

Towards Zero Waste



By Nev Sweeney & Angie
Sweeney-Bas

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1.0 Introduction

"We don't need a handful of people doing zero waste perfectly. We need millions of people doing it imperfectly." - Anne Marie Bonneau (the Zero Waste Chef)

"There is no such thing as 'away'. When we throw anything away, it must go somewhere." – Annie Leonard (The Story of Stuff)

"It cannot be right to manufacture billions of objects that are used for a matter of minutes, and then are with us for centuries." – Roz Savage MBE FRGS (United Nations Climate Hero, athlete ambassador for 350.org)

Waste is a big problem in this world, and all need to step up. According to the experts at 'Clean Up Australia' -

"Australia has a plastics problem. Australia now produces 2.5 million tonnes of plastic waste each year, equating to 100 kg per person. Of this, only 13% of plastic is recovered and 84% is sent to landfill.

More concerningly, around 130,000 tonnes of the plastic we consume leaks into the marine environment each year."

Clearly, we all need to do something, and this is where this eBook comes in!

After this introduction, in Chapter two we start with some ways to gather data. You don't control what you don't measure, so we start off with how to conduct a waste audit on yourself and your family, a pantry audit to understand your food choices and a buying audit to understand what you are bringing into your household, particularly in terms of food. Then what to do with your results.

Chapter three talks about how we developed the idea of 'No-Buy July' to help us put into action some of the ideas we had developed to reduce our consumption and, consequently, reduce our waste output.

Chapter four talks about a couple of tools we used to help us ease into the 'Towards Zero Waste' lifestyle along with the practice we got from No-Buy July. The tools allow you to dip your toes in the 'waters of change' so to speak without diving in headfirst! That way you get to try things out in a limited fashion, dropping things that don't work for you and your lifestyle, but keeping and/or expanding the small changes that do.

Chapter five (entitled 'DIY') details some projects you can get involved in to help you on your Towards Zero Waste journey, from putting together a 'zero waste go-bag' to making bag to store your bread in, so you can kiss those plastic bread bags goodbye. You could also start making your own stock powder from bulk and home-grown ingredients or shampoo soap to reduce your need for plastic bottles.

Chapter six tells the story of how my daughter developed her own zero waste challenge which she ran over a month, two years in a row. She documented her challenge on social media and came up with lots of ideas, implementing one per day, for a month. All of this is recorded as well as some of her thoughts on why she did it, what worked and what didn't.

The final chapter is a list of books about waste and consumption, each with a short, one paragraph review, just in case you want to extend your knowledge and skills as you approach zero waste.

2.0 Gathering Data

2.1 Conducting a Family Waste audit

Every day half a tonne of municipal solid waste is deposited into land fill for every single Australian. This is a problem not only because we are running out of landfill sites, and it is a shocking waste of finite resources but also as it degrades the waste releases large amounts of greenhouse gases. To begin to reduce this waste and live more sustainably each of us must take responsibility for the waste we generate. To be able to do that we need to have an appreciation for types and amounts of waste we generate, hence the idea of a waste audit. A waste audit is a close look at the type and amount of waste produced by your household on a weekly, monthly or yearly basis.

To conduct your waste audit, every week for a month or so before you put your waste out for collection (recyclable and non-recyclable) get hold of a large plastic groundsheet or shower curtain and spread it out on your lawn or other open area where you have a bit of space. Put on a pair of thick rubber gloves and separate the solid waste into categories, below are some suggested categories you may wish to use –

Recyclables

- Paper e.g. Newspapers, magazines, corrugated cardboard cartons, cardboard food boxes, paper bags, catalogues, papier-mâché packaging, office paper, egg cartons; paper plates (non-coated)
- Glass e.g. Glass food and drink jars and bottles, green brown and clear glass
- Metals e.g. Steel food tins, aerosol cans; Aluminium drink cans
- Compostable Food Waste e.g. Fruit and veggie peelings; citrus skins; other kitchen waste; bread, cereal
- Non-Compostable Food Waste e.g. Fish, meat, bones, cooking oil; fatty wastes.
- Other Compostables e.g. Tissues and paper towel; lawn clippings; leaves, tree shavings; shredded clothing (natural fibre), sisal bags; tea leaves/bags.
- Plastics (Category 1 & 2) Soft drink and water bottles; milk bottles, detergent bottles, juice bottles, butter tubs, and shampoo and toiletry bottles

Non- Recyclables

- Plastic (other Categories) e.g. Polystyrene foam; uncategorised plastic food packaging, plastic grocery bags; disposable nappies; poison bottles; syringes; plastic plates; bread bags
- Paper/Cardboard e.g. Waxed cardboard; foil or plastic-coated paper or cardboard; frozen food boxes
- Glass e.g. Mirrors, window glass, ceramics; poison bottles; light bulbs; cookware
- Clothing with Synthetic fibres.
- Big stuff e.g. Carpeting, underfelt, treated or contaminated timber, insulation.
- Metals e.g. Aluminium foil; aluminium trays; cookware
- E-Waste e.g. TVs, computer, monitors, printers (unless at a specialised E-waste collection/drop off point)
- Hazardous Waste eg Pesticides, weedicides, paints, fuels and oils, battery acid, caustic soda, fertiliser; chemical cleaners

Using kitchen scales for the smaller amounts and bathroom scales for any large amount weigh each category and enter the weight into the “week 1” column on the waste audit form (Available as Appendix One). Repeat this process as often as you are game, but try giving it a go for a month then add up the weekly lines to give you a monthly total. If you are of a mind, you can also multiply the monthly total by 12 to understand how much solid waste you family contributes to the environment in a year.



Bokashi Compost Bin

Obviously if you have kerbside collection of recycling and/or green waste you are ahead of the game, but even these services come at an environmental cost with the resource depletion and greenhouse gas emission due to the fuel and electricity consumed to collect and process this recyclable waste.

In any case you will be in a better position now to understand your impact on the environment.

However, this is not the end of the story, because the goal of all of this work is to get you to modify your behaviours and reduce the amount of waste which you and your family produce. One way to help you do that is to use the hierarchy of waste i.e. the action at the top is the most desired, but if you can do that you move to the one below and so on.

The Hierarchy of waste (The 5 R's)

1. Refuse – refuse to buy shoddy products that break easily and opt for better quality products, refuse to buy food and other products that are over packaged and/or packaged in non-recyclable materials. Refuse plastic carrier bags.

2. Reduce – reduce packaging waste by buying items in larger packages or bulk, or where possible provide your own recycled packaging, buy the product with the least amount of packaging, home produce your own food, cleaning products and other materials to reduce waste.

3. Reuse – donate superfluous items to charity; use empty glass food jars to hold homemade preserves; turn two empty 5 litre washing detergent buckets into a self-watering plant pot. Think about reusing waste (grey) water in this space too.

4. Recycle (including composting) This is the removal of your recyclable waste at the kerbside which is then treated off site. The most important blow you can strike for recycling where you live is to start composting, a worm farm, a bokashi bin, or all three!

5. Remove – When you have worked through the hierarchy of waste with all of your waste materials, this is the residual waste you have left over where there is no option (currently) but to send it to landfill.

Action Planning

Now that you know what sort of waste you are generating and the amounts, you can make a judgement on what sort of waste you will make a priority to reduce. A good start might be the category with the largest weight of the one you would find easiest to reduce. It is probably best to start out working towards reducing your families' waste output in only one or two categories, three at the most. You don't want to take on too much then get overworked, start out slow and build on your successes; this is a long-term project.

Write down the category at the top of the action chart and then use the waste hierarchy to work out what strategies you wish to use to reduce the amount of your target category(ies) then write them down in the space next to the appropriate part of the hierarchy. You could allocate family members to one or more of the projects and even a completion date if you want to be that organised.

Once your waste reduction project is in full swing, wait for 6 to 12 months then conduct another waste audit and see how much you've improved.

2.2 Waste Audit 2.0

Years ago we conducted a waste audit as per the process detailed above, and we have gone a fair way to reducing the waste which we produce, almost everything recyclable is recycled, all organic waste is composted or consumed by the chooks or worms, we refuse single use plastic bag and other single use plastics where we can and have even started to reduce our recycling in favour of reusable packaging. But things change.

As the great Edwards Demming said, “what you don’t measure, you don’t control” and so I built a re-do of the waste audit into our yearly plan, but this time focussing on what we actually send to landfill rather than everything, in other words – Waste Audit 2.0. So I dutifully spread out my tarp on the garage floor and donned my (thick) rubber gloves and prepared to do battle with our waste!

And this is what I found –



This translated into the following list of waste -

Cat food tin lids	12
Grated mozzarella cheese bags	3
Other tinned food lids (peaches x2 beetroot x 1)	3
Soap wrapper	3
Baby wipes (soiled)	3
Muesli bags	2
Childs yoghurt pouches	2
Bread bags	2
Toilet paper outer wrapper	1
Grape bag	1
Frozen peas bag	1
Dry cat food bag	1
Landscape pebbles bag	1
Chicken container (free range)	1
Easter egg box (turned out to be recyclable)	1



The way we have been working on dealing with each one follows –

Cat food Tin Lids – The difficulty with these is that they are composed of two metals; the ring pull is aluminium and the rest of the lid is steel. We have dealt with it by cutting off the ring pull and recycling the majority of the steel lid. The remaining small amount of aluminium and attached steel is still junked unfortunately. This is still considerable better than the plastic pouches which were the containers for the only cat food our black cat would eat. He has passed on and our remaining cat is OK with the tins (thankfully!)

Grated mozzarella cheese bags – this one has become a bit problematic. Finding this kind of cheese without some form of plastic packaging has proved to be somewhat difficult. Yes, I know, one option is to make it ourselves and I have tried it. The result was.....interesting. So, as of today, the search continues!

Other tinned food lids – See cat food tin lids above at least as far as the peaches go. The beetroot tin lid needed to be taken off with a can opener and so was straight steel that now gets put into the empty tin and the tin bent over a bit so it can't come out. The whole shebang then gets put into the recycling.

Soap wrappers – this has proved remarkable easy, we have found a manufacturer and supplier of soap in our area, which we have been able to buy a cardboard box of

“seconds” soap remarkable cheaply. This has eliminated the soap wrap problem entirely. We also do make our own soap, but the soap ingredients come packaged as well, of which some is recyclable, some is not. So we would still be generating waste if we were making our own soap exclusively, although it would be somewhat reduced.

Baby wipes – also an easy one as they turned out to be compostable (my bad!)

Muesli bags – we have sourced a bulk supplier of all sorts of goods (<https://thesourcebulkfoods.com.au/>) and we can take in our own cereal container which holds about a kilo of muesli at a time.

Childs yoghurt pouches – we are currently experimenting around making small amounts of yogurt. More on this as things develop.

Bread Bags – we do produce some of our own bread but also buy it in too. We have found a local bread supplier (who makes wonderful bread!!!) that packages in a paper bag with a cellophane panel and so is completely recyclable and have certainly been enjoying that recently. There are also other suppliers like Bakers Delight who can supply unpackaged bread into your bag or container.

Toilet paper outer wrapper – we have sourced a supply of toilet paper which is made in Australia and has a recyclable outer paper covering.

Grape bag – this proved a bit problematic as all of the suppliers at our local shops give you grapes in bags, but by going to a shopping centre a bit further away we get access to a fruit and vego shop which has unpackaged grapes which we buy in our own fabric produce bags.

Frozen peas bag – This is a rare thing for us, we usually grow beans in the summer and peas in the winter, but we are currently in a dry period between it being too cold for beans and the peas coming into production. Admittedly, due to a glitch in our system I planted the peas somewhat later this year.

Dry Cat Food – a bit of a conundrum this one, if we were to go for bulk purchase, with only one cat, the crunchies become stale long before they are used up, so it does not work. No fix for this one at present.

Landscape pebbles bag – another one-off to fill a particular need, not likely to be repeated.

Chicken container – We did have a local supplier of free-range chicken bits which we could pick up in our own containers. Unfortunately, they have recently ceased to stock them because of low demand, which was very frustrating. We need to go to a bulk meat supplier and get a meat supply which we can pack off into our own containers. Our meat consumption has decreased considerably in recent time such that we only have a couple of meat meals a week, so it is not the problem it once would have been.

So, there you have it! I found it quite educative (if not particular pleasant) to carry out this research into our rubbish and plan to do it at least once a year to keep track of how well we are dealing with our waste.

2.3 Waste Audit Process Summary

- Talk to your family about what you intend to do and get their buy-in, if possible.
- Collect a week's worth of waste (can be non-recyclable and recyclable or just non-recyclable depending on your focus).
- Empty the collected waste on a tarp, don rubber gloves.
- Inspect and record all waste generated during the week.
- Place the waste in the correct bin.
- Repeat weekly for a month.
- Compile and review results.
- Develop and implement an action plan to reduce waste generation.

2.4 Conducting a Pantry Audit

Using a pantry audit (and including the fridge) can give you a handle on the food packaging waste you are generating and have on hand, and then provide the information needed to help you start reducing it. Addressing food packing waste is a great way to start on your journey towards zero waste!

It doesn't take long to do, I did ours in about half to three quarters of an hour, with some extra time taken to sit down and analyse the results. The prime issue is plastic food packaging, especially after all the issues we have been having with sending Australian recyclable plastics overseas, then the receiving countries no longer accepting it. We have little in the way of local processes to recycle it, so now a lot is ending up in land fill. As you conduct your audit, making a note of the type of packaging the food was bought/stored in will make later analysis easier as you can hit the stuff in plastic packaging first.



Also, the frequency you use each item is worth recording so that you can hit the biggest fish first (to coin a mixed metaphor). I did this by using three numbers to set out the highest use stuff –

1. used daily to weekly (high use)
2. used monthly or less (low use)
3. Dead stock. (forget it!)

If you are anything like us you will have dead stock in your pantry. That is to say stuff that we never use and which has been sitting around forever, taking up valuable space in our pantry. It may be dead stock because our tastes have changed over the years, it was something which looked good but when we

tried it we found it not to our tastes, or it may be something we over-bought which has gone out of date and we are not game to use it. Or it may be that it was an impulse buy which seemed like a good idea at the time but, if we had thought about it, we would have known it was not really 'us'. Rare, but it does happen!

To conduct the audit is fairly simple, download the [excel spreadsheet](#) I put together, or develop your own, then go through your pantry (and fridge if you want that in your terms of reference) item by item and write down every product in there. Against each item you can also make a note of the packaging type (plastic bag, paper bag, glass jar, cardboard carton, plastic jar etc.) and if you want to be really thorough, the pack size and number of packages which you have. You can then make an estimate of the frequency of use of each item using the one to three scale above. By looking at the amount you store, and the usage score it will give you an idea of which items to hit first to get the best bang for your buck in terms of the volume of packaging waste you are generating.

The next trick is to highlight any and all pantry and fridge contents which are in packaging which you find unacceptable. To help you decide how far you want to go, I suggest you consult the hierarchy of packaging (See point 2.5 below), which lists packaging types from the best (ie none) at the top, to the worst (non-recyclable plastics) at the bottom. You decide how far up you want to go.

