Sustainable Living Programme
2008a Edition

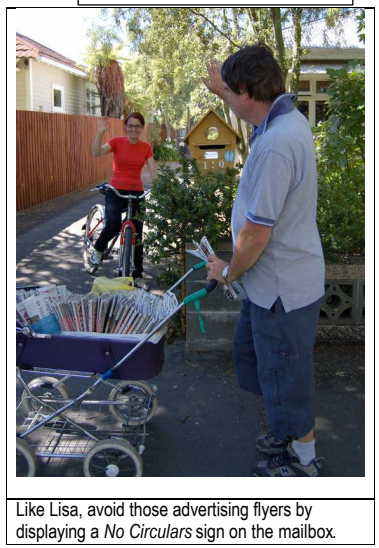
Action on Waste – Reduce, Re-use and Recycle!

These ideas for action to avoid and reduce waste, start with a dozen at no or low cost, followed by some you might like to consider investing in soon.

An initial reminder is to **avoid burning any rubbish**, especially in the open, where burning tyres, oil or coated wire are now banned (new Government Regulations since October 2004) Smoke from burning plastics is toxic.

1. **Keep cardboard, newspapers and advertising papers separate** from your rubbish, saved (somewhere dry) to go out each week in the kerbside recycling crate. Non-glossy paper can be torn up and added a sheet at a time to a compost heap. If you need fuel, paper can be twisted tightly to make paper 'logs' to burn in a wood-stove.

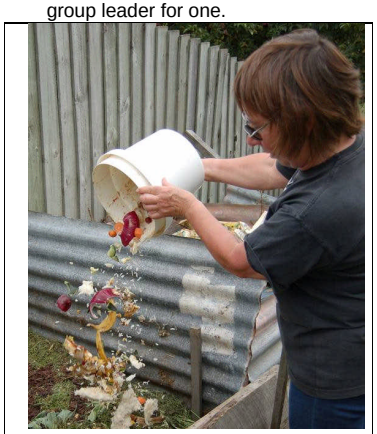
2. **Discourage junk mail delivery** by displaying a sign 'no circulars' or 'no junk mail' on the mailbox. If you still want a community free newspaper, see the deliverer to request this specifically, or write to the newspaper office. Some Councils give out these signs. At least one NZ city proposes to discourage advertising flyers through a by-law.



Like Lisa, avoid those advertising flyers by displaying a *No Circulars* sign on the mailbox.

3. **Avoid buying canned, frozen or processed food, such as ready-made meals**, at times when you can get fresh, seasonal and local NZ produce, often at similar or lower price. You save on packaging materials (many made of unrecyclable plastics), and on the energy used in food processing and transport.

4. **Start making compost** with kitchen scraps mixed with garden cuttings and raked leaves or pea-straw. A key to success is getting the right proportions of green (high nitrogen) and brown (low nitrogen, higher carbon) ingredients. Many local authorities distribute leaflets about making compost – ask your study group leader for one.



Margaret puts kitchen scraps and garden clippings in her compost boxes. Later the compost feeds her garden.

Enclosed compost bins made from long-lasting recycled black plastic ($60 to $100 for up to 500 litre capacity. Brand names including 'Earthmaker', Vertex, made in NZ from recycled #2 plastics or open ones made from inter-locking timber planks (about $40) are available from garden centres, timber yards, and hardware stores. Make your own from wooden pallets. A lid or cover is preferable to reduce flies and keep in the warmth and keep out heavy rain, although you may need to add water, to keep the compost moist. More info in our gardening topic. Kids may like: www.recyclezone.org.uk/home_az.aspx

Worm Farms are very effective at reusing household scraps and turning them into both concentrated liquid and worm-cast fertilizers for the garden. They use a special type of compost or 'tiger' worm. You can even make a worm farm from waste items: three old tyres stuffed with wet newspaper, placed on a sloping board, plus a car hub cap lid wrapped in plastic (see photos of these in the group leader's slide set). Ask the local council or your group leader for a leaflet to guide you. Some Councils also run worm farm seminars to tell you how its done. (See Christchurch City Council's information www.ccc.govt.nz/Waste/Composting/WormFarming.asp or visit www.zerowaste.co.nz/default,499.sm for DIY instructions. Commercially available worm farms include the three-layer 'Can o worms' and the larger capacity 'Worm Around' designs. Each has a tap fitted to make it easy to drain off the fertiliser liquid that's produced. Here's a few places where you can get advice or purchase a worm farm and live tiger worms: www.pottsburyfarm.co.nz/id23.htm & www.wormsrus.co.nz/ www.earthlydelight.co.nz/

