on city streets and create more air pollution then.

Look back at your car WOF or garage maintenance records from early 2009 to see what kilometres reading was on the odometer then, to get an idea of how many km you traveled by car by the end of 2009. Set at least a 10% lower target for car use.

Then look at purchases:

3. Reduce the power bill,

or at least cut consumption so that expected further price rises will not hurt so much! Each 'unit' of electricity is one kilowatt of power demand for one hour of time (1Kwhr) and you get only four of these to a dollar, so they soon add up. A significant part of NZ power supply comes from burning coal and gas, so until we have all-renewable sources (geothermal, solar, hydro, tidal, etc), home electricity efficiency does help reduce the carbon footprint. Construction of dams and other energy plants is energy

intensive, in fuels, steel and cement, giving another good reason to reduce demand.

Energy *wasters* at home include:

- **Not enough insulation above the ceiling, or under wooden ground-floors.**
- appliances such as TV, washing machine and microwave, left on 'standby' overnight (the *vampire* power bill),
- filament light bulbs (compact fluorescent bulbs are 4x more efficient lighting, and also last much longer. A filament light bulb is really a heater!),
- old fridges: thin insulation and leaky door seal, perhaps faulty thermostat,
- large plasma TVs which use 3x more power than LED screens,
- hot water tanks with thin insulation (add a tank jacket if not labeled 'A grade'),
- high flow showers - you only need 6 to 9 litres per minute, not over 20!
- draughts around doors and windows - use weather-strips and foam seals.

From previous power bills (preferably readings, not estimates), note your monthly consumption in KWhr units during 2009 and compare with the equivalent month's bill as they arrive in 2010. See how many units you can trim off the total? Aim for 10%.

4. Switch winter heating fuels.

Move from coal, oil or gas (as all these are global-warmers) to renewable wood or to mostly-renewable electricity, preferably with the added efficiency of a heat pump that transfers 3x more energy, from the air or soil source, into your home for winter heating than it requires in electricity to operate it. Now that's efficient!

Don't use this heat pump for summer cooling, however - it's far better for the planet to use shade, plus ventilation, to achieve the cooling effect. Otherwise *you* might be cooler indoors but will be adding to global warming outdoors by wasting that energy! Deciduous trees on the west of the house can help provide shade (or climbing plants on a frame if there's no space for trees, such as beans, grapevine, or sweet peas).

5. Eat more healthily.

Prefer fruit and vegetables from NZ to those which have been shipped or worse-still flown across the planet; and enjoy more seasonal variety in your cooking. Try meat free meals several times a week: seed, nut, grain and bean proteins are more carbon-efficient to produce. Meat and dairy production requires, per kilogram of food, high oil fuel and fertiliser inputs, winter stock feed inputs (which may include imports) and electricity for water pumping. Cattle and sheep also produce significant amounts of methane gas from their upper digestive tracts - they burp it into the air, rather than fart. Meat production releases five times as much greenhouse gases than producing equivalent food value from grains or vegetable oils.

6. Buy less plastic junk, fewer metals, and make electronics last longer.

Good quality that lasts has a lower carbon footprint over time than the short-life, throw-away plastic stuff and cheap clothing fashions (from both synthetic fabrics and high-pesticide cotton) with which we clutter our homes. To make things last longer, consider clothing repair, shoe re-soleing, furniture renovation, and other creative re-use from internet purchases, swaps with friends or seeking Op Shop bargains. Don't be an electronics fashion victim! Consider upgrading computer equipment rather than scrapping it, and if you must abandon it, get it all recycled safely.

Throw less into landfill because you are still using these things, or if not needed, sell, swap or give it to someone else who *will* use it. See examples of who could take it at www.recyclingplus.org.nz (from Sustainable Otautahi Christchurch Inc.) Why waste expensive cupboard and floor space on storing this un-used clutter!

And consider your lifestyle's impact on natural systems:

7. Value water.

It takes lots of energy to heat water and then throw it away, using deep baths or spa pools, so develop the refreshing habit of a quick shower instead. If your shower chucks out more than 9 litres a minute (try measuring it), replace that shower head with a low flow model or get a flow restrictor insert to fit behind it.

In the garden, place watering systems so they don't spill onto paths and drives, and don't water in the heat of the day. Use a broom rather than a hose to sweep leaves off your drive - all that drinking quality H₂O had to be cleaned and pumped to reach your house in pipes, at considerable energy cost, so remember that cold tap water has a carbon footprint too!