Once you have developed all this data, it is then a case of analysing it and working out what changes you are going to make. From the work I did with our pantry/fridge audit, it seemed to me that there were four (or in reality five) options that I could see –

The Options

1. Buy a similar product, packaged further up the hierarchy
2. Buy from one of the emerging 'bulk buy/packaging free' places
3. Make the product at home (ideally from bulk sourced or home-produced raw materials)

4. Use up and not replace
5. Oh yes! I have no idea at the moment!

The Details

1. Buy a similar product, packaged further up the hierarchy – So maybe you buy your mayo in a plastic jar and there is another brand available in glass, or you have been buying your flour in 1kg plastic bottles, but it is available in paper bags or even better, bulk, packaging free! I realise there are some other issues at play here. Your favourite hot sauce may be available in a non-recyclable plastic bottle, and you know the other brands packaged in glass bottles just won't do the trick. It can leave you in a quandary because you really, REALLY like that hot sauce! If you can't make an equivalent one yourself, one approach I suggest is a blind taste test.

The Blind Taste Test

Get hold of a small amount of all the readily available hot sauces, which have been appropriately labelled, from friends and acquaintances or even buy a small container of each. Have someone trustworthy (this is NOT the time for practical jokes!) put a small amount onto a plate or in a container like a shot glass labelled as 1,2,3 or a,b,c; etc, anything so that you don't know which is which. Try each one and rate it from best to worst according to your taste. Then review the results with your trusted colleague to find out which brands were high on your list of acceptable ones and what they were packaged in. I tried this approach when we were looking at mayo and found that my pre-conceived notions were just not correct. By doing a blind taste test, it is the actual flavour of the product you are rating, not the brand and you may find that hot sauce in a glass bottle is actually OK!

2. Buy from one of the emerging 'bulk buy/packaging free' places etc. – There are a whole stack of places opening up which will allow you to buy bulk pantry staples such as flours, pasta, rice, sweets etc. into your own containers or glass jars you can buy in the shop. We have a number around here including The Source, Nom Bulk Foods, Honest to

Goodness, Naked Foods and Scoop Wholefoods. They are scattered all over Sydney, although if I were honest, the concentration is greater in the east than out here in the west. We now buy flour, dried beans, oats, dried fruits, nuts and sweet treats (shh!) and other staples in our own bottles and jars regularly.



There are other options too, particularly for refrigerated items, like your friendly neighbourhood deli and greengrocer, who are likely to allow you to buy their products weighed into your containers, especially if you become a regular customer. Food coops are another possibility and if there is not one in your area, maybe you could start one? Farmers markets quite often are not just for fruit and veg (although packaging free fruit and veg is great too!) but also have lots of artisan and value-added products like jams, sauces and chutneys etc in re-usable glass jars.

3. Make at home – There are many books and websites out there dedicated to people who want to make their own stuff, including pantry staples like jams and sauces, preserves, spice mixes, pasta – all sorts of things. We have put together a couple of spice mixes that allow us to use some of our home-grown herbs and other packaging free components to create superior substitutes for the commercial products. We make a stock powder, equivalent to chicken stock, which is based on nutritional yeast (see section 4 – DIY). The stock cubes it replaces were wrapped individually in a paper/foil composite which was not recyclable. Likewise, the Mexican spice mix (See section 4 – DIY) we use for our burritos used to come in foil throw-away pouches, but now that we produce our own from packaging free and home-grown ingredients that source of waste has been eliminated. It is also enormously satisfying to make this stuff yourself!

4. Use up and not replace – This is mostly our go-to for dead stock, unless it has well and truly exceeded its use by date, then it gets composted and not replaced! I bought lentils to try, but found that Linda is not a fan, I don't mind them, but it won't be a huge disappointment if we use the ones we've got and call it quits. Likewise, we have fooled around with wine vinegars in various guises, but I am not a fan and Linda isn't much of a fan either so I am casting around for recipes that are not too disgusting, failing that they will be used as weed killer or disinfectant!

5. I got no idea! – Hopefully you won't get too many of these. One that came up for us was marshmallows, packed in soft plastic, we use them rarely in winter over the fire when the kids are here.

Now with your recording an analysis done, you are primed for action! Have a recce in your local (or as local as you can find) packaging free store and see what they have that will allow you to switch some of your purchases over to bulk. Or pick a product or two and work out your waste reduction strategy for them and then implement it. The whole process is interesting, gives us an appreciation for the waste we generate, and can be lots of fun. It will also move you towards your waste reduction goals, whatever they may be. Good luck!

2.5 Conducting a 'Food Buying' Audit

A buying audit is complementary to a 'Pantry Audit' in that the pantry audit tells you in some detail of the food which you have on hand at the time of the audit, the 'Buying Audit' allows you to track the type, amount and cost of foods coming into the household over time.

I have a fair idea of the sorts and amounts of food which we buy in general, but there is no substitute for measuring and for recording the data. We have a supermarket, greengrocer and butcher within walking distance and to save transport energy these tend to be our go-to.

I wanted to know what we were spending so I could see what opportunities there were for –

- Home production
- Bulk buying
- Substituting from other sources.

First, I set the criteria for the audit. It would cover food purchases from the supermarket and greengrocer and to a lesser extent, butcher which we have been using less and less as we move towards a plant-based diet. It did not include: takeaway (traditional on a Friday night) or bulk purchases like a 25kg of rolled oats and skim milk powder (\$90 and \$120 respectively) which occurred during the time of the audit.

To help me record the data I was generating I put together a (very) simple Excel spreadsheet. Excel spreadsheets also have a 'sort' function which helps me to analyse the data by grouping together purchases of similar products over time. The headings I used for the grocery sheet was –

Date – so that I had an idea of the time that items I purchased regularly would last before they needed to be rebought.

Item – this one is important to get right and by that I mean to use the same item name each time they are entered on the spreadsheet. If an item is entered as 'baked beans' initially then 'beans, baked' when bought next and then as 'Fred's Baked Beans' a third time it makes sorting for analysis very difficult. Entering each item under the same name each time means they will group together when sorted. Simple I know but it easy to make a mistake..... Or so I've heard!

Size – how many grams, kilos or litres of each product is bought at a time, which can give you a feeling for how much of each product is bought over the time of the audit, and can then be extrapolated over a month, 6 months, or year or whatever. Thus you can hit the high use stuff first.

Number – This is just there so that when I bought multiples of the same item, I didn't have to enter each one separately, but I would still be able to work out the total numbers of that item over the period being measured.

Total cost – how much each item (or number of items) cost all up to give me an idea of how much I was spending over time. This column could be aggregated to give me a total spend during the audit timeframe.

I then put together a similar sheet for Fruit and Veg, and meat. If you want a blank copy to model your own on, it can be downloaded [here](#).

A	B	C	D	E
Date	Item	Size	Number	Total cost
2/01/2019	Peaches - Sliced	825g	2	\$7.00
21/12/2018	Peaches - Sliced	825g	2	\$5.60
16/12/2018	Peaches - Sliced	825g	2	\$5.60
6/12/2018	Peaches - Sliced	825g	3	\$7.50
23/11/2018	Peaches - Sliced	825g	3	\$10.50
17/11/2018	Peaches - Sliced	825g	2	\$7.00
30/10/2018	Peaches - Sliced	825g	1	\$1.75
21/10/2018	Peaches - Sliced	825g	4	\$11.20
8/10/2018	Peaches - Sliced	825g	3	\$10.50
25/09/2018	Peaches - Sliced	825g	3	\$8.40
15/09/2018	Peaches - Sliced	825g	2	\$5.60
15/09/2018	peanut butter - smooth	780g	1	\$6.50
8/10/2018	Pie apples	800g	2	\$8.60
15/09/2018	raisin toast	650g	1	\$3.50
5/11/2018	Salada wolemeal crackers	250g	1	\$2.00
5/11/2018	Salmon tin - spring water	95g	2	\$3.00
15/09/2018	Salmon tin - spring water	95g	2	\$3.00
5/11/2018	Shampoo Elvive	325g	1	\$8.00
21/10/2018	Soy Sauce - Kikkoman	1 litre	1	\$8.00
16/12/2018	Tartare Sauce	220g	2	\$4.00
21/10/2018	Tofu - Macro Sate	200g	1	\$4.00
16/12/2018	Tomato sauce	500ml	1	\$1.47
21/10/2018	Toothpaste - Cedel	110g	1	\$1.75

Sample of what the records may look like

To operate the audit was a fairly simple matter. Every time I made a purchase within the criteria I had set out I made sure to get the receipt and then as soon as I got home (mostly, alright I saved them up until the end of the week!) entered the data for each one into the spreadsheet. I did this for a period of four months, but you could do it for

as long or short as you like, bearing in mind that the longer it goes on for, the more information it will yield.

After four months I sat down and did a bit of analysis, the easiest way to do that (for me) was to sort for item name so that the items were aggregated, and it turns out over those 4 months we bought –

- 9 tins of sliced beetroot, total weight 7.5kg for a bit over \$21 (could be home produced and/or preserved)
- 26 tins of sliced peaches (in juice), total weight 21.5kg for \$80.65 (no way to grow at our place but could be bought in bulk in season and home preserved)
- 16 x 750g loaves of bread for \$76 (home baking)
- All up \$746 worth of groceries, \$260 worth of F&V and \$10 worth of preserved meats for homemade pizza (we did have some meat in the freezer we were working through to use up).
- Not too bad for a family of 2 for four months, I think!

It depends on what is important to you and what your big-ticket items are in your journey towards living a sustainable life, but whatever they are decide what you need to measure to control them, and then do it!

2.6 Food Packaging Hierarchy

We all face choices when we buy food and one of the choices we make is how the food is packaged.

The idea of a hierarchy is we start at the top (best case scenario) and work our way down, looking for the most appropriate answer, until we hit the answer which works for us, hopefully before we hit bottom (worst case scenario). It may be that we have no choice and do end up at the bottom of the hierarchy, but by using the tool to look at our options, sometimes we can choose an option higher up the hierarchy than our current 'go-to' option.

Thus the food packaging hierarchy is a tool to allow us to evaluate our choices in one small area of our lives. An area which can have a negative impact on the environment and, after thinking about it, come up with the best solution for us.

The Food Packaging Hierarchy

1. Packaging free – if we are talking about packaging and its impact on the environment once it is thrown away, then to buy something packaging free just has to be the ideal way to go. There are now options for buying in bulk and taking your own containers for refill as well as supporting traditional businesses like your local purveyor of fruit and veg or delicatessen who can provide food packaging free. Obviously if we produce it ourselves it is packaging free also. Unfortunately we can't always get what we want packaging free because either it is not offered packaging free by the retailer or because we are not in a position (for whatever reason) to make use of a packaging free option.

2. Reusable glass jars/bottles – Even in this day and age, where plastic is king, there are still lots of food products provided in glass jars and bottles, which are by and large reusable. The use that comes first to my mind is to use them to make our own food preserves and we have found over the years that by accumulating glass bottles and jars we can increase the amount of preserving we do each year at no extra cost. The weak link in this chain can be the lids which may eventually have issues with the sealing ring, but there are places now where you can even buy the new lids (while recycling the old ones) and keep the glass containers in use. Of course preserves are not the only thing they can be used for, they can also be used as a storage container for stray nuts, bolts and screws in the garage (another old habit which needs reviving), to produce food by using them to grow sprouts or even to do soil testing eg the soil texture test or even to replace plastic as food packaging in the freezer. There are sites on the 'net which can give you ideas on how to reuse glass jars and bottles from the sublime, to the ridiculous!

Even if you don't want to use these handy glass containers yourself you can pass them on to friends, family and neighbours to help them in their own preserving efforts or to

schools or preschools for craft use. By using our purchasing power to buy a glass packaged product over its similar, but plastic packaged rival, we can send a powerful message to the product producers.

3. Reusable steel containers/aluminium – sadly, over the years these have become less and less common, and when they are available they are usually only produced for a short time as a product promotion. They are still out there though and can be used to store the product which they originally held when bought in bulk, or other bits and pieces as required.

4. Recyclable glass/steel/aluminium containers – Some glass containers aren't really practical for anything other than what they were originally designed to do, such as the smaller, irregularly shaped containers used for jams or condiments. So any glass container that won't be reused in your system immediately fits into this category. To be fair, some steel food cans can be re-used in crafty situations (eg pen holder etc) or as no cost pots for plants, or even to construct a rocket stove. The downside of these ideas is that over time the steel cans will rust out and deteriorate to the point where they will be absorbed back into the soil and entropy wins again (a small win for entropy but a win nevertheless). The up side is that glass, steel and aluminium can be recycled endlessly and will turn out a product as good as the original, in fact as far as glass is concerned, less energy is required to melt a tonne of glass recycling than is required to melt the raw materials (silica sand, soda ash, limestone etc) to make a tonne of glass, not to mention the mining costs, so it is a win/win!

5. Compostable/recyclable paper/cardboard containers – strangely enough these actually seem to be becoming more popular. I have noticed a number of products including some sweet treats, packaged in paper/cardboard rather than clear plastic or polystyrene foam. This is a change also worth encouraging, although the downside is that if we compost these containers they may miss out on going to landfill but the embodied energy is lost and entropy wins again. Another downside is that paper and cardboard products cannot be recycled indefinitely. Every time they are recycled the

pulping process reduces the fibre length to the point where the stock becomes useless, at which point composting is the best option.

6. Reusable plastic containers – Some of the food containers which were once served by glass packaging are now contained in plastic containers which with a bit of thought can be re-used, eg peanut butter, fruit, mayo, honey, jam etc. once they are washed out! These can be used for a number of things but because they are plastic and can't stand heat they are no good for home preserving. You could use them for storing spices, dry goods, grains etc.

7. Recyclable plastic container – Recyclable plastic containers have a number symbol which tells you the type of plastic it is made from and while all of these are able to be recycled, there needs to be a system in place to recycle them. In Australia at the moment (April 2019) our recycling system is in a shambles because we relied on it being done overseas and the countries involved have refused to take our rubbish. This has resulted in plastic packaging which is theoretically recyclable going to land fill. Regardless of this fact, plastic is downcycled, rather than recycled, meaning that it is used to make a lower grade of plastic and so eventually winds up in an unusable dead end in most cases. Which plastics are being collected for recycling in your area will vary over time, so it is best to talk directly to your local council or their waste contractor to find out what is happening.

8. Non-recyclable plastics/mixed – any plastic not marked with an identification number cannot be recycled, with the exception of soft plastic bags which are now used by Redcycle to generate new municipal road infrastructure. There are also containers made of mixed materials like tetrapak which are difficult to recycle.

3.0 Practice, Practice, Practice

3.1 'No Buy' July - Putting it Together

I was reading a very nice article in the latest Earth Garden magazine (No 184) by Rachel Altenbacher where she ate only out of her garden for a month. This included a 7.5 x 2.5m veggie patch, produce from her orchard and chooks and some other pantry and swapped items. I thought this was an intriguing idea. I am also about halfway through David Holmgren's book "Retrosuburbia" in which he talks about a "Home-based lifestyle" which I also found intriguing.

We decided to synthesize these and a few other ideas (it dovetails well with Plastic Free July and Zero Waste) together and came up with "No Buy July". The idea of no-buy July is to just use what we have on the property as much as we can for the next 31 days, so that we can –

Reduce unnecessary consumption and with it, waste – I think we are pretty frugal, but I want to test that theory and at the same time challenge ourselves to be more resourceful and innovative with what we have.

Save money – We have a fixed amount of cash to live on and we need to get the most out of it.