Commercially-made worm-farm bins in various shapes and sizes, usually a black recycled plastic. You can create a home-made one with stacked wet-newspaper-filled tyres, but do get some instructions first. (Photo taken at *Ashburton Wastebusters* by Rhys Taylor)

An alternative way to handle kitchen scraps is to ferment them, using *EM Bokashi* in a double bucket with a lid. An initially indoor method, this introduces beneficial micro-organisms (available ready-mixed into bran, as shown) that 'pickle' process the waste without smells in a fortnight, ready for burial in garden trenches. Used in Christchurch, West Cast and other locations - ask the study group leader for information, or see www.emnz.com/bokashi.html or www.bokashi.co.nz

5. **Re-use plastic carrier bags** from previous shopping and don't accept the new bags until you have run out at home. *The hardest part might be remembering to take some with you to the shops, along with your list. Why not keep some handy under the car seat, or in a cycle pannier?* If you already have a quantity of plastic supermarket bags marked code 2, they can be recycled. First choice is to refuse the plastic carrier bags, second choice to re-use them, and thirdly (once damaged), to recycle the plastic. To avoid plastic bags, some people prefer strong cotton canvas bags (e.g. from Trade Aid or Ecostore), or the washable *Green Bag,* from supermarkets and Environment Centres.

In Australia 90% of retailers have committed to reduce plastic bag use by 50% within two years, as Government threatened a 25c tax on each bag if voluntary reduction targets are not met. Do we need pressure applied like that in NZ, to get faster change? Activism about plastic bags is occuring in NZ – see www.plasticshoppingbagfree.org.nz or www.bagtax.org.nz/ . A Zero Waste NZ report outlines the environmental concerns here www.zerowaste.co.nz/default,34.sm

6. **Recycle.** As much as you can, of what can not be re-used. For an example of what materials are accepted in kerbside recycling crates (in Christchurch), see www.ccc.govt.nz/waste/kerbsiderecycling/ or contact your local Council. For plastics look for code numbers 1 and 2 embossed in a triangle of arrows, on the base of the container.

Sorting of recyclables from a kerbside crate is done at the collection vehicle. (A Christchurch example, Onyx truck, photographed by Matthew Smith)

Margaret does not send newspapers and waste paper for recycling, but soaks them and presses the pulp into fuel blocks,which once dry will burn well in her woodstove,..

7. **Save regularly-bought packaging containers, once you have found a friendly re-user for them.** As an example, some NZ native plant nurseries use washed waxed-cardboard one litre milk and yoghurt cartons as pots in which to grow tree seedlings. (To locate a community- or school run native plant nursery near you, ask the Department of Conservation). This packaging eventually finds its way, part-decayed, either into the rubbish or the soil, *but only after substituting for a plastic pot and saving valuable oil resources in that way*. Similarly, clean plastic food containers with flexible lids (such as ice cream tubs) might be useful storage at playgroup or school or in your shed. Cyclops Yoghurt is one company trying to recycle their own #5 plastic containers and will take them back – www.cyclopsyoghurt.co.nz/healthierworld/recycle.php

8. **Find users for your surplus unbroken items**:
   - Have a garage or yard sale
   - Use the free (under $100 or under $10 item) classified advertisements in newspapers, or internet trading sites or join your local *freecycle* group. See www.freecycle.org/ The only cost to you is the time to find the contacts and arranging transport – some groups will even collect from you by appointment.
   - Find a 'good cause' to support: enquire by phone first, then take furniture, recent part-used tins of paint, construction materials and other surplus non-toxic items to a community project, youth or church group or your local recycle centre shop that can use them, instead of throwing them away. Community recycling depots may run a reuse shop (such as at Ashburton and Wanaka Wastebusters, and Supershed in Christchurch) and any returns help offset the cost of recycling in remote areas.
   - Unwanted clean clothes find new users through 'op' and charity

shops. Un-sold 'waste' clothing goes into fibre recycling
   - Trade re-usables and your craft-made new items through a local Green Dollar Exchange or LET.
   - Clean toys may be welcomed by toy libraries, and charity shops.
   - Undamaged magazines are taken by service providers who have reception/waiting areas.
   - Simple reading glasses and sometimes strong used shoes, may be welcomed by overseas development/aid charities, and Lions Clubs, but phone to ask first.
   - Computers can be recycled for parts, e.g. by Molten Media in Christchurch, and The Ark www.the-ark.co.nz in Auckland, and ask diecast@xtra.co.nz for Waikato.

