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PLASTIC

Why worry about plastic?

- **Long life**

Plastic takes a substantial period of time to break down. Scientists estimate that it takes between 20 and 1000 years to decompose (1). Whichever the case, our plastic waste will be around for generations to come.

- **Reliance on oil**

Plastic is generally made from oil, the supply of which is diminishing. There are predictions that 'peak oil' will occur in the next four years, after which there will be a steep decline in global supply (2).

- **Litter**

Australians dispose of 3850 plastic bags every minute (3). As they are easily carried by wind and water, plastic bags pollute the environment, creating an eyesore and clogging waterways. A sea of plastic debris can be found off the coast of California which measures twice the area of Britain (4).



- **Death of marine wildlife**

Plastic is responsible for the death of an estimated 1 million seabirds and 100,000 sea mammals per year (5). Turtles, dolphins and killer whales mistake floating plastic bags for jellyfish and starve, their stomachs lined with plastic.

Greenpeace has produced a ranking of plastics based on their toxic characteristics with from most harmful to least harmful (6). It provides a qualitative ranking based on environmental and health problems, addressing the production, additives, product emissions during use, disposal and recycling. It does not include raw materials and energy inputs and therefore does not address all criteria of a life cycle analysis. Keep in mind, no petroleum-based plastic is sustainable as we move to a materials economy based on appropriateness, renewability and efficiency.

1. Polyvinyl chloride (PVC) and other halogenated plastics
2. Polyurethane (PU), Polystyrene (PS), Acrylonitrile-butadiene-styrene (ABS), Polycarbonate (PC)
3. Polyethylene-terephthalate (PET)
4. Polyolefins (PE,PP,etc.)
5. Bio-based plastics

Strategies to reduce your impact on the environment

(in order of effectiveness)

- *Refuse* or use an better alternative
- *Reduce* the amount needed
- *Re-use* or find a secondary use
- *Recycle* to:
 - minimise waste
 - reduce the demand on raw materials
 - reduce the amount of energy required in manufacturing.

It is necessary to realise that whether or not it is theoretically possible to recycle an item, its acceptance will depend on the commercial decisions of waste management companies depending on market prices.

11 ways to reduce the need for plastic:

1. Purchase loose fruits and vegetables where practical.



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2. Ask for bread in a cloth or paper bag from your baker...or make your own.
3. Keep perishable food (including lunches) in sealed reusable containers.
4. Purchase milk in cartons and squeeze your own juice.
5. Buy your newspaper from a news stand instead of having it delivered. Better still, read it on-line.
6. Buy in bulk where possible to help reduce packaging and save money.
7. Health food shops, organic shops and food co-ops carry many loose items (such as cereals, pasta, rice and pulses). You may also be able to refill your honey or cleaning products containers.
8. Take your own bags when you go shopping.
9. Reheat food in the microwave using a lid instead of cling film.
10. If you must use paper plates and cups next time you entertain, and compost them when you're done! Of course it is best to use non-disposable plates and cups and wash and reuse them so as to reduce the use of raw materials and energy.
11. Make your own bags from discarded clothing including old jeans.

Household plastic recycling

Almost all plastic can be recycled. Many products carry code numbers 1 to 7 and code letters within the 'recycling triangle sign' indicating different types of plastic that require different recycling processes if they are to be recycled. However it should be noted that not all plastics are recycled in Australia and that some plastics produce a number of toxic by-products in the recycling process. When Polyvinylchloride (PVC), code 3, reaches the end of its useful life, it can be either landfilled, where it leaches toxic additives or incinerated emitting dioxin and heavy metals. Dioxin is one of the most toxic substances known, and has been found to cause cancer and reproductive disorders.

The Norwood Payneham and St Peters kerbside recycling bin is collected by East Waste and is then sorted by Visy at depots at North Plympton and Wingfield. Whether and where particular items are disposed of is a commercial decision made by waste management companies depending on market prices.

If a plastic item keeps its shape it is called 'hard' and should be put in the yellow-topped recycling bin. East Waste and Visy confirm that any hard plastic products or containers bought for domestic use are recycled. These include milk bottles, ice cream containers, detergent bottles, take-away containers, party plates and cups.

Lids can be included though they must be separated from their container. This is to allow for compaction, to prevent the build-up of odour and because the lid and the container are often made from different types of plastic. While many types of lids are currently sent to landfill, others are sorted and recovered.