Make best use of existing resources – We do rely on our own resources, but I feel we could do better and by focussing on doing better we will –

- Learn new ways of looking at things.
- Learn new skills.
- Reduce our consumption and waste production,
- Have fun – I think that by challenging ourselves to do better we can have a lot of fun rising to that challenge.

What about the extra stuff can't produce?

We have allocated \$50 per week maximum, which we won't touch if we don't have to but can cover minor unforeseen shortages.

Exemptions

There are a number of exemptions to the no buy rule being mainly -

- Pharmaceuticals
- Regular bills (energy, water etc)
- Gift cards, birthday money etc accumulated prior.

Petrol

Just to make things interesting I have allocated 1 tank of petrol for the month, which I topped up on the afternoon of June 30th. We usually go through a tank of petrol every one to two weeks, so this will encourage us to use walking, biking and public transport more. I still want some petrol available for things like our monthly permaculture Sydney West meeting, which is at night and we have a whole stack of crap to take with us. Travelling home on bus and train at 10:00pm loaded to the gunwales with PSW gear does not exactly thrill me.

How will we do it?

Home Harvest

We only have our 600m2 block to draw from, but having said that it does provide us with fruit, veg, herbs and eggs. The chooks are firing pretty well at the moment and giving us 2 eggs a day, we have lots of citrus: lemons mandarins, oranges and limes and all the usual herby suspects are available from the herb "wedding cake" and other parts of the garden.



In terms of veg we have lots of leafy greens with silver beet, bok choi, tatsoi etc and some brassicas such as cabbage, kale, broccoli and cauliflower starting to come on. We also have celery, snow peas, water chestnuts, lettuce, carrots, chokoes (of course) and Jerusalem artichokes. Unfortunately we have just run out of home grown onions, until the next crop comes in.

We do also make use of wild greens like sow thistle, wild lettuce, mallow and dandelion which we mainly harvest from around the yard but can also forage.

Shopping in the Pantry

We have a fairly comprehensive pantry anyway and have recently been getting back into bulk buying to reduce costs and packaging waste. We have a bulk supply of flours, whole wheat (plus we have a nice electric grinder), skim milk powder and now we have red kidney beans and black beans as well as our own home preserved tomato pasta sauce and diced tomatoes. We don't grow enough potatoes so buy them by the bag (organic) through our friends Greenhills organics. A bag usually lasts us about 2 – 3 months and we restocked a couple of weeks ago.



Doing stuff we know how to do but stopped

In the past we used to make bread a lot more and make our own pasta and the like but due to a number of factors like too much to do (and laziness on my part) we don't do as much of anymore, so that is going to re-start.

Doing stuff we haven't tried before

I want to give some new stuff a try, like using our stored skim milk to make ricotta cheese (for homemade ricotta and silver beet ravioli or tortellini) and Greek style yoghurt. I like sour cream on our home made Mexican bean tortillas, but I want to try substituting with homemade Greek style yoghurt and see how it goes. Also we want to try new vego/vegan meals to widen our repertoire.

Freezer

Which I suppose brings us to meat. We have some in the freezer but our current meat consumption is down to one or two nights per week, so I don't see this is a big issue. It has been interesting to note that with the reduction of the importance of meat, the freezer has become a less critical piece of equipment for us too. Once upon a time we

would buy a side of beef (pasture fed) a side of lamb and/or pork and some chook bits. If we were to do that now the meat would go out of date well and truly before we could use it. So it is more a case of buying stuff as we need it.

We also have some (homemade) ready meals in the freezer if we do hit a patch where we don't have time to cook, reducing the likelihood of dipping into the cash reserve to get takeaway.

Shopping at the Shops

We did one last "standard" shop on the Saturday. It covered the stuff we would buy on a usual grocery shopping trip, although the variety and volume of stuff we have been buying over the years has declined somewhat due to the bulk buying and home production.

So there you have it! We are ready to go "home based" and see where that takes us. I am looking forward to the challenge, and also having the time to do more "from scratch" stuff as well. I am hoping that being barred from that quick trip to the shops will make us more creative, and as a by-product make things more fun and satisfying when we rise to the challenge.

3.2 'No Buy' July – How it Went

If you remember, here at the Choko Tree we were going to get by on the contents of our pantry and garden, and avoid going out and spending unnecessary cash, we were going to do this for the entire month of July and christened it: No-Buy July (NBJ) (see above). If you want to know how it went, read on!

Initial Thoughts

The first few days of NBJ felt strangely like a final exam. Sort of like just having finished a class where you have been taught a whole stack of techniques and then have to put them all together for a final exam. Probably because we had been doing a lot of these

thing on and off for years but not necessarily all at once. Anyway, that's what the first few days were like, until we settled into a routine and then it just became "how we do things around here" or in other words – business as usual.

In terms of what we set out to do as mentioned in the previous article, ie –

- Reduce unnecessary consumption and with it, waste.
- Save money.
- Make best use of existing resources by learning new ways of looking at things and learning new skills, and
- Have fun!

It was a resounding success on all fronts! Here is some detail on how things went –

FOOD

Breakfast – I usually have muesli and Linda usually has porridge in winter, and we had sufficient of both of those in our stores to continue on as we usually do for the month, but during this time I did think about my muesli. I am going to buy in a larger supply (25kg) of organic rolled oats then design up a "muesli concentrate" which can be mixed with the oats to make.....muesli!

Lunch – typically I/we like a cheese and salad sandwich or wrap for lunch. Anyway, this is simple in summer but to provide fodder for a salad-based lunch is a bit more difficult at this time of year (winter!). We have some cheese in the fridge but would need to buy in salad fixings. That was until I came up with the idea of teaming up some of our bottled diced tomatoes which were already in the pantry with pickled beetroot (also a pantry staple), lettuce from the garden and then a boiled egg or two (from our own chooks). This made a nice salad sandwich or wrap, depending on what bread was available.



Ah, yes! Bread. We had made quite a bit of bread in the solar oven over the years, but at this time of year I can make it in the oven attached to the slow combustion wood heater. I have gotten a bit lazy and it is easier to buy a loaf of stone ground whole meal, which comes in a recyclable/compostable paper bag than to bake our own. But this is NBJ! So I needed to get back into baking. We use a fairly simple bread recipe but it takes a number of hours for rising and such and I need to be organised to do it so we have bread when we need it, so what to do if time was short?

The answer? Make unleavened tortillas! I can throw them together in less than an hour (and most of that is waiting time) and they make a great wrap, as well as bean burrito or whatever else. I just needed to take a bit of a mind shift to realise that tortillas also make a great lunch as well as dinner. That was a winner!



Dinner – For the most part this didn't change much and we still made stuff which is mostly vegetarian, but we also tried some new stuff, like making spinach and ricotta dishes based on our own home made ricotta and likewise vegetarian Indian dishes based on our home made paneer.



The dishes we normally made that have sour cream (I lurve sour cream!!) in them could have been a problem, but we have been converting over to Greek style yoghurt instead

and have started making our own based on powdered skim milk and using commercial pot set yoghurt as a starter. (which you buy once).

We have also been making our own dessert type stuff like choc chip biscuits, impossible pie, apple pie, which we restrict to Friday nights.....and possibly Saturday nights as well.

Friday night dinner has been, since time immemorial, special and we usually get takeaway. This is often a hamburger/steak sandwich/chips/fish cocktails or whatever from our really nice, privately owned (ie not chain or corporate) local hamburger shop. When we originally talked about NBJ I was in favour of laying in a stock of the bits and pieces to make such treats and do that at home, however, my sweetie pointed out that there was little point in buying in all the stuff just so we could make it at home. So I caved and we used some of our discretionary fund (to the tune of about \$16) to pay for dinner on Friday nights. We also used to buy in dessert for Friday nights but as mentioned above, we now produce this ourselves.

DISCRETIONARY CASH

Well, to me the above bit is a great segue into how (or if) we used our weekly \$50 allowance. Taking into account the four full weeks in July and how much we allowed per week, that gave us \$200 to cover off any stuff we needed but could not produce during NBJ.

How much did we spend? All up of the \$200 allotted we spent \$106.45.

This mainly went on Friday night dinner, stuff we couldn't produce but needed for a certain dish such as mushrooms and a small tub of pot set yoghurt to kick ours off.

Linda was taken to a farmer's market by the kids and picked up a couple of small bits and pieces and then there was coffee, which requires an entry on its own!

Coffee

I don't smoke, drink or gamble, but over the years I have come to look forward to a cappuccino at our local shops after breakfast and Don (our local barista) makes a good one. However I found over the years that a small drain on funds can cost a bit when you add it up and I would get my cappuccino (in a keep cup by the way) on average six times a week.

Unfortunately, when I did the math this worked out to somewhat over \$1300 a year. (say what?) To be fair I had resisted some efforts to get me to reduce my consumption previously but NBJ meant that I had to get serious and so I cut my store-bought coffees down to 1 per week (to be consumed with the other members of Grumpy Club). This in itself would save us over \$1000 per year. So on the other days I would have a home coffee, using jars of coffee we had accumulated and which Linda could no longer drink. This meant that the coffee I was consuming had already been bought and which would have gone stale over time and had to be thrown out if they were not used, so it was essentially free. After doing this for a month, I have found it is possible to habituate myself to this coffee and still enjoy it.

PETROL

To make things interesting I decided to allow one tank of petrol for the whole of NBJ. A tank will usually last us from one to two weeks, and I was hoping to push it to a month. Unfortunately, that was not to be, not because we went out all over the place and ignored the whole NBJ thing, but because neighbours and family required being ferried around all over the place. While I wanted to see if we could make it or not, unusual circumstances cropped up and I needed to do the driving because assisting neighbours and family comes before arbitrary limits set up as an experiment. In the event we made it to halfway through the third week before I needed to refill the tank.

Going Out

As luck would have it, for most of NBJ we spent at home with the odd outing to visit family or attend required meetings such as the permaculture Sydney West general and committee meetings and our own sustainability group. We did intend to go on an outing one day but for various reasons it did not happen. Planning it did make me more aware that a greater percentage of our going out involves a “retail experience” at some point in the outing and the opportunities for doing free stuff in our area are not that great.

WHERE TO FROM HERE?

In the words of my brother, Jim, now we move into “spend like a drunken sailor August”.

A couple of days after the end of NBJ we sat down and had a look at what we did, how it all went, and then talked over where we were headed next. Surprisingly, we liked most of the experience of NBJ, and the challenges of making do with what we have on hand. Another amazing thing was that all of the experiments we tried with making new foods from scratch or using existing supplies in new ways turned out well. They were edible and tasty to the point where we are going to keep doing most of them.

Saving the cash did not hurt either.



We have decided to continue doing most of what we started, but with the odd coffee, meal and trip out thrown in. Next year we might even give No-Buy July another go, but take it to the next level (whatever that means!)

4.0 Tools for Change

This chapter talks about a couple of tools we used to help us ease into the 'Towards Zero Waste' lifestyle along with the practice we got from No-Buy July (see above). The tools allow you to dip your toes in the 'waters of change' so to speak without diving in headfirst! That way you get to try things out in a limited fashion, dropping things that don't work for you and your lifestyle, but keeping and/or expanding the small changes that do.

4.1 The 'One Day a Week Challenge'

Quite often the environmental impact we have (positive or negative) can be linked to the actions and behaviours we exhibit, ie the way we live our life. What we eat, how we cook, how we travel, what we buy and from whom, etc, etc. The way we live our life is not only important for ourselves, but also for those around us. If the people around you see you changing your life to make it better, it empowers them to change too.

The way we live is also linked to the habits we have developed over the course of a lifetime, particularly if you are, like myself, of a more mature persuasion, and habits can be difficult to change (ask any smoker!). I myself have wanted to change my life for the better and to reduce my load on the environment but found breaking old habits and creating new ones difficult. So, where is all this leading you ask?

We have found a way to make changing our lifestyle easier and less painful, but still heading us in the right direction. We challenge ourselves to make the change for one day a week, hence the "One Day a Week Challenge". We decide on the change we wish to make then commit to doing at least one day a week until the change is locked in. Once the change is locked in, it can be extended to more days, or you can leave it at one day and go for another challenge.

As an example, we started out eating a meatless meal one day a week, but that has now been extended to the point where we will eat 3 to 4 meatless meals a week and the transition has been almost pain free! I can't see us becoming full time vegetarians, but I

am happy that we have been able to reduce our environmental impact due to meat consumption considerably.

Your challenge day does not necessarily have to be the same day of the week, so long as you commit to one (or more days if you like) day every week and then stick to it. That is the challenge.

Following are some suggestions for “One Day a Week Challenges” which you and your family might find interesting, and worth committing to reduce wastage of food, water, energy or whatever –

- Eat from the backyard.
- Eat no processed food (Make from scratch day).
- Shower with a friend day.
- Catch the warmup water (for use elsewhere, like watering plants or flushing toilets.)
- Buy no packaged goods.
- Compost food waste.
- No-buy day.
- Brown bag it for lunch.
- Carry around your waste (umm not icky waste obviously!)
- Pick up litter as you walk.

Or any other changes you have been wanting to make but want to ease your way in by starting one day a week rather than jump in headfirst!

4.2 The ‘50 Percent’ Challenge

Some of the hardest things to change are our habits. We may WANT to live better, more sustainable, more resilient, more eco-friendly lives but the siren calls of our habits can drag us back to our old way of living. I know this is true because I have felt it and succumbed myself.

Some people go best with a 'cold turkey' approach while others such as myself do better easing into new ways of thinking, being and doing. That was the original idea behind the 'one-day-a-week' challenge (see above). You commit to doing something which improves your environmental performance (or not doing something which reduces it) for one day a week. Then you can move on to more days per week as you want. We started out eating vegetarian one day a week, but now only eat meat one day a week.

Anyway, there are some things that don't work well on the 'one day a week' challenge but work well for the new type of challenge: the '50% challenge'.

Some examples of a 50% challenge which you can take include –



- Using 50% of the cleaning products you would normally use in specific situations such as clothes washing powder, hair shampoo (and conditioner) and dish washing detergent. This will not only save money and less chemicals will be pumped into the environment, but quite often we use more of these products than is needed, generating waste.
- Going shopping 50% less than you usually do. Most people shop at some point and we used to do grocery shopping once a week. We now do it every two weeks and find that it reduces the opportunity for impulse buys, reduces travel costs and gives us more time for other things. This results those impulse buys that sit

in the cupboard until we realise we are not going to use them and toss them out!

- Wash items such as sheets, tea towels and bath towels 50% of your current frequency. There may also be other items which could be washed less often as well and for a more detailed discussion of clothing washing and its frequency, check out the article [here](#).
- Reduce your current level of food waste by 50% using improved planning, storing correctly, getting creative with scraps etc.

I'm sure you can think of other examples where you can improve your life 50% of the time.

There are also crossovers between the 50% challenge and the 'one-day-a-week', so that if you have your challenge down pat for one day a week, you can improve your performance by rising to the 50% challenge.

Such crossovers include – using alternative transport (biking, walking or using public transport) instead of your car, making your food from scratch (as opposed to takeaway or ready meals), or reducing your meat intake by 50%.

The whole idea is to challenge yourself to improve an aspect of your life without having to go the whole hog straight away. It may be that you find the challenge is no challenge at all and you feel you can even increase the percentage, or you might remain comfortable at 50% and don't want to go higher. It is all up to you.

It can also be fun to engage your family, friends and/or workmates in your challenge, or even try a team-based approach. There are many opportunities, work out one that suits you and give it a go!