9. **Re-use mail envelopes that you receive**, with labels (which may also publicise good causes). It saves on envelope buying. Obtain from NZ mail-order suppliers at about $4 per 50 labels plus postage, (e.g. from Ecostore: with message 'the future of the planet is in your shopping basket' www.ecostore.co.nz). There are many other label producers.

10. **Use e-mail as an alternative to some of your letters and cards**, when it suits the recipient. Search for web sites with free 'virtual picture postcards' and birthday greetings.

Printed greeting cards are so expensive to buy and mail these days for a 'one-trip' item. If you can, make your own cards with recycled materials - gift some time instead.

11. **If you're a computer user, don't print out all the emails you receive**, or you will require more rather than less paper! Consider loading the printer with paper already used on one-side, so that you have to make a conscious choice to put in new paper. Similar advice applies to a plain paper fax machine.

Are you reading this on-screen? If you have a printed copy, do you know someone else who may like to see it on a computer screen? Download a colour copy in PDF format to your data stick from www.sustainableliving.org.nz

Also consider how efficient your computer is on toner/ink use. Can you refill or recycle the cartridges your printer uses? To find out more ask your retailer or visit these websites: www.nztoner.co.nz/index.cfm/Frequently_Asked_Questions.html ; www.trconline.co.nz/index.htm ; www.cartridgeworld.co.nz/pages/environment.htm ; The following URL explains the value of computer parts collection and recycling in NZ www.eday.org.nz/

12. **For art and craft activities,** you may not need to get new materials: consider using low-cost reclaimed materials. In some parts of the country you could use resource centres which stock industrial waste paper, plastics and fabrics in an amazing variety (*Creative Junk* in Christchurch, or similar projects in Ashburton and Auckland). The increasingly popular 'wearable art' competitions in places such as Nelson, Kaikoura and Ashburton thrive on really creative re-use of waste materials for costumes. All ages are involved – not just kids!

Wearable art costumes seen in Waitakere - made from scrap materials: wallpaper, plastics, etc. No limits to imagination!

Investing now - to reduce your waste later

1. **If you regularly need batteries** of AAA, or AA or D size, for torches and cycle lights, radios, door chimes or tape-recorders, consider buying rechargeable instead of disposable batteries and either a mains-powered or solar-powered charger (chargers cost about $30). Prefer charger designs that switch off once batteries are charged, as over-charging damages them. Until recently only toxic nickel-cadmium (NiCad) rechargeable batteries were available, costing about $10 per pair. However, nickel metal hydride (NiMH) rechargeable batteries, newly available at similar prices, are free of toxic lead, cadmium or mercury, and show a greater recharging success rate than the Nickel Cadmium type. Mail-order suppliers include Dick Smith Electronics, but check also in supermarkets, as prices vary.

NiCad batteries (once the re-charging eventually fails) and single use alkaline batteries could be kept for future recycling: most of the dry cells pictured above can not. Check labels before chucking them out. **When buying batteries – buy NiMH not NiCad rechargeable, to reduce toxic chemical waste** (Photo: Rhys Taylor)

If you don't yet use rechargeable batteries, buy the longer-lasting single use type (alkaline), to reduce the total number of batteries you will throw away. Alkaline batteries are not yet recyclable in New Zealand but at least one high street retailer was considering starting a recovery scheme, so do keep those batteries for now, somewhere dry, rather than chucking them out in rubbish.

2. **Vehicle battery required?** Select one from a firm who will accept your old lead-acid car battery for recycling and preferably sell you a new battery that they have made from recycled materials. *Exide NZ* do this, and ask - there may be others.

For information on what's happening in NZ about battery recycling visit www.mfe.govt.nz/publications/waste/use-disposal-batteries-jul06/use-disposal-batteries-jul06.html

For info on washable modern nappies see www.thenappynetwork.org.nz/ or visit www.naturalparenting.co.nz/ www.greenbeans.co.nz/index.php?main_page=index

3. **Baby in the house?** Mountains of disposable nappies in your rubbish going to landfill? It takes 4.5 pine trees to produce the pulp used in disposable nappies for one baby over 2.5 years. It has been estimated that it can take 500 years for those nappies to decompose in a landfill. Avoid this source of waste volume by using washable real cloth or modern comfy fitted nappies, machine washed and line dried in sunshine, at a significantly lower cost. Further action on nappies can be seen at www.mfe.govt.nz/issues/waste/special/nappies/ or www.ccc.govt.nz/Waste/NappySubsidies