Plastic bags

'Soft' plastic (e.g. bags and packets) should be put in the bins at supermarkets rather than placed in the kerbside recycling bin. These items foul up machinery used in the sorting process and must be handled separately. Any bags placed in the yellow-topped bin will be sent to landfill. Enclosed bags (of bags) are assumed to contain rubbish, will not be inspected and are disposed of.



Supermarkets currently provide bins for the collection of soft plastic. This is the best option at present even though recycling may be done overseas.

'Soft plastic' encompasses:

- ✓ all types of plastic bags (e.g. checkout bags, bread bags, boutique bags)



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- ✓ cling film (from newspapers, produce, etc.)
- ✓ packaging (e.g. cereal packets, bubble wrap)

Soft plastic items **not** acceptable for recycling include:

- × degradable bags
- × plastic with a metallic finish (e.g. chip/biscuit packets, gift wrap)
- × open-weave bags (e.g. orange bags)
- × food contaminated plastic (i.e. it should be clean enough to handle and to avoid producing odour or attracting pests)

These items must be put in the red-topped (or equivalent) bin and go to land-fill.

Polystyrene

Polystyrene must NOT be put into yellow recycling bins - it is not recyclable through this system. However, polystyrene cups, packing and trays (clean and free of food waste and other contaminants) can be recycled if you take it to Bill Cairns Cases, Unit 5, 15 Burma Rd, Pooraka, ph 0408 819 579 (open til 12 Noon weekdays); or Coolfoam, 3/12 Kingstag Cres, Elizabeth West, ph. 8287 3666.

Plastic bag alternatives

- *Degradable plastic* bags are made from conventional plastic with an additive which helps to break down the bags into smaller and smaller pieces. While degradable bags alleviate part of the existing problem, complete breakdown of the synthetic is still very slow.
- *Compostable plastic* bags are made from renewable resources such as corn starch. These break down quickly and completely however there is some debate over the use food substances for manufacture while there is a shortage of food worldwide.
- *Paper* bags are both recyclable and biodegradable yet they have limited potential for reuse. The raw material for manufacturing derives from trees and the process also creates air and water pollution.
- *Calico* bags are durable and washable but the growing of cotton requires the extensive use of water, fertilizers and pesticides. Calico bags are currently not able to be recycled.
- '*Green bags*' require less energy, less water and less materials and create less CO₂ compared with cloth, paper and light-weight plastic. They are durable and washable however, they are made from a polypropylene material which may never break down in landfill but can potentially be recycled into bins, crates or bags. They may be put into the supermarket bins.

Ecolateral (1/443 Magill Rd, St Morris) also has a range of reusable alternatives including *hemp, jute, nylon* and *polyester*.

Bin liners

While the answer is not clear cut, the preferred option is to avoid a liner altogether or, where necessary, to use a biodegradable plastic bag. For a discussion of the alternatives, please follow the links to these documents provided by Zero Waste SA:

- [What about Bin Liners?](#)
- [The Bin Liner Dilemma](#)

References

1. ACB *The Lab- No Bag, thanks!* <http://www.abc.net.au/science/features/bags/default.htm>
2. 2007World oil supplies are set to run out faster than expected, warn scientists www.independent.co.uk/news/science/world-oil-supplies-are-set-to-run-out-faster-than-expected-warn-scientists-453068.html
3. SITA www.sita.com.au/media/21643/plastic.pdf
4. Sydney Morning Heralds 2007. *The Plastic Killing Fields*. www.smh.com.au/news/environment/the-plastic-killing-fields/2007/12/28/1198778702627.html?page=fullpage
5. UNEP 2004. www.unep.org/wed/2004/Downloads/PDFs/Key_Facts_E.pdf



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6. Greenpeace. <http://archive.greenpeace.org/toxics/pvcdatabase/bad.html>

ADDITIONAL LINKS

Norwood Payneham & St Peters Council guidelines on kerbside recycling
www.npsp.sa.gov.au/site/page.cfm?u=843

Sita Environmental Solutions Australia www.sita.com.au/sustainability--community/recycling-tips.aspx

Clean Up Australia plastic recycling fact sheet
www.cleanup.com.au/PDF/au/cua-plastic-recycling-fact-sheet.pdf

Federal Government plastic bag phase out & facts on plastic bags
www.areyouready.com.au/facts.php

SA plastic bag ban www.byobags.com.au/About.mvc/Shopper/80

Environmental Protection Authority (Victoria) analysis of shopping bag alternatives
www.epa.vic.gov.au/waste/docs/LCA_shopping_bags_full_report%5b2%5d.pdf