5.0 DIY

5.1 Making a Zero Waste Go-Bag



There has been a lot of talk about waste in the news lately. We know we have a problem and landfill is not the answer, but even our efforts towards recycling have been called into question because most of the stuff was sent to China for recycling and they are no longer accepting our waste. It seems to me that while recycling is a good idea, we need to go further up the hierarchy of waste from “recycle” to “reduce and refuse”.

We live a suburban lifestyle, we don’t live in a cave cooking over an open fire, so we do accumulate some waste, particularly when we go out. It might be plastic bags with the shopping, a disposable coffee cup, plastic cutlery with lunch or a plastic water bottle. Over the last few years, we have been working to reduce our environmental footprint but it has become time to start focussing on the waste we produce (or is produced in our name) and what we can do about it.

Coincidentally, my daughter has recently started moving towards zero waste in her household and this has given me the motivation to see if we can reduce our waste production even further than it is. One of the ideas which she introduced me to (on day 19 of her 30-day Zero Waste challenge) is the Zero Waste Go Bag.

The idea behind the zero waste go bag is to have with us reusable replacements for all the disposable rubbish we are likely to be presented with while we are out. That way we can refuse the disposable items and save at least a little bit of rubbish from landfill. Items in the Go Bag (This is for the two of us so you can halve amounts for one)

Drinks

Keep Cups – we have two plastic coffee (or hot chocolate) keep cups. I got them from a local retailer. I have tried a couple and found that my first foray into the keep cup world was not really good, it was a double walled ceramic cup with a silicone lid. It was heavy, fragile and I found the “mouth feel” (for want of a better term) of the silicone lid to be objectionable. The current cups we have fill the bill exactly.

Water bottles – We do have a couple of aluminium water bottles but also re-use commercial water bottles as they are light and seem to work pretty well. While the bottles are strictly speaking, part of the kit, we do keep them in the front of the car with us for use when needed and find that that works very well for us.



Containers

Chinese Food Containers – several different sizes – These perform a twofold purpose, they can be used to put any extra food in when dining in a restaurant and you order too much, rather than use a disposable doggie bag provided by the restaurant. They are also used to buy meat/cheese etc. from the butcher or deli, rather than accepting them packaged in a plastic wrap, inside a paper wrap, inside a plastic bag as provided by the shop.

The shop server can attach a sticker directly to the top of the container with the price bar code on it, so they do not need to use disposable packaging. There are glass containers which can be used for the same purpose but if they don't tare the scales correctly you can be paying a lot of money for your own glass containers!

Some people get it, some don't – and I have had meat placed in the container wrapped in a plastic bag, which kinda defeats the purpose. Shop staff are generally becoming more aware and we are less likely to just meet outraged stares or nervous giggles these days when we present reusable containers for filling.

Fruit and Veg Bags – These are mesh bags or cloth of varying sizes, with or without draw strings, which take the place of those thin clear plastic produce bags provided by fruit and veg shops as well as the produce area of supermarkets. The idea is they are light and you can see through the mesh ones at least, you place the fruit/veg you want in them and they can be weighed up as they are or the produce can be removed prior to weighing if you prefer.

You can make them yourself from muslin cloth if you have the skills, but they are now also starting to appear commercially online and in shops like Howards Storage World.



Utensils

When you eat out in the food court, they always give you disposable cutlery (including chopsticks) which then wind up in the bin after the meal. While it is possible to buy special cutlery which nests together to save room or folds up or whatever, we just grabbed stuff straight out of our cutlery drawer. The only specialised bit of kit we had to buy in was two stainless steel straws (to replace plastic ones) and the cleaning brush which came with them.

We have two knives, spoons, forks; four chopsticks and a teaspoon as well as the stainless steel straws, all wrapped up in a folded tea towel. The tea towel is a bit of a pain, the utensils easily fall out of it, but Linda is going to make a utensil roll, similar to the things people used to keep their knitting needles or crochet hooks in, to hold our utensils.

In terms of the straws, we do use them sometimes, but when ordering drinks, I just ask for no plastic drink cover and no straw, they are usually pretty good about it. We then

drink directly from the cup without using a straw at all. It just depends on your preference.



Fabric

To replace the usual paper products provided with just about any takeaway meal and for general clean up duties we have included two hand towels, two face washers and two handkerchiefs. The hand towels are used to replace paper napkins to keep food out of the lap as well as seeing duty as hand wipers.



Bags

We are still experimenting with the outer bag which holds everything together. It is basically a trade-off between being big enough to hold everything and strong enough to stand up to the repeated use without being too heavy before you even start loading it up. We have settled on a cotton bag from a bookshop which seems to work pretty well so far.

There are also two cotton shopping bags in the go-bag and a couple of re-usable plastic bags which fold up into almost nothing and are very light to carry. They enable us to refuse those single use plastic shopping bags provided almost everywhere you buy stuff. Alternatively, we just carry the merchandise if there is not too much.



Within the last week or so we went in towards town on a bit of an expedition by public transport and took the go bag with us. It was pretty much of a success, reducing the amount of disposable plastic we picked up to almost zero. We did not use everything in the bag and so, depending on where you are going and what you are doing, you might

not want to have all items in there for very outing. For us it has proved to be well worth the effort of putting it together and bringing it along!

5.2 Making Re-usable Fruit and Veggie Bags

Back in May 2018, Linda's mother stayed with us for a few weeks, and got a good view into our Permaculture lifestyle. Since she went home, she has been trying to improve her sustainability credentials and one of the first things she did was to sew herself some re-usable veggie bags.

She first went through her stock of fabric and found some leftover dress net or tulle, she has a reasonable stock of fabrics as she is a keen seamstress from way back! When I asked her what size bags she made, she said she used the plastic bags they use in the supermarket as a guide (works for me!) and that translated into a bag 30cm x 44cm.



They were simple to run up with the fabric cut 30cm x 88cm and folded over in half with a running stitch a couple of runs up each side using a sewing machine stitch size 2.5 to 3. To put in the draw string she just folded the open end of the bag over, using some cotton twine as the drawstring and sewed it in. The process is similar to the reusable tea bag, (see 4.3 Below) but larger!

She used the bags successfully for years.

5.3 Making Re-usable Tea Bags



Teabags have gotten some bad press lately, because where they used to be made from just paper it seems that they now contain a plastic web as part of their makeup to improve their wet strength. This certainly reduces their capacity for recycling or composting. While I am not a tea drinker I was fascinated when Les Davison showed me some of his home-made reusable teabags while we were at the latest PSW permablitz.

To make your own teabags

Start with a fine gauze or chiffon fabric, or a loose weave cotton such as muslin or voile, the advantage of using a cotton fabric being that at the end of its service life, it can be composted. The colour doesn't matter although Les uses white fabric for black tea and a light greenish fabric for herbal teas.



The size isn't critical either but cut a square of fabric roughly 150 mm a side and then fold it in half, this will allow you to make two tea bags.

With a machine or by hand, run a straight stitch up each side roughly 5mm in from the edge and stopping roughly 4 centimetres from the open end. Then measure into the centre of the fabric (75mm in from one side) and draw a pencil line to divide the fabric into two halves.

Sew a line of running stitch on each side of the pencil line and about 6mm away from it, from the closed end to about 4 centimetres from the open end and cut down the pencil line to make two tea bags.

Place some cotton string around the open end of the bag and tie the ends off to make a drawstring to close off the open end of the bag and give you something to hold when you're jiggling. Fold one side of the open end of the tea bag over the drawstring so that it forms a cover for the drawstring roughly 2 centimetres wide.

Sew a line of running stitch over one side of the open end, near the edge of the drawstring cover to keep the drawstring in place. Turn the teabag over and do the same on the other side. Repeat with the other teabag.

You now have two complete tea bags, ready for filling with your favourite type and brand of tea, but before using them it is always a good idea to give them a wash first, just to remove any soluble fabric treatments which are on the fabric. That way, on their first use you only get tea!

You can charge them up ready for use with a teaspoon of tea in each bag, or take empties with you and fill them up with tea provided where you are going.

After use, compost the used tea leaves/material and wash the bag ready for next use!



5.4 Making a Re-usable Bread Bag

One of the things that has come out of my daughters' 30 day Zero Waste challenge (covered below) was the issue of plastic bread bags. How do you get away without them, but keep your bread fresh? Well, it seems, for a sheaf of years those

connoisseurs of fine food, the French have been using linen bags. Linen, of course, being a fabric made from flax (not cotton) and it appears it helps to keep the bread fresh while lessening the risk of it going mouldy (like it tends to do when stored in plastic).



Other benefits of using linen bread bags include –

- Keeps the bread in the dark. Light is bad for bread but great for fungi and mould.
- The bag is washable – linen bread bags are re-usable, so waste is reduced, and you can just throw them through with the wash to keep them clean.
- The bag keeps bread from drying out, keeping it fresher for longer.
- Linen naturally attracts moisture (so they tell me)
- When you are out doing your weekly (or whatever) shop you can carry the bread in the bag by its drawstring, so it doesn't get crushed by the other stuff you have.

The idea is that you buy uncut bread from a baker (or make it yourself) and store it in the linen bread bag, and voila, no plastic! But where does one find such an animal? The answer is you make it!

As with the initial item in a recipe for tiger stew (ie first catch your tiger!) some true linen needs to be sourced. You can still buy linen fabric from fabric shops occasionally but it is Expensive (note the capital "E"), but the best place to obtain such material is to

get hold of second hand linen tea towels or table cloths from places such as the Salvation Army or St Vinnies etc.

My daughter bought a pure linen tablecloth from the Salvation Army and proceeded to cut it up for bread bags, and we were the recipient of one such bag.

To make a bread bag

1. Cut a square out of your tablecloth 55cm x 55cm. If using a tea towel, jut cut the long side to 55cm or leave it whole to make a baguette bag (how French can you get?).
2. Fold the fabric over with the top surface of the tablecloth or tea towel on the inside.
3. Sew the long side and one short side, to form the bag. If you have an overlocker this would be ideal. If not put in a running stitch about 1 cm from the edge of the fabric and then between the running stitch and outer edge of the fabric put in a zig zag stitch, this will prevent fraying. I have also been reliably informed that some sewing machines can put both sets of stitching in together.



4. Fold the open end over about a centimetre once and place some ribbon or other material to act as a drawstring inboard of the fold. Fold the open end over the top of the ribbon and sew a running stitch along the edge to secure the drawstring.



5. Turn the bag inside out and you are ready to go!

We have been using ours for our homemade bread but it is just as easy to take to your local baker and get them to put the bread directly in the bag, avoiding the need for any plastic.

5.5 Spice Mix – Making Stock Powder at home.

Making your own stock at home can be fun and rewarding, but it can also be time consuming and if (like me) you are crap at stock making it can be disappointing and frustrating. So if you want to make up a batch of stock quickly for, say, a soup noodle or you want to add some concentrated flavour to a dish you are working on, stock powder (commercial or home produced) can fill that need.



There are other reasons why you may want to make stock powder –

- You know what's in it – if you don't put in any MSG, artificial colours, flavours or preservatives you can be absolutely sure there is none of them in your mix.
- Zero waste – this applies particularly when you are looking to replace stock cubes, but if you get your raw materials supplied bulk, into your own glass jars or (in the case of dried herbs) produce them yourself, the product will be zero waste.

- Blend to your own taste – it may be you find the commercial stuff not to your taste, so you can experiment and come up with your own version which suits you.
- Freshness – you know the freshness of your ingredients and if you are regularly using your stock powder you can be sure it will always be fresh.
- Interesting – making your own stock powders from scratch is a fascinating pastime – and you get food at the end!

Having decided to have a go at making our own stock powder, I did a bit of research and came up with a starting formulation based on a recipe in the “Naked Kitchen Veggie Burger Book” by Sarah Davies. This is what I came up with:

½ cup nutritional yeast
 1 tablespoon onion powder
 1 teaspoon garlic powder
 3 teaspoon salt
 1 teaspoon thyme
 1 teaspoon parsley
 ¼ teaspoon ground sage leaf
 ¼ teaspoon rosemary crushed or ground
 Pinch turmeric

A couple of notes about the ingredients –

Nutritional yeast – this usually comes in the form of flakes and can be bought bulk into your own containers at places like the Source Bulk Foods or packaged in health food stores and sometimes supermarkets. It is baker’s yeast which has been “deactivated” (read “killed”) by toasting and gives a wonderful nutty cheesy taste often described as umami.

If you have some yeast which is no longer giving your bread a good rise, try toasting it in a pan on the stove until it is golden, thereby making your own nutritional yeast.

Onion and Garlic Powder – this is also available in bulk from a local spice supplier and we get it weighed into our own jars. It also comes in flake or granule form and because we use the flake in other recipes I buy that and use a coffee/spice grinder to grind it to powder when powder is required.



It is quite doable to dice up your own bought or home grown onions and garlic and dehydrate them so that you can reduce costs, use up home grown produce, or ensure only organic ingredients are used.

Parsley, Sage, Rosemary and Thyme (sounds like a good line for a song) – these can all be easily grown and dried at home, or bought packaged or bulk if home production is not feasible for you. They can be ground in a spice grinder or mortar and pestle before use to improve ease of mixing. It is also possible to rub the fresh herbs through a fine sieve before adding to the mix but the shelf life of the stock powder will be very short, requiring it to be used immediately or stored in the fridge for only a few days.



Turmeric – is a bit trickier but can be grown and processed at home, we did it.

Testing

My flavour reference was Massell Chicken Stock Cubes because we like them and I use them quite a bit. Once I had a mix I was happy with I got two identical cups, put in half a stock cube in one and a teaspoon of the stock mix (figuring one was equivalent to the other) and added a (250ml) cup of hot water into each. Without her knowing which was which I gave them to Linda to taste. Without hesitation she identified the homemade one as very weak and bland. (bugger!)



To discover what my problem was I weighed both the half a stock cube and the teaspoon of stock powder. Low and behold, while the half stock cube weighed 6 grams the teaspoon of powdered stock only weighed 3 grams. No wonder it tasted bland! I added another teaspoon of stock powder to the original cup and we both had a taste test. This time the two cups were difficult to tell apart. Success!

Storing and Using

So the big hint is, for stock equivalent to good chicken stock add two teaspoonsful of stock powder per cup (measuring cup = 250 mls) of hot water. Store the made-up stock powder in a sealed container stored in a cool, dark, dry place and it should last 12 months.

5.6 Spice Mix – Mexican Spice

This took a little bit of work. We used to buy the packet stuff but had some concerns with it as noted above. We downloaded a few recipes off the net but it took some fooling around to get to a formula we liked the flavour of and was not so hot it took our heads off.



The formula we worked out is as follows;

- 1 teaspoon chili powder
- 2 tablespoon + 2 teaspoons ground cumin
- 1 tablespoon salt
- 1 teaspoon ground black pepper
- 2 teaspoons garlic powder
- 2 teaspoons onion powder
- 2 teaspoons paprika
- 1 teaspoon dried oregano
- 2 teaspoons cornflour

This is a good start, and you can go from here. We buy the spices whole or grow our own and grind them just before use, which keeps the flavour fresh. As far as the onion and garlic powder goes, you can buy the powder, buy dried granules and grind in the spice grinder before use or grow your own, dry and then grind. The oregano is also easy to grow, dry and grind. We have not tried anything with DIY paprika, so it is bought in as well.