8. Feed growing veges with compost.

Whether you make compost at home or separate kitchen and garden waste for council composting, you are helping to return materials to the natural cycle of decay. This releases essential nutrients including nitrogen and phosphorus for the living soil and crops. It's a sorry waste to send compostable kitchen scraps, peelings, prunings and grass mowings to landfill tips. Buried in the landfill, deprived of oxygen, they break down to make methane gas, which is a greenhouse gas far more damaging than carbon dioxide. This gas, unlike the solid waste, will eventually leak out of the tip, unless it's tightly capped! (Only a few waste tips have been engineered to collect methane gas.)

2010 is the year to stop being a methane-maker from your household's scraps.

If you do not have a garden, consider using EM Bokashi or a worm farm, and offer what you create in these methods to a community garden or a gardening neighbour, who can use it, in return for some vegetable produce! In Timaru, the idea is being taken further with an Edible Garden Group who link up people without gardens who would like to grow food with people who have unused land but no time or skill to garden: www.transitiontowns.org.nz/timaru Similar ideas feature at 'Out of our own backyards (Ooooby)' <http://ooooby.ning.com/profiles/blogs/what-is-ooooby>

9. Trim your house footprint.

The floor-size of New Zealand houses, per occupant, has been increasing. Household sizes are shrinking. If you are considering a move in 2010, do you need as much space or as many rooms at the next place? What if large houses fall from fashion because they are energy-guzzlers, just like the large SUV cars are doing right now?

Real value comes from houses that work well for their users, the ones that:

- are well insulated, to retain warmth in winter and to be cool in summer,
- gather the northern sunshine in winter and are able to store it overnight in their structure (but are shaded from mid-summer's high sun angles),
- have sunny space for a vege patch and some carbon-storing shade or shelter trees, rather than large areas of lawn to mow and water.

What's it adding up to, by later in the year?

10. Feel happier.

By December 2010 you are healthier - your rent or mortgage debt is smaller, you exercise more than you used to, you have sampled some seasonal recipes, made new

friends from the car-sharing and swapping stuff and shopping at the farmers market. You've not been into a plastic cheap-junk shop for months...and you know that you are a small part of the global effort to prevent catastrophic climate change. Your children are talking to you again - after all, it's their future we were squandering in the old way of living.

More information at:

www.sustainableliving.org.nz for evening classes around NZ, & detailed action guides.

www.celsius.co.nz for action ideas, and you can join to post your own ideas there.

www.projectlitefoot.org for inspiration from NZ sportspeople, who last year cut carbon by 20%, and over 30%. You can measure your own annual carbon impact there, to compare with the stars: <http://www.projectlitefoot.org/your-impact/>

Free monthly or annual carbon calculators in more detail (and download a 'how to use' guide from Sustainable Living) at www.carbonZero.co.nz

Do the maths! - background calculations for carbon emission reductions at home - supporting a feature article published in *Good Magazine*, Issue 10 <http://good.net.nz/magazine/ten/features/10-10/maths>

Make 'Earth Hour' (March 27th 2010) actions relevant for all the year in NZ:

www.wwf.org.nz/take_action and see an annual **footprint calculator** on food, travel, home and material stuff from WWF-UK at either:

<http://independent.footprint.wwf.org.uk/> (based on UK energy generation and food production & has other differences from NZ, but interesting. Expresses impact in number of Planet Earths required if all lived at that level) or at:

<http://calc.zerofootprint.net> (based on Canadian non-metric data, but it allows comparison with a NZ average for carbon impact. You have to register first)

Do ya bit for Auckland action inspirations on energy, water, travel, etc, from EcoMatters Trust: www.doyabit.org.nz

<http://hot-topic.co.nz/> well-informed blog site for daily updates and opinion on climate science in NZ and reviews of the international policy debate.

www.transitiontowns.org.nz to help think positively about how different life would be without cheap fuel, and adapting to changing weather patterns in a warmer climate.

Businesses may find it useful to visit NZ Sustainable Business Network who run *GreenFleet* <http://www.sustainable.org.nz/index.php?page=greenfleet> for efficiency in company vehicles and *Get Sustainable Challenge* company sustainability audits <http://sustainable.org.nz/index.php?page=gsc>

Home Energy Advice Centres operate in several cities: Auckland, Wellington, Christchurch. Call them free on 0800 388 588

Building work planned? See if your local Council offers a free visit from an Eco Design Advisor: www.ecodesignadvisor.org.nz