Whether or not they are mothers, women may also be interested to reduce the throw-away culture surrounding their sanitary products. For a list of products & information try ecobob: www.ecobob.co.nz/EcoBusiness/Browse/38,115/Health-and-beauty.aspx?CountryId=150

4. **Make your own** bread, biscuits and cakes, yoghurt, ice cream, and bean-sprouts. Dehydrate surplus garden herbs or fruits; bottle fruit from the garden; make jams and chutneys (in re-used glass jars), etc. They taste yummier than many bought ones, too! If you have unused food preparation equipment at home (such as a blender, yoghurt maker, bread-maker, special baking trays or a food dehydrator), share it with friends on loan, or sell or barter it to someone who will use it, and therefore reduce *their* waste!

5. **Substitute for brand name varieties with home-made cleaning mixes**, to clean glass, tiles, bathroom surfaces, floors, wooden furniture, etc. If you don't already know about these, a leaflet is available from your study group leader called *Avoiding Hazardous Chemicals at Home* which describes recipes for simple alternative cleaners made in various combinations from baking soda, pure soap, washing soda, white vinegar, vegetable oils, water and beeswax. Your investment in these basic materials can be repaid by savings on the retail price of branded plastic-packaged cleaners that you have avoided, and you may reduce your exposure to unwanted chemicals in the process.

Reduce your need to keep buying these detergent and bleach packages, (and also, if code 2 plastic, recycle any empty ones)

Some schools get their students making simple, non-toxic cleaning mixes for use at school and their homes. Containers are reused.

6. **Buy recycled paper products**, even if it costs a little more, to help build the NZ market for it. Pine trees are cheap here, so New Zealand paper mills are not yet making recycled paper – at present we have to import office copy paper brands such as *Renew* (80% recycled) from Australia or *Canon* (100%) from Austria, or *M-Real Evolve* (100%) from the UK. *Cyclus paper* made in Denmark is a high quality 100% recycled paper that will go through any printer. International transport of such a heavy item as paper is energy-wasting, so it would be better in the long term to have NZ made. Recycled office paper cost will fall as demand rises.

7. **Avoid toxic garden chemicals.** The average chemical-using gardener applies much higher doses of fertilisers, herbicides, fungicides and pesticides per hectare of crop growing area than farmers do. Some of these chemicals wash into groundwater or streams, some pollute food from the garden, and some end up as hazards in the rubbish when containers are thrown away. If you start making your own compost, and growing food using that compost, you will want to keep certain chemicals out of the system, especially lawn herbicides.

8. **If you need party plates** or plates for outdoor event catering, and you can't as a first choice use hired or borrowed washable crockery, consider using 100% compostable ones instead of buying plastic or card. E.g. starch plates and wood cutlery from the New Zealand Potatopak Company (03 570 5021, Website: www.potatoplates.com or cornstarch products from Eden Enterprises www.edengreennz.com

9. **Milk for home delivery used to be supplied in strong glass bottles that were re-used.** Unfortunately milk is no longer delivered in reusable glass bottles. Make sure you buy milk in recyclable plastic #2 bottles and not in the cartons which are made of plastic combined with card which are not recyclable!

Still have questions? Together we may be able to find the answers. First point of call ….. ask your local Council about wastes disposal. An interesting website with questions and answers on rubbish and safe disposal of hazardous wastes is provided by Christchurch City Council: www.ccc.govt.nz/quickanswers/waste . There is further information about hazardous waste disposal available through our SL programme.

Lisa sends green waste to a contractor (in a bin) for conversion to compost, and puts out a city council recycling crate fortnightly, mostly for glass, as she has minimised plastics and tins.

What do these actions add up to?

A 2001 study in Victoria, Australia, showed that by recycling an average 3.6kgs a week that would otherwise have left the house as rubbish (landfill), **a household saved, each week**:

- Over three kilograms of green-house gases such as carbon dioxide and methane, that would otherwise have contributed to global warming.
- Enough electricity to run a 20 watt low-energy fluorescent light-bulb for 144 hours.
- Air pollution saved equivalent to emissions from a net 4.5km of car travel (that's after taking into account the fuel burned to transport the recovered materials)
- Over ninety litres of water, enough to wash five sink-full of dishes.
- Reduced public costs of managing landfills, and helped to support employment in the materials recovery industries.

(source: Ecorecycle Victoria, Melbourne. www.ecorecycle.vic.gov.au)