Add 3-4 dessertspoons to the filling mix below, cook up for a minute or two then add $\frac{3}{4}$ to 1 cup of water which will thicken things up nicely as it reheats.

5.7 Making Shampoo Soap

Introduction and Safety

Okay, now we can get into using the dangerous chemicals and have more fun, but a word to the wise before we go further –

Caustic soda (or Sodium Hydroxide) is nasty stuff so when working with it ALWAYS make sure the kids are a safe distance away and always use eye protection (goggles or a face shield is preferred, safety glasses do not provide enough protection) and PVC or nitrile gloves. You should also wash your hands after working with this stuff and before you eat, drink, smoke or use the toilet. (If any ladies have made it this far, please go elsewhere now – embarrassing story alert!)

Back *mumble* years ago when I was a young chemist working in the chemical industry I was doing a lot of work with sulphuric acid. After a while my hands got used to it and I took it pretty much for granted, until the day I forgot to wash my hands before peeing. I got a neat 5mm diameter chemical burn each side of my, umm sensitive area and that was a lesson learned for me. It took two weeks to heal! So, gentlemen, when I say to wash your hands after working with caustic soda and before eating, drinking, smoking or using the toilet.....I MEAN IT!

The process of saponification – the chemical word for making soap – is based on adding a solution of alkali (in our case, caustic soda) to animal fats, vegetable oils or any combination of the two. There are many vegetable oils used in making soap and they each add different properties to the finished soap and they all require different amounts of alkali to fully saponify them. In this article I will be concentrating on showing you how to make a shampoo soap bar that I have been using successfully for years, but you can design a soap to your own specifications. At this point I must

recommend the book “Soap Naturally” by Patrizia Garzena and Marina Tadiello, their website is in the Links section of the site. It gives you more than enough information to design your own soaps.

Ingredients

As mentioned earlier, soap is made using a water solution of an alkali and a fat/ oil or mixture of fats/oils. What I want to do here is list the oils in my soap and show what each oil is in there to do –

- **Olive oil** – the base of the soap, olive oil soaps last a long time but are not high lathering soaps, they clean well and are not rough on the skin. If you can, get “pomace” grade olive oil which is best for soapmaking.
- **Coconut oil** – available as “coppa” in the supermarket (remember chocolate crackles?), coconut oil gives a wonderful lather but in high percentages can be hard on the skin. Coconut oil soaps, while quite hard, tend to wear away quickly.
- **Rice bran oil** – used for hair care soaps, it contains natural antioxidants and sun block.
- **Castor oil** – used in small amounts, castor oil gives a rich lather that is valuable in hair shampoo soaps.
- **Avocado oil** – again, used in small quantities, avocado oil provides a mildness to the soap so that it not too hard on the skin and hair.
- **Apricot kernel oil** – is used as a superfatting oil that gives the soap nourishing and soothing properties.
- **Rosemary oil** – this essential oil does not take part in the saponification process but is good for the hair and adds a pleasant fragrance, although in my experience the fragrance is preferred by men rather than the ladies of the household.

Most of these oils are available at the supermarket but you may need to try a chemist or health food shop for apricot kernel oil. You can also find coconut oil in Asian food shops.

The Formula



The formula for my shampoo soap is –

Olive oil	680 grams
Coconut oil	445 grams
Rice bran oil	150 grams
Castor oil	75 grams
Avocado oil	75 grams
Apricot kernel oil (added at trace)	75 grams
Sodium hydroxide	217.5 grams
Water	450 grams
Rosemary essential oil	10 mls

The amounts need to be reasonably accurate so it is worth investing in a digital scale with a tare feature so you can tare off the container and add in the exact amount of ingredient. These amounts are designed so that a batch just fills the soap mould in the

previous article. Obviously you can scale the batch up or down but you must keep the ratios the same. After the first batch of soap was such a success I needed to scale it up a bit to completely fill the mould but I wound up increasing all the ingredients but the sodium hydroxide, the result was a major “what have I done wrong?” panic and a waste of a soap batch. My suggestion is if you do alter the size of the batch, get someone else to check your maths, it can save you considerable angst and loss of raw materials.

The Process

By and large there are two types of soap making processes, the hot process and the cold process. I use the cold process and that will be the way I describe how to make my shampoo soap, but if you want to know more about the various types of hot process for making soap, get hold of “Soap Naturally”.

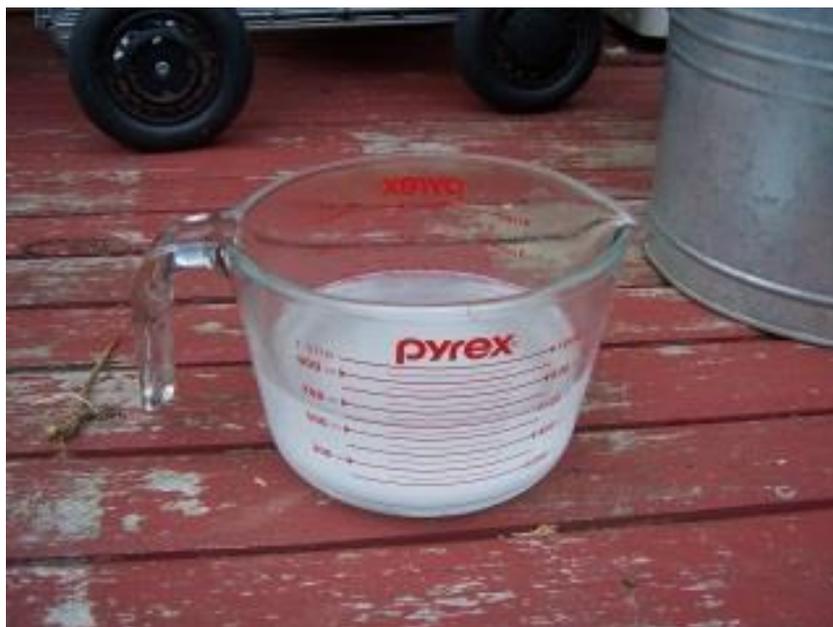
1. Prepare the mould, I have tried all sorts of things to make the soap release cleanly from the mould but the only thing I have found to date that works is siliconised baking paper, so prepare the mould by lining the mould with the baking paper.



2. Prepare the oils in the main batch ie olive, rice bran, coconut, castor and avocado oils. If the weather is cold you may have to stand the coconut oil in hot water to melt it down. Weigh them all into a stainless steel pot that is large enough to take the whole batch, I use a 2 litre pot.

Warning: Don't use anything in the way of aluminium cookware for soapmaking, the high alkalinity of the caustic soda and raw soap will react with it, causing all sorts of problems – glass and stainless steel are OK.

3. Apply heat to the oils and get them to about 45°C, check with a good thermometer, a laboratory one is good, or one used for sweetmaking.



4. Put the required amount of COLD water into a heatproof receptacle, I use a Pyrex measuring jug, add the caustic soda to the water slowly with stirring, this is one of those reactions where a considerable amount of heat is released as is some fairly unpleasant, choking fumes, so I do it outside.

5. When the lye (caustic solution) is clear and all the sodium hydroxide is dissolved allow the temperature to drop to no more than 40°C, it will start out considerably hotter than this so it may take some time to cool. Keep track of the temperature with the thermometer.



6. Once the temperatures are right (you will probably have to fiddle with the oil temperature a bit to keep it where you want it) get out your stick mixer, put it in the oil, turn it on and slowly add the lye solution. The soap will go from very liquid to a thick creamy consistency as the saponification continues, keep mixing until you hit “trace”.

7. Trace is a soapmaking term and refers to the point in mixing where soap falling back onto the surface of the batch does not sink straight in but sits on the surface for a few seconds ie it leaves a trace..... The saponification reaction doesn't take very long just a minute or three, so pull the stick mixer out regularly and let some drops fall off it to check for trace.

8. Once you have hit trace, add the apricot kernel oil, this can be done best weighing by difference. Place the bottle of oil on the scales and hit tare so that the scales read zero, then add in the oil slowly, reweighing regularly until the scales read minus 75 grams. Then stir the oil in by hand. Add in the roemary oil and stir by hand again.

9. The soap is now ready to pour into your pre-prepared [mould](#).



With the soap now safely in the mould, place a top on the mould (I use more of the plywood) and wrap the whole thing in a blanket to retain the heat and place the assembly in an out-of-the-way area for 12 to 18 hours.

The End Product

When you open up the blanket and then open up the mould, the soap should look.....soapy! An obvious thing to say but at least once it looked pretty blecchy for me and if this is the case for you too then something has gone wrong. Assuming it looks soapy, cut the big bar into a whole stack of smaller bars, I use a cheese cutting wire to accomplish this. The way the cold process works, the raw soap will still be too alkaline to use at the moment, so sit it aside to dry and continue reacting for at least one months. After that all bets are off and the soap is ready for use.



While this is officially a shampoo bar I have found it quite good for most uses such as hand and body wash as well as to provide lather as a shaving soap, and of course it washes hair really well.

The way I designed this soap is that it is 4% superfatted, that is to say there is 4% more oil in there than the amount of lye added in can saponify so after the reaction is complete 4% free oil remains, not that you can tell this when using the soap. The effect of the unsaponified oil is to act as a conditioner for your hair. So as well as being able to throw out that evil petrochemical based shampoo, you can also do away with your conditioner and I don't need to tell you how much money that is going to save you.

So, I've done all the hard stuff, designing for you the best soap ever don't upset me by not making it.....go for it!



6.0 Angela's 30 Day Zero Waste Challenge

6.1 Introduction

Back in 2018, my elder daughter decided to go on a 30 day zero waste challenge to see how much she could reduce her waste output, (more detail on the whys and wherefores later in the chapter) and keep her friends updated via Facebook. It also challenged us to make some changes too.

It is a simple idea which almost anyone could have a go at, and reproduced below are the actions that Angie carried each day of the challenge in 2018 and 2019. Also recorded are her motivations for the original challenge, how the challenges worked out, what actions she kept going with and what she didn't.

6.2 Angela's 30 Day Zero Waste Challenge - 2018

6.2.1 Week one

Day 1– Drink Bottle

I'm going to try and do the zero waste 30 day challenge for this month. First day is my drink bottle! I don't like room temperature tap water so I am going to use a thermos to hold cold water! It holds it for up to 24 hours and it also means I don't have to buy bottled water.



Day 2 – Straws



When I go out to a cafe I love milkshakes which use straws. I read that if you ask for no straw it's a 50/50 if you get one unless you make a bit of a deal about it and show the straw you brought. I did that and only got a small amount of mocking from my friends but I got no straw! I got this straw from eBay for \$10 for 8 of them plus a cleaning brush. They were so cheap I'll be interested to see if I get rust, but I don't use them too often so it should not be a problem. You can

get bamboo ones if it becomes a problem.

Day 3 – Beeswax wraps

Since there was talk of beeswax wraps yesterday I made mine today. You can buy them for about \$30 for 3. I used material from around the house. I used pinking shears to cut the edges. I grated the beeswax and I used the iron method where you iron it between 2 sheets of paper. It was difficult to know how much wax to put on. I think one I put too much than the other 2. We will see when I use them! The wax I got from Bunnings for \$10. I got about 4 * A4 sheets out of 1 lump. Unfortunately the paper created waste to make these. So I need to add that for regular baking I use reusable black nonstick baking sheets. They are by far better than the silicone kind which was almost impossible to clean and you can get them from spotlight.





Day 4 – Bread

I have in the past gone to bakers delight with a pillow case. It's just a cotton bag but I got some funny looks! Not that I cared really, but I did some research and I read that the best material to make a bread bag out of is 100% linen because it takes moisture out of the air and stops the bread from getting mouldy. It's hard to find 100% linen and

is expensive so I went to a second hand store and found a vintage table cloth for \$8 that looked and felt and behaved like 100% linen and made a bread bag out of it! The girl at bakers delight didn't bat an eyelid when I told her "I brought my own bread bag". We fit a loaf and 6 rolls in it. Other options available to me were to put rolls into a produce bag, make my own bread, or use a bread maker to make bread overnight and wake up to fresh bread. If none of these options work Lawson's bread comes in paper packaging or Coles recycles plastic bread bags but remember reuse comes before recycle. *(Note: a detailed article on how to make a fabric bread bag is available above)*





Day 5 – Milk

Today at lunch I popped over to Bondi Westfields Harris Farm Markets and got myself some milk on tap! It's milk you fill into a glass jar. Then you can take the jar home and wash it and come back and refill it! Unfortunately this is the only source of non-plastic milk I have found in Sydney and it's only in Bondi and Drummoyne. The milk tastes yummy! But it is full cream only if anyone else has any ideas for zero waste milk in Penrith I'd hear it.

(Note: We use skim milk and to reduce our waste we got hold of a 1 litre glass screw cap juice bottle - Sunraysia brand - and make up skim milk from skim milk powder and then put it in the bottle and keep it in the fridge. Next step is to find a bulk supplier of skim milk powder then we will hopefully have zero waste milk.)





Day 6 – Shampoo and Conditioner

Shampoo and conditioner. Lush sells shampoo and conditioner bars! They sell them without any packaging and you can get these cute little tin boxes for them the ladies there tried very hard to help me pick the best one for my hair but I think like any hair products it's going to be trial and error as to which is best suited for my hair. The ones I got were very strong fragranced and it didn't help that when I bought them a few weeks ago, I was starting to come down with a stomach bug and so the smell makes me think of that I think that the next ones I get will smell different and hopefully better my dad makes his own bars (Check out Section 4 – DIY) which would not be fragranced at all! That would also be a good option.



Day 7 – Babies

We use cloth nappies. Our fav brand is www.babybare.com.au but we have friends that also love bubble bubs! Cloth is messy and takes practice and specialised washing, but I have found it worth it. When she's not in these she is in Naty eco disposable nappies. Our daycare provides us with huggies but we give them eco ones! These are more expensive but we save using the cloth nappies. You can get reusable wipes but Dez Bas drew the line at that and so we got bamboo compostable wipes. All compostable materials/wipes go into compostable bags which get put into our council compost bin! Unfortunately she hates frozen baby food and during our work days it's hard to give her a healthy meal so we now use the baby food during those days that are in glass jars. These are fully recyclable. She drinks tap water now out of her reusable water bottle and I was one of the lucky ones where she was able to be fully breast fed all her life. She even has a bunch of second hand clothes! You can get bundles of clothes cheap on Facebook marketplace. Things we could improve on still is using reusable pouches to put homemade yoghurt into and making more homemade snacks.

6.2.2 Week Two

Day 8 – Meat

We went to the butcher in Glenmore Park and brought our containers to be filled. I tried this once before and got some crazy looks and very flustered butchers so I only brought 2 containers to make it easy. This guy I asked looked at them and was like oh yeah what do you want? I went into my spiel about zero waste and he didn't care and knew exactly what to do! So I asked and he said another lady comes in every week with her containers!! I was so relieved! I'm going back to him every time maybe it's just becoming more popular. He put the container on the scale, clicked the tare function and used clean hands to put the meat in. Then was able to tally it up at the end!



Day 9 - veggies and plastic bags

Not all veggies need to be in bags. They have outsides that can be composted or they can be washed. But if you have a few things to keep together you can get reusable produce bags. Howard's storage sells them and Harris Farm who have banned all plastic bags sells them. We got some veggies using these and no one batted an eyelid. We bring our own shopping bags we find the padded handles ones to be the best which also fits much more. They also have cold storage bags! Sometimes we find we have to help pack at the checkout because the people don't fill them up enough or use the cold storage for cold products. For any of them that we have, Coles recycles them and some

get made into other plastic products. I have also today emailed the minister for the environment NSW and asked when we will be banning plastic bags!





Day 10 – Junk Mail

Penrith get a lot of catalogs. Everything is online so I'm not sure why they need paper. They go from the post to the bin for us with maybe a small glance. It's a waste of paper and recycling power. So I put up a no junk mail sign! Refuse is the first part of zero waste!



Day 11 – Gifts

Yesterday Elise received a gift that was “wrapped” in a small back pack for her to use and keep toys in. Today I gave a gift and it was “wrapped” in a black tshirt which makes the wrapping wearable too. Last weekend I went to a birthday party and “wrapped” the present in a new towel. It doesn't have to be something like that. It could be newspaper after you finish reading it, it could be wrapping paper or a gift bag from a previous gift given to you. I frequently keep gift bags that are given to me and then dip into my stash when giving gifts. Why throw them away when they are so reusable!



Day 12 – Cheese and cold meats

Cheese and cold meats. I went to the Deli at Coles and put the containers on the counter. She looked confused and I explained my cause. She seemed to be pretty excited by it and said she knew a few other people doing my challenge she put the stuff in the containers. Unfortunately she used a bag to pick the stuff up but hopefully reused it! It was a great way to get cheese too as most cheese I know of comes in large packaging.



Day 13 – Compost

We have 3 compost outlets technically. We have a small bin in the kitchen, a large bin outside which the small bin heads to and a green council bin. If you don't have your own bin, the green council bin can take food scraps, egg shells, meat scraps, dairy and yard clippings. Our meat scraps and dairy will go there because you are not supposed to do that in a home compost as it will take too long to break down. We also compost in the green council bin Elise's nappy liners and bamboo wipes, and the cats kitty litter and dogs poops. We have a small home compost for the dog poop which we can put in the yard but have not installed yet. Let's see if I can get to it before the pets post!





6.2.3 Week Three

Day 14 – Junk Food

Generally, junk food has a whole bunch of waste around it! It's best to get the full experience and go to a restaurant and sit in as there will be lots less waste. It's also better to bring your lunch or some food wherever you go. We have been avoiding junk food and bringing food when we used to just pop off to Maccas. So far no junk food these past 2 weeks and I feel quite a bit healthier!



Day 15 – Snacks

The Coles at Glenmore Park have some bulk snacks that we got. We used 1 of the plastic bags that they supplied us and used that to weigh them out the stuff in the containers. The [Source bulk foods](#) also has a bunch of snacks that are yummy which would require containers. I've also been baking 1-2 baked goods per week so far. Snacks is all about peeping stuff beforehand. Even cutting up some veggies or cooking some and putting them in the fridge for later. You can also make your own yoghurt! We use an Easiyo yoghurt maker. It uses some waste in the packets but I've heard you can use them without the packets.





Day 16 - Cleaning

I got this 10 pack of washable cleaning cloths. It came with a bunch of different types and their tags said what they were for. I used an empty spray bottle, filled it with vinegar and grabbed the baking soda. It was in a cardboard box but you can get it loose from the [Source](#). I then cleaned the whole bathroom! The bathroom cloths were pretty great at removing soap scum even without the baking soda, but the bath got a baking soda hit. The mirror used the glass cloth and it worked great! I used the dusting cloth and it also worked quite well. Now the bathroom is clean and the cloths are in the wash! Also the Source sells a generic spray that you can fill up which I have used before and that was great previously.



Day 17 – Tea and Coffee

At work if I go downstairs to the coffee shop for a hot chocolate, I bring a mug. A usual mug and walk it back. So you don't really need anything special, but! I also have been using a plastic keep cup and now I just ordered a glass keep cup for me, Dez and a mini plastic one for Elise. The glass ones are so pretty! If I have a tea at work, they use tea bags and single sachets of sugar. The single sachets actually cost them 3 times as much as loose sugar but I've told them about that and nothing's changed. So! I made a little pack of loose tea and sugar to use. The tea was from the source so its package free too. The other option is to sit for the coffee and use their mugs.





Day 18 – Bulk Food

We just took a trip to the [Source](#) in Rhodes! We brought our own jars and they weighed them first. Then we wandered around collecting things with their numbers written down in our phones. It has expended a little I think since we were there. They had more teas and more lentils and we got fresh peanut butter to try. We also got some pasta to try (and cous cous plus Popping corn! We got some snacks like jaffas, chocolate honeycomb, coconut ice and peanut brittle. I bought some baking powder because we use a lot of it in the baking for this challenge. I got some muesli which looks very similar to the one my local Coles sold in their bulk food section except it was half the price. They also sell waste free products like bamboo toothbrushes, produce bags, reusable straws and bottles. I looked for shampoo soap but they only sold the liquid stuff, which is also good. They sold dog soap and hand washing soap though. We got a loyalty discount because we had shopped there before of \$16! There are lots of other bulk

food places eg, [Blue Mountains Food Coop](#) in Katoomba, [Green Hills Organics](#) in Richmond, [Naked Foods](#) in Newtown, and Coles. I plan to visit them all.





Day 19 – Go bag

My go bag includes: a hanky, napkin, reusable straw, keep cup, water bottle, fork spoon knife and chopsticks, produce bag and folded up shopping/tote bag. Most of the stuff I got laying around the house or here and there when I went shopping. I didn't go to some fancy eco place to get it all or anything. Except for the keep cup of course. Other things that would go in there is a container for leftovers and a bento lunchbox. (For more detail on Zero Waste Go Bags - see Section 4 - DIY)



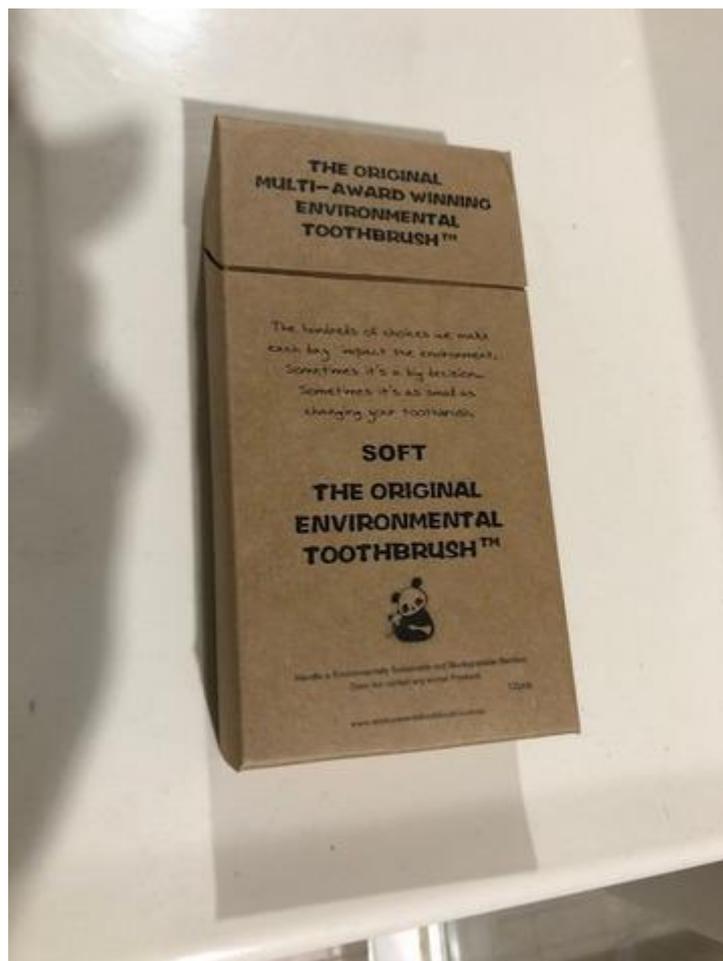
Day 20 – Rechargeable batteries

You can recycle batteries at designated places but if you put them straight into the bin they can leak chemicals everywhere. We got some rechargeable ones to use for tv remotes and Xbox controllers. They are quite expensive but will save on money and waste in the long run!



Day 21 – Tooth Care

I bought a recycled plastic toothbrush from the Newtown macro market which was very good but I feel like is still plastic so not the best from an environment point of view. I bought this box of bamboo toothbrushes on biome.com.au which is better for the environment! You can make your own toothpaste but I like the idea of fluoride. I know it's bad in large doses but I'm not using it in large doses and I'm not swallowing it. Unfortunately you can't get any toothpaste in glass or tin with fluoride so I'm stuck using normal toothpaste for now. Someone suggested to use mouth wash that has it and then make your own toothpaste which is an option. Other thing is flossing. There is an air glosser that I want to get at some stage which is better than using floss. You can get natural silk floss that would be the next best thing but so far I have only found it online.





6.2.4 Week Four, Plus

Day 22 – Pets

With pet food we either make it ourselves or buy it in recyclable packaging like cans. Not all of the packaging is recyclable though which makes it difficult. The source needs to sell cat and dog kibble in bulk! I've not found a place that does it. The cats and dog have bowls that are not plastic and we compost both the dog and cat poop/litter in the green bin using compost bags. That's a change I just made the last few weeks not realising this could be done! Toys I just realised also it's better to buy organic or bamboo or cotton toys. He shreds most of them and they end up in land fill otherwise. You can buy bulk treats which I am hoping to buy on the weekend from the Richmond farmers market from Koly's treats! They deliver to us usually in plastic packaging. I'm thinking to chat to her though to try and find another alternative. She's super lovely and helpful! Also you can get books on making craft things with cat and dog hair. I've not gotten that far yet but with a husky maybe I should.



Day 23 – Picking up waste

On my dog walk this morning I took a bag and picked up some trash. About 80% of it was recycling. Some people have started an exercise class where they run and pick up trash. The only thing is make sure you take gloves. I picked up a maccas cup and on the other side of it was a nice big red back spider. The other thing that I found interesting is the picture below shows “biodegradable”. I watched “War on waste” on ABC iView earlier and one of the environmentalist people on there said that biodegradable plastic is even worse because animals that would not be effected by a big plastic bag, would be effected by a billion tiny plastic pieces. I could not pick up the biodegradable bag so had to leave its billion pieces there. I got a pretty big bag back. I barely scratched the surface.







Day 24 – Cold drinks

Obviously the most zero waste is tap water. But what if you want to get a little creative. You have an option of getting loose leaf tea and making a cold tea. Also you have the option to use a soda stream! This used canisters but I read that you can exchange the empty ones at some Coles for new ones. If you make your own cordial it's even better than using the cordial bottles also. There is a pineapple cordial recipe that's from "a year on the farm" by sally wise. I've made it before and it uses the pineapple core and skin so as to not waste it! There is also an option to make your own juice. We have a few juicers and that can be super yummy also.



Day 25 – Grow your own

We are currently growing capsicums, basil, oranges and lemons. It is super easy and fun to grow your own stuff. If you grow herbs then you don't have to buy them at the store and get the plastic that comes with them! I have a million little pots that seedlings have come in which I one day plan to go back to Bunnings and offer them back. I found it super easy though to grow beans from seed as they have a bigger seed. In another month or 2 it will be bean season so I will be planning to grow long beans and snow peas! It can be super easy and quick to grow things like radishes if you are into that and super useful to grow lettuces! My stuff currently are in pots but we have plans for a full garden when we have a little more time. Check out <http://www.underthechokotree.com> for more info on growing stuff!





Day 26 – Repair

These pants were the most favourite pair of pants Dez Bas has. She's looked everywhere for another pair but jay jays doesn't sell them anymore like this. They had crazy rips all down the thighs. So! I took to the repair. I watched a bunch of videos on YouTube about how to repair rips in material. As usual YouTube was great. I even had some thread sort of the right colour. I ran out and had to use some black but when she's wearing them you can barely notice the repairs. We throw things away so easily these days for the newer stuff. Sometimes it's not that hard to repair it. There is a cafe in Sydney called <http://bower.org.au/repaircafe/> it helps people repair things rather than throw them to land fill. Such a great idea!



Day 27 – Fashion

Apparently clothes are one of the top causes of waste going to landfill. Second hand stores are so great because you can buy clothes but also donate clothes. For things past their use by material can be used for so many different things! Most people know the whole rip clothes up to be cleaning rags but the most interesting I found is you can get a bean bag, cushion cover, dog bed etc and jam it full of your old clothes to use as bedding/wadding. I'm in the middle of making an ottoman that will have some old clothes added to it. Otherwise there are so many tutorials on the net about ways that people have used old clothes. See a few links below that I have found super interesting. Old jeans into a picnic blanket - <http://housefulofhandmade.com/easy-water-resistant-upcycle.../>

Old tshirt into mop heads - <http://gogingham.com/2012/09/how-to-make-mop-cover/>

Tshirt quilt - <https://www.nationalquilterscircle.com/.../quick-easy-t-shir.../>

Day 28 – Breakfast

Today's zero waste breakfast was muesli from a bulk place, with toast that was bought in a bread bag, with peanut butter out of a glass jar with an apple and water. The milk was out of a plastic carton but it's recyclable at least. Sometimes I pair it with a homemade muffin or a loose leaf tea. We have also gone to a bakery when we needed a fast breakfast with a keep cup and a bag for them to put pastries and cheese and bacon rolls in. Everyone has been fine to put the bread in our bag. Another option is to have breakfast in at coffee club for example which we do regularly on weekends.



Day 29 – Lunch

Today's lunch was an orange juice in a glass bottle fully recyclable; a sandwich made from bread out of a bread bag, spinach bought loose in a produce bag, chicken and cheese bought in containers at the deli counter, and mayo from a glass jar; carrot sticks in a container reused from something with homemade garlic dip.



Day 30 – Dinner

I had pasta from a bulk place, with meat from a butcher put into a container, with homemade sauce tomato sauce made with homemade passata, and basil from the garden! With a water!



6.2.5 The 30 day challenge - How and Why

The Zero Waste Challenge which Angela completed I found to be interesting in and of itself, but I wanted to explore her motivations and what she got out of it. These were my questions to her and the answers which she gave.

Why did you do the challenge, what did you expect to get out of it?

I have always had an interest in zero waste and have tried to do a bit in the past. My friend was doing a new diet and was blogging about it on Facebook and everyone seemed interested in it, so I thought why not do a 30 days zero waste challenge to see if I could do it and then blog about it for people to see. To be honest I didn't know if I would annoy enough people that they would start unfriending me but I thought I'd give it a go. I guess I wanted to see if it could be done or how close I could get and I also wanted to advertise the lifestyle and the choices that people could make to try and better our country and planet.



What preparations did you make (if any) before commencing the challenge?

Before doing the challenge I went onto Pinterest and looked up other people's ideas and other peoples 30 day challenges. I even found a 60 day challenge. I was able to formulate my own ideas and then I chose a month to start it. This gave me some time to put together a zero waste go bag and a few ideas on what I might do each day.



When the challenge was finished - what were the lessons or insights the challenge taught you, any perspective changes etc which have happened as a result of doing the challenge. Did you get out of it what you expected?

When I started I got an overwhelming positive response from all my Facebook friends and they messaged me all month with ideas and options that I had not posted about. It was great because I got to see what was available locally and see what they all thought about it.

I didn't really plan it, I just did things as I went making it a little bit flexible per day which was easiest for me. I got sick during the challenge and that was the hardest point for me as I wanted comfort items quickly which meant packaging. But otherwise overall it was a great experience that we hope to continue.

I got our waste down and didn't really go without much, just looked for non-waste alternatives to what we were already doing. I learned that 30 days cold turkey is not really possible. It's an ongoing process as you change little bits here and there. I got out of it what I hoped and that was to touch other people about the lifestyle and to reduce my own waste myself.



6.3 Angela's 30 Day Zero Waste Challenge - 2019

6.3.1 Week One

It's 30 days zero waste again people!! It's been a year since I did the last challenge. I've grown and some things I still use and some things I've fallen off the wagon. So let's try again for a new journey. Please give me your tips!

Day 1 - Water

Last year I started using a thermos as a water bottle to keep it cold. That fell away. Mainly because it was too big, and didn't hold enough water and was very heavy. So! Today my client gave me a bottle of water and instead of grabbing another one I re-filled it up at their office at the tap before I left. Feel free to give me recommendations on what worked for you.



Day 2 - Takeaway!

I'm mixing it up from last year a bit. Today we went to do the shopping (with our reusable shopping bags that are common place and not so shocking anymore) and we wanted some lunch out and had previously saved some plastic bowls from wokken at our shops because they were so sturdy and awesome! So I ducked home and grabbed them with our cutlery. The guy was so happy that we brought our own containers and cutlery that he threw in a free coke! (For Dez not me).



Day 3 - Toys!

Unfortunately Elise loves kinder surprises which are the worst for Zero waste. I try however to make some toys. For example, she loves it when I make play dough. She asks me to make it and sometimes we make it together. We use normal kitchen ingredients so it can be composted afterwards and it doesn't come in a little tub that will get thrown away after it is done being pummelled. I use cookie cutters so she can use them to play with the dough and she likes to make shapes too. If you have the ingredients on your shelf then there's always playdough to make when requested! Other than that I have made edible paint for her before and we have a bunch of

wooden toys too. She enjoys getting handed down toys from Cassie Rowlands and we sometimes make bikkies, cakes, muffins together.



Day 4 - Shaving!

I have a razor with replaceable blades. I have not recycled them yet but I hear you can. So far I have just kept them ready to recycle. I use shaving soap in a wooden bowl and the shaving brush is horse hair. Usually they are badger hair but I chose the horse hair because it's more sustainable and comes from shaved horses not dead badgers. It takes a little longer to shave but I have the process pretty good now! There are YouTube videos I watched of how to shave as a girl with one of these things.



Day 5 - Snacks.

I have attached a whole bunch of options. Things like cut up veggies, fruit and boiled eggs so long as the remains are composted. I made the muffins from scratch on the weekend and I made a banana cake from dying bananas which is a little less heathy but yummy option. Also bulk stores are full of snacks which is where the cashews came from. These are the snacks I am preparing for tomorrow at work. I found today a bar of “chocolate” made from Mylk. It’s vegan but wrapped in recycled cardboard printed with vegetable ink and wrapped in a compostable “plastic”. It’s not real chocolate. But it was pretty green and an experience







Day 6 - Kitchen Cleaning.

We have been using the brush on the left which was good but also not really environmentally friendly as the packaging said because of the plastic on the replaceable head. We got the one in the middle recently which you can compost or recycle the head and the bottle brush for Elise's bottles since we were using a plastic one. The cloth I made myself out of an old towel and some cotton. Hopefully the new brushes work well! We usually clean with vinegar. I hear there is a soap bar you can get for dishes. I've not looked too far into it though. Also we use the Coles brand dishwasher tablets because they are the only ones with cardboard packaging and wrappers that dissolve.



Day 7 - Pegs!

We bought some new pegs that should last a very long time. Our plastic ones are basically dead. The sun has eaten the plastic. These ones will last longer and so should create less waste!



6.3.2 Week two

Day 8 - Ice Creams!

Today we went to nom bulk foods and tried their ice creams! They are all no preservatives and colours and such and the wrapper is made of biodegradable material! We are going to make our own ice cream in our ice cream maker too.

<https://www.facebook.com/nombulkfoods/videos/367727627384450/>

Day 9 - Tea!

When I go visit a client they most of the time have packets of sugar and tea bags. So I made a little tea kit. I would still need milk, but I can use the bulk sugar and tea. At work actually I tried to get them to buy a bag of sugar but instead of little sugar packets but even though it would be 2/3 cheaper, they still liked the convenience.



Day 10 – Juice

how cool is my boost juice reusable cup!!! It's got a watermelon crush inside it and the insulation keeps it cold!



Day 11 - Second Hand Clothing.

I went to the salvos the other day and got these! Paid all of \$3.50-\$4.50 per item. The best part about the jeans is that I don't have to wear them in! Super comfy already. I heard once that the Queen has someone to wear her shoes in for her. Just saying!







Day 12 - Leftovers from a restaurant.

We went out to dinner today and brought our own containers for the leftovers! Lucky we did because with Valentine's Day they were so run off their feet that we would not have been able to get one anyway! They looked at us a little appreciative because they didn't have to deal with getting us containers.



Day 13 - Dog treats.

We usually get our treats from <https://www.kolysdogtreats.com.au>. We made a deal with her as she delivers our treats that since she gets them in bulk and packages them herself, that for us she either doesn't package them or packages them in paper bags. It's been great so far! She does as much as she can as sometimes they come in packaging but otherwise we get a whole bunch of fun stuff all in paper!

<https://www.kolysdogtreats.com.au>

Day 14 - Canning.

Today mum and dad came around and helped us can a bunch of tomatoes that dad helped to buy for us at the markets. He helped all day with canning our stuff also. The jars were all previously used, lots of the lids were reused. The tomatoes were bought in cardboard boxes from the markets! We got 30 jars out of our 2 boxes!! It was mostly dad and Deniz that did stuff really.



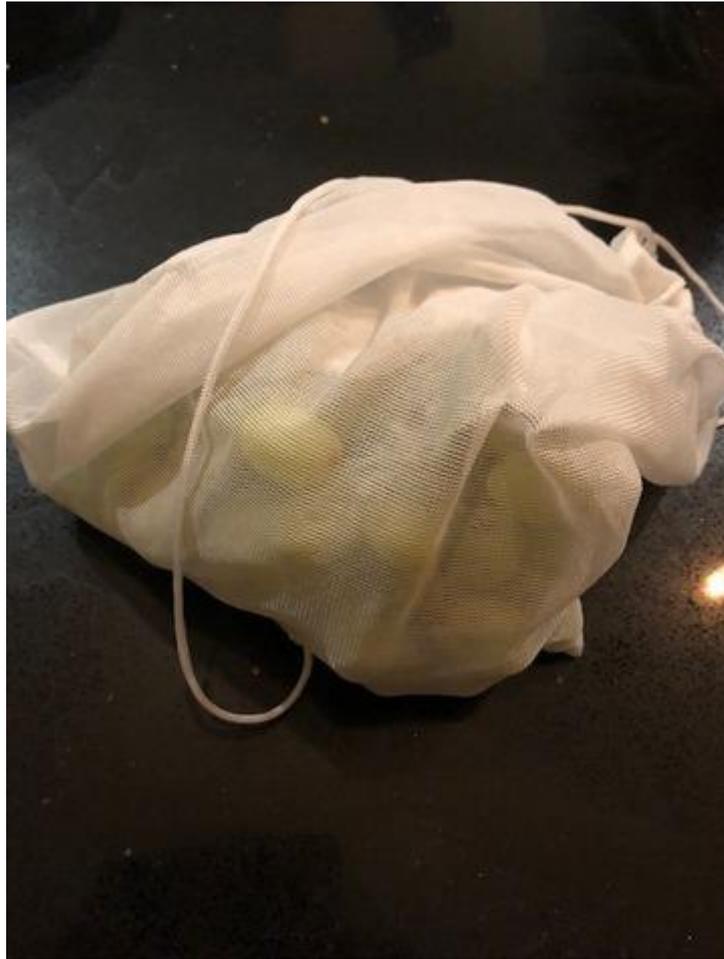


6.3.3 Week Three and Beyond

Day 15 - Produce bags.

Since our last 30 day challenge reusable bags have become the norm. However, the produce bag still exists. However, since then some companies have tried to cash in creating them. Some good and some not so good. The best ones I have found are from Harris farm. They have organic cotton ones that are great. There are a lot of mesh ones out there that are ok but still pretty cheap. The ones in the pictures are from Coles and hsw. The problem with these ones is that the mesh is cheap and it breaks easily. The hsw one is better but still not as good as the others we have used. I would suggest getting the ones that are better quality like you can get online or from Harris farm. I wish we had one in Penrith if we get stuck, we use mushroom bags that can be recycled or composted.





Day 16 - Deodorant.

I made some deodorant. It seems to work well. I made it out of Shea butter and coconut oil and corn flour and an essential oil. It can get a bit less solid in the extreme heat but otherwise has been good. Here is the recipe. It took me a little effort to find Shea butter. But I found it in the rainbow shop in Penrith.

<https://wellnessmama.com/1523/natural-deodorant/>

Edit: actually after reading this I remember dad saying he used a small sponge to apply the deodorant. I usually use my finger but I just remembered I salvaged a makeup sponge from my wedding makeup that I didn't throw away and I could probably use that to apply!

Day 17 - Travel Toiletries Kit!

My travel kit includes wooden toothbrush, soap and tin, body wash, shampoo and conditioner bottles, deodorant and spare jar. The shampoo bottle could be replaced with a shampoo bar. Is there anything else I am missing?



Day 18 - Reusing/repurposing.

Deniz made a soap holder out of an old bottle. I'm now using an old makeup sponge for my deodorant and we have refilled the same Ajax bottle full of vinegar solution for ages. There was an episode of blues clues yesterday and they reused a whole bunch of old stuff to make new things for kids like musical instruments. There are a whole bunch of things you can reuse!





Day 19 - Buy local and Australian made.

Today I was in Hobart and at the airport in the 15 minutes spare time I had I got some locally made stuff. It has some bags it's in but the bags could be reused. Tasmania is always great for that sort of stuff but the idea is that it's local and it's supporting local businesses. The food has less to travel and so has a smaller footprint!



Day 20 - Water.

Today we bought. Bucket that can collect excess water waste. We use a lot of water actually because washing nappies takes lots of rinses to get clean. So our little bucket is nothing really. I watered the plants today without a sprinkler and just targeted the plants needed rather than a random spray. Of course there is normal ways like turning the tap off when you brush your teeth. It's interesting but when I listen to a tap running needlessly it sounds like nails on a chalkboard to me!

Day 21 - Drinks.

Since the last challenge I was bought a sofa stream as a present. I am not a huge fan of fizzy sugar drinks but I like fizzy water. We really should try and make some cordial to put in it maybe. I have a pineapple cordial recipe that uses only the offcuts from a pineapple. The other day I also used my tea infuser bottle. It was great for a tea on the go!

<https://www.facebook.com/angesweeney/videos/10161551618270405/>

Day 22 - Bread.

As for last time we have our bread bag, but I love to make a loaf of bread. Next thing is to start a sour dough!



Day 23 - Buy Less!

Buying less means looking at what you buy and not buying junk or things you don't need. This is super difficult with a child because she wants everything. But we are trying to buy less so as to save more money also.



Day 24 - Old Clothes.

There are lots of things you can do with old clothes but I have a bean bag that my parents bought me. I've been slowly filling it up with old broken worn out clothes. I intend later to take them up into strips to make the seat less lumpy once it is full.



Day 25 - Shampoo Bars.

Since the last challenge I have used quite a few shampoo bars. I have found the lush ones to be the best ones still by far. I used one from the source Rhodes where it barely lathered. That lasted ages but was not good for my long hair. The picture below is the one that works best for me. There is a honey one too that's very nice and quite gentle with my hair. I've not found a conditioner solution yet but lush seem to have a new conditioner bar that I may give a try.



Closing Comments

This year's waste challenge was quite a bit more challenging than the one last year. This year I decided to try and find further items to broaden my challenge. I had planned to add items to the list that were updates so people that I was posting to could see them but I felt like it was too easy for that so I tried to find new items and that was difficult. It got a bit more expensive as I needed to put more money into items that would replace what was being used in my household. Though I did and it was a great learning experience, I lost steam and stopped at day 25.

The feedback this year was different too. People got a bit more annoyed at my posts than they did last year and I think it was because it wasn't common household items that I was targeting anymore and it was more towards my own lifestyle. It could also be that last year it might have been a bit more in fashion and this year less so. Some people were still excited but I didn't get anywhere near the amount of excitement than I did last year. That being said it was still good to poke people with new ideas that they might not have thought about and keep the conversation going.

I fear what I will be doing next year and I feel like I would need to change the challenge in some way. Maybe post a guilt post of these are the things that I am doing that are too wasteful and ask for feedback on other options or something of the like. I'm not too sure.

6.4 Angie's 30 day Zero Waste Challenge – 2023 Review



A few years ago my family and I did a zero waste month. During the month I posted on Facebook each time I had a switch or change that I made in our lives. It was in February so it was 28 day challenge. I actually did it twice. Once the next February, so technically it was 56 switches. This is an update on where we are, what we have kept, what we have not and why.

Fifty Six is a lot of swaps, so I'll just be highlighting a few of the bigger ones that come to mind. To be honest, the ones we still do have become so ingrained in our lives that it's difficult to think of them. But a few are: reusable cloths instead of paper towels, toilet tissue that has paper instead of plastic around it, baking as much as possible with 2 kids, reusable bags (amazingly this is before it was a thing), reusable produce bags, composting, making our own yoghurt if we can (though the kids prefer the bought stuff), reusable straws, grow our own food, use green bags, reusable water bottles

especially for the kids. Since doing this I also bought some Modibodi undies which have been really good and better than the reusable pads I was using.



The things we don't do is mostly because this was pre-Covid and now there are lots of things we can't do. For example, the butcher won't take our containers anymore, we work mostly from home and don't work near a Harris farm who are the people that had milk in a reusable bottle, I've had issues stepping into a bulk food store because the handles are not sanitised every time, I even have issues with reusable coffee cups because I'm worried I'll give Covid to people.



Since doing the one month challenge we had a second child. That has also caused time problems. Sometimes there is more cooking and cleaning in the low waste options and a couple of kids with 2 parents working mostly full time can cause issues. That being said we did reusable nappies for 2.5 years still of the second child since she was at home for that amount of time due to Covid! So that was good.



The other thing we don't do is the soap bar shampoo. It's weird, but after using them for a while I started to get some really bad reactions from them with itching. I have needed to switch to head and shoulders in a bottle just for medical reasons. It was so disappointing because I bought so much of it and it was so expensive!

Things I'd love to start again is to go to a bulk food place. The source has opened in my local shops so it's super close. It's definitely not convenience that's the problem here it's Covid. I'd also like to do something new and that's make ALL of my clothes. Down to my underwear. It would be great to get that done and is on the list! The kids make this difficult because of time, but hopefully one day will be achievable.

7.0 Resources

7.1 Books about Waste

Concern about waste has become a bit of a fad at the moment, the concern is good but clearly it needs to be more than a fad. Anyway, here are some books which will help you to reduce your waste output.

A Zero Waste Life in Thirty Days – Anita Vandyke – Penguin Random House Australia (AUS) 2018 ISBN 978 0 14 379137 9 – I love this little book! It is an easy way into reducing your waste, not heavy on the why, but comprehensive on the how. It sets you up for a thirty day journey, introducing a new strategy every day for a month. You get three options – reduced waste, low waste and zero waste so you can ease your way in. Easy to read, practical and fun to do. No photos, a few line drawings.

Waste Not – Erin Rhoads – Hardie Grant Books (AUS) 2018 ISBN 978 174379462 3 – Another really good, recent Aussie offering. The book is divided into 3 parts: part 1 is “Tools” which deals with the “why” and gives you an idea where to start (usually things start with a waste audit, but her process is different). Part 2 is “Tips” and it is a series of “how to’s” around waste reduction including DIY recipes for some foods, cleaners, body care stuff etc. The last part is “Tricks” and covers zero waste travel and also a section called “acting your vision” about what would best be described as activism. Colour photos and line drawings scattered throughout the book.

Zero Waste Home – Bea Johnson – Particular Books (USA) 2013 ISBN 978 1 846 14745 6 – Bea Johnson has been credited with developing the Zero Waste thing as well as putting together the 5 R’s (Refuse, Reduce, Reuse, Recycle and Rot). The book starts out with a discussion of the benefits of the zero waste life and the 5 R’s, then moves through kitchen and groceries, bathroom and toilet, bedroom and wardrobe, workspace, travel, activism and what the future holds. Lots of tips, DIY recipes and processes you can implement to reduce waste in your life. A couple of illustrations.

Don't Throw it Away – Jan McHarry – Gaia Books Ltd (UK) 1993 ISBN 978 0 7318 0303 5
– An oldie but goodie, which focuses on re-use and recycling of waste. The first part of the book covers ideas and actions at the household (including refill, re-use, repair) and national level including recycling processes and reducing waste. Part 2 is a trip around the world and the recycling practices of 25 countries/continents (Africa is treated as a whole) and what happens to their waste (this bit is probably a bit dated). Part 3 is a recyclers A to Z covering over 100 alphabetised wastes and facts about the waste stream, and what can be done at a personal level to reuse, repair, recycle. A couple of line drawings.

The Throw Away Society – Sally Lee – Franklin Watts (USA) 1990 ISBN 0 531 10947 X –
Part of the “Impact” series of books, this one is fairly big picture about the problems faced with waste generation and treatment and some detail on the options. Chapters cover detail on what the problems are (in a chapter titled “In a Heap of Trouble”!) collecting and transporting solid waste then a chapter each a series of strategies including dumps and sanitary landfill, incineration and resource recovery, recycling and ocean dumping (!!!!!). The treatment of hazardous waste is also covered and a very small chapter at the end on possible answers. Interesting but dated. Some line drawings and B&W photos.

Cradle to Cradle – William McDonough & Michael Brungart – North Point Press (USA) 2002 ISBN 978 0 86547 587 3 – This is another “Big Picture” book but rather than talk about how to treat/recover/recycle/reuse/recycle waste streams, this book argues that the current system is “cradle to grave” – we mine, manufacture, sell, dump resources – and that a whole new system is needed. That system is “cradle to cradle” and that the recovery and reuse of resources has to be factored in at the design stage. On a personal level they also discuss the “5 steps to Eco-effectiveness” and the ways to implement them. An extremely important book in the waste discussion. No illustrations.

Work from Waste – Jon Vogler – Intermediate Technology Publication Ltd & Oxfam (UK) 1981 ISBN 0 903031 79 5 – This book was written to outline strategies for taking waste produced in third world countries and remaking it into new products in what would be almost cottage industries. The book is in two parts, the first one covering the technologies around remaking wastes from paper, iron and steel, non-ferrous metals, plastics, textiles, rubber, glass, minerals, chemicals, oil and human waste. The second part discusses strategies for turning it into a business including – which waste to use, what you need to start the business, how to collect the waste, process and store it, then market and transport the finished product. It is a bit dated but still a great book. Some line drawings and B&W photos.

Waste Matters – Patricia Armstrong & John Laffin – Gould League of Victoria (AUS) 1993 ISBN 1 875687 06 8 – This is a book of ideas on teaching kids about waste. The book has three parts, the first part – About Waste – is an introduction to what waste is and the problems associated with it. Part two – Some Waste Issues – talks about litter, energy, recycling and waste disposal. Part three, comprising the last half of the book, covers waste solutions, primarily composting for organic wastes and reuse, reduce and recycle for the rest. Lots of interesting activities for kids. Lots of line drawings.

7.2 Books about Composting Organic Waste

Many, if not all, veggie gardening books will have a section on composting which covers the basics and gives you an idea of what composting is all about, but if you want to enquire a bit deeper it can be difficult to find whole books on the subject. Below are some books that I have been able to acquire over the years that may be able to provide deeper insight.

Composting : A Study of the Process and its Principles – Clarence G. Golueke PhD – Rodale Press Inc (US) 1972 ISBN 0 87857 051 9 – If you are after a techno composting book, this is it! It does go through the process in considerable detail with only a graph or line drawing or two to leaven the text. It is a bit dry and some of it is more about an

industrial process rather than the home garden, but there is a section on home composting according to the University of California method. Good luck!

Let it Rot! – Stu Campbell – Garden Way Publishing (US) 1990 ISBN 0 88266 049 7 – This is a good one, it talks about how to build and where to site a compost bin, covers the raw materials used and what you can use the compost for when it is finished. There is some technical discussion about the process of composting but not so technical I couldn't understand it so you should be fine. There is also some discussion of composting on a larger scale. No photos but a few line drawings.

Backyard and Balcony Composting – Mark Cullen and Lorraine Johnson – Bookman Press (AUS) 1992 ISBN 1 86395 027 3 – This was originally a Canadian book but has been adjusted to Australian conditions. It is another good one covering the how and why of composting, the various types of composter available and how well they work, what should and shouldn't go in as well as a section on troubleshooting. The book does cover the issues with composting in small scale balcony composting, but applies just as well to backyard composting. No photos but good line drawings.

Resurrection in a Bucket – Margaret Simons – Allen & Unwin (AUS) 2004 ISBN 1 86508 588 X – If you are after a compost book that is really a narrative you can read from end to end, this is the one. There is lots of info and stuff on the history of composting and about the authors particular composting journey. Good book but no photos!

Recycle your Garden – the essential guide to composting – Tim Marshall – ABC Books (AUS) 2008 ISBN 978 073330984 7 – A very good and comprehensive Aussie book that covers building a compost heap, compost ingredients and tools, using worms, anaerobic composting and solving compost problems. Nice drawings and lots of colour photos.

No Garbage: Composting and Recycling – Allen Gilbert – Lothian Publishing (AUS) 1992 ISBN 0 85091 485 X – A good basic Aussie book, plenty of line drawings and some colour photos. The book covers composting how, when and why; soil structure; composting

methods; volunteer and community gardens; using compost in the home garden and more. This book is part of the Lothian Australian Garden series.

The Compost Book – David and Yvonne Taylor – Reed New Holland (AUS) 2004 ISBN 1 87633 428 2 – This is a small book with a few colour drawings and rather than being set out in chapter is arranged under headings alphabetically in the manner of a dictionary, making reference fairly easy. There is a paragraph or two on each entry so this is not an in-depth technical discussion but good for those just starting out.

7.3 Books about Consumption (and how to reduce it!)

The Story of Stuff – Annie Leonard – Free Press (US) 2010 ISBN 978 1 4391 2566 3 – I have been using ‘Story of Stuff’ stuff from their website in presentations for years, but only recently found this book. It is set up similar to her presentations, giving considerable details on how raw materials are extracted, turned into stuff, distributed to retail outlets, consumed by us ‘consumers’ and then disposed of. It is an absolutely fascinating work and has three indexes containing examples of promising policies, reforms and laws, actions which we can take as individuals and a sample letter to PVC retailers, manufacturers and lobbyists. No photos, some line drawings. The website can be accessed [here](#).

The Secret Life of Stuff – Julie Hill – Vintage Books (UK) 2011 – ISBN 978 0 099 54658 0 – This book starts out looking at how we got here, in terms of consumption and the types of raw materials needed to keep things going, how they are extracted and the environmental costs of doing so. She then covers why all this matters and how we interface with our stuff, then finally where we need to go and how we get there. A comprehensive read at almost 300 pages. No photos or drawings.

A Life Less Throw Away – Tara Button – Thorsons/Harper Collins (UK) 2018 ISBN 978 0 00 821771 6 – This book is written by the CEO of BuyMeOnce, and in parts can (ironically enough) come across as an advert for BuyMeOnce (UK). She is ex-advertising ‘industry’ and provides a lot of info on how they trick us into buying, and how those

tricks may be defeated. She also introduces the concept of 'mindful curation' where you only buy (and look after well) products that are long lived and you really love. The BuyMeOnce buying guide (Chapter 13) is worth a look but will become dated with time. An interesting read, no illustrations.

Minimalism – Joshua Fields Milburn & Ryan Nicodemus – Hachette Australia (AUS) 2016 ISBN 978 0 7336 3908 1 – This written by two guys who, after living the modern life in its consumptive glory, realised they weren't happy and tried to find a better way. The book describes their 21 day kickstarter plan to help you focus on what is important. The cover five essential values – health, relationships, passions, growth and contribution to others and the world. This enables you to take stock of your life, then plan to improve it. No illustrations.

What's Mine is Yours – Rachel Botsman and Roo Rogers – Harper Collins (US) 2010 ISBN 978 0 06 204645 1 – This book is about (buzzword ALERT!) collaborative consumption is 'sharing'. One way to reduce our consumption is to share resources, with our friends, family and even (via the medium of the internet) strangers. This book covers why we should be sharing more (part 1 – Context), how old forms of sharing are being revived and new ones developed (Part 2 – Groundswell) and how we can design and implement collaborative consumption (Part 3 Implications). The book has some fascinating ideas! No illustrations.

Simple Prosperity – David Wann – St Martin's Griffin (US) 2007 ISBN 978 0 312 36141 9 – David Wann is the co-Author of the American version of 'Affluenza' and 'Superbia!'. The book is broken up into 2 sections, the first is Personal Assets, which talks about the things which make life worth living from a personal standpoint such as personal growth, social capital, time to do what we want to do, wellness, nature and the value of work and play and how you can maximise them to live a more satisfying and sustainable life. The second section covers Public and Cultural Assets which talks about our neighbourhoods, energy savings, right-sizing our homes and gardens, eating more sustainably and the food system and getting the right information when you need it to live more sustainably. There are a few B&W photos.

Voluntary Simplicity – Duane Elgin – Quill (US) 1993 (Revised Edition) ISBN 978 0 688 12119 5 – Originally published in 1981, this is one of the first books pointing out that our consumptive habits were not only not satisfying us, but would get us into big trouble in the long run. The book talks about living a simpler more ecological life, including interviews and quotes from people who are doing it. The meat of the book is covered in the centre section – The Philosophy of Simplicity and its 3 chapters: appreciating life; living more voluntarily; living more voluntarily. It is not about living an impoverished life, but living a richer life through consuming less. No illustrations.

Just Enough – Azby Brown – Tuttle Publishing (US/JAP) 2012 ISBN 978 4 8053 1254 4 – I LOVE this book! It talks about Japan in the Edo period (1603 – 1688) and how the culture developed to make the optimum use of the resources available to a small island nation. A lot of the things we know about the original Japanese culture make so much sense when thinking about living a sustainable lifestyle. The book is fascinating and there are lots of wonderful line drawings which illustrate the concepts being described. It is not all beer and skittles and some things are a bit off putting. Like the use of infanticide to control population levels, but they could be easily sorted out today. A wonderful read!

The Ethical Consumer – Rob Harrison, Terry Newholm and Deidre Shaw – Sage Publications (UK) 2005 ISBN 1 4129 0352 1 – This is essentially a university text describing the ethical consumer and how they can be reached to sell stuff! Interesting. The book explores ethical consumer behaviours and motivations, the context within which the ethical consumers operate, the responsibilities of businesses and the effectiveness of ethical consumer actions. Chapter 14 on how businesses can access the 'ethical market' is interesting. Long and somewhat techno, but interesting if you have the will (and time) to trawl through it. Some tables and stuff, but no illustrations.

Share or Die – Neal Harris and Neal Gorenflo (Ed.) – New Society Publishers (CAN) 2012 ISBN 978 0 86571 710 7 – This book is a series of articles about such things as creative options for creating your own job or housing, collaborative consumption, DIY higher education and rejecting the corporate ladder and embracing a 'lattice lifestyle'. It is

aimed at those who have just completed 'college' but can provide ideas for anyone looking to live at the edges or outside of the mainstream economy. Fun to dip in and out of rather than a cover-to-cover read. Some line drawings and even a couple of comics.

The New Green Consumer Guide – Julia Hailes – Simon and Schuster (UK) 2007 ISBN 978 0 7432 9630 7 – Rather than being a general book on how to reduce your consumption, this book lists 'greener' alternatives to main stream goods and services. As such it may be a bit dated, but still has some good info. It covers the 'why' in chapter one, home and garden, food and drink, transport and personal matters in chapters 2 to 5 and then do's and don'ts and making a difference in the conclusion – the way forward. Lots of photos, lists, tables etc.

Affluenza – Clive Hamilton and Richard Denniss – Allen and Unwin (AUS) 2005 ISBN 978 1 74114 671 2 – There are actually two other books by this name (By James, 2007 and by De Graaf, Wann & Naylor 2014) but this is the original. The book starts off with what affluenza is and how it got to be such a problem, then goes on to describe the effects of it (debt, overwork and wasteful consumption) then moves on to what we can do about it such as downshifting. No illustrations.

How to Give up Shopping (or at least cut down) – Neradine Tisaj – Hardie Grant Books (AUS) 2009 ISBN 978 1 74066 735 7 – This is a small book (5" x 7" 120 pages) has lots of tips and tricks about keeping your money in your pocket, starting out with the authors personal journey with shopping, why she shopped and working out how she broke her shopping habits. She talks about running a shopping detox, how sales are not your friend and that credit cards are the devils' work. She then details the road back to conscious spending. A great little book and the 'tips to remember' at the end of each chapter make it easy to use. There are some line drawings.

Spoiler Alert: On almost the last page of her book, Neradine confides in her readers that she has just been diagnosed with breast cancer. I read this about 11:00pm one night and, realising the book was published 10 years ago, the answer would be out there somewhere. She survived and is still alive as far as I know!

Appendix 1

Family Waste Audit form

Our Family: _____ Date: _____

Your Priority (ies)	Category	Weight in Kilos					
		Week 1	Week 2	Week 3	Week 4	Monthly Total	Yearly Total
	Recyclables						
	Paper						
	Glass						
	Steel						
	Aluminium						
	Compostable Food Waste						
	Non compostable food waste						
	Other compostables						
	Plastic (Cat 1 & 2)						
	Non-Recyclables						
	Plastic(Other Categories)						
	Paper /Cardboard						
	Glass						
	Clothing						
	Big stuff						

Action Plan

Our Priority One Target Category:

Waste Hierarchy	Your Waste Control Ideas/Projects	Who will be involved	When do we want it by
Refuse	• •		
Reduce	• •		
Reuse	• •		
Recycle	• •		

Our Priority Two Target Category:

Waste Hierarchy	Your Waste Control Ideas/Projects	Who will be involved	When do we want it by
Refuse	• •		
Reduce	• •		
Reuse	• •		
Recycle	• •		

