

What Goes Around

WHY

Buying Recycled

MATTERS

A Guide for Households, Businesses & Councils



Produced by Planet Ark for National Recycling Week 2017



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About This Guide...

The aim of this guide is to show what happens to recycling beyond the bin, the importance of closing the recycling loop, the products made from recycled materials that are out there and to encourage householders and organisations to “buy it back”.

The guide draws on information and statistics from a wide range of sources including a Planet Ark survey of 115 local councils and research conducted by Pollinate of 1,043 Australians.

Acknowledgements

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Authors: Elise Catterall and Ryan Collins

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Background

Now, more than ever, recycling matters. Australia's waste is growing around six times quicker than the population. The good news is that recycling is growing at an even faster rate than waste. Which is great. But to properly close the recycling loop, we also need to buy products made with recycled content.

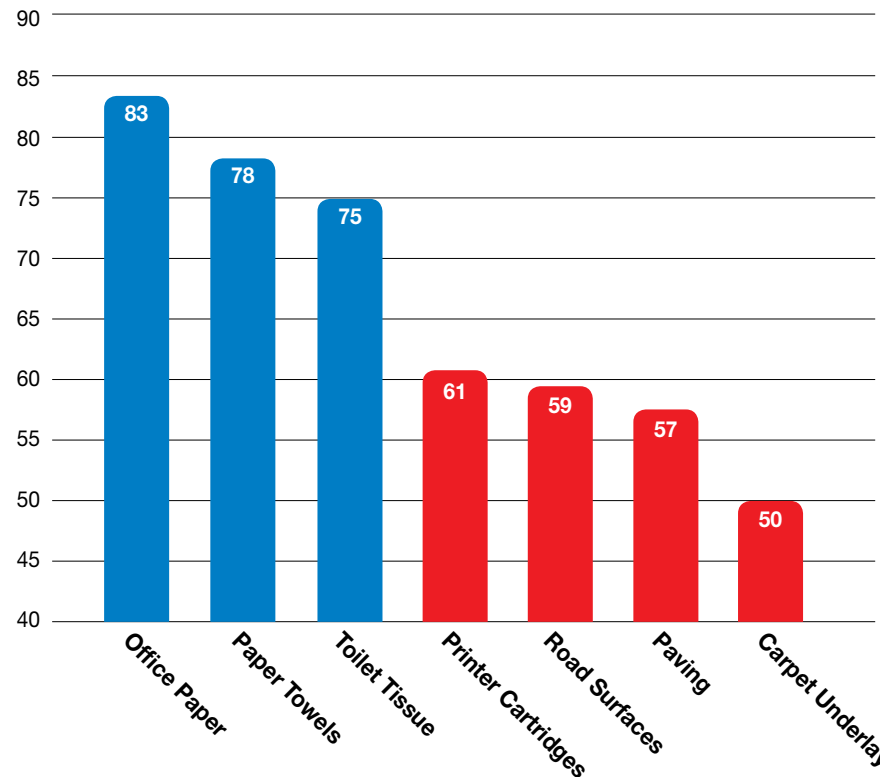
This concept isn't new. Promoting the buying of recycled products has been on the agenda of some governments and environmental bodies for decades (President Bill Clinton was promoting 'buy recycled' way back in 1993).

Most people know that paper products can be made with recycled materials. However, they're less aware about road surfaces, printer cartridges, paving and carpet underlay. We may not realise it but we're actually surrounded by items made with recycled content. Yet the demand for recycled products needs to grow for recycling to become more economically sustainable. The products are there, we just need to embrace them.

This guide has been produced to show households, businesses and councils just how to source and purchase products made with recycled content and why it is so important.

Knowledge of Recycled Products in Australia

(Source: Pollinate 2017)



This graph shows the percentage of people who are aware that the listed products can be made from recycled materials.




In the 20 years to 2015, Australia's **waste grew** by a massive **170%** whilst our **population increased by 28%**. The good news is that recycling is growing at an even faster rate than waste.

What actually happens to your recycling?

Items placed into kerbside recycling bins get sent to a material recovery facility (MRF), in which manual workers and specifically designed equipment separate the different materials. Recyclable materials are prepared and sold to manufacturers to make new products.

People sometimes question whether their recyclables really get recycled. In most states, it does not make economic sense to send waste to landfill. State landfill levies provide a financial incentive to recycle. Stockpiling can also be seen as an issue, usually caused by volatile commodity prices, however it is a very small proportion of the overall recycling stream. In fact, 35 million tonnes gets recycled back into the productive economy per year in Australia.

 Find out how your kerbside recycling gets sorted by watching our [video](#)

For advice and guidance about how and what to recycle in your area, go to [RecyclingNearYou.com.au](https://www.RecyclingNearYou.com.au)

Buying secondhand gives new life to the resources that went into making the product originally



What is a circular economy?

Most Australians are all too familiar with the traditional linear economy, that is, the 'make, use, dispose' economy – sometimes referred to as a 'throwaway' society. This linear approach is inefficient and has many negative impacts on the environment. We also live on a planet with limited resources. There is an alternative, called the circular economy.

Nature recycles everything – nutrients flow from one living organism to another. But our 'linear' economy ignores this law of nature. In a circular economy, the aim is to keep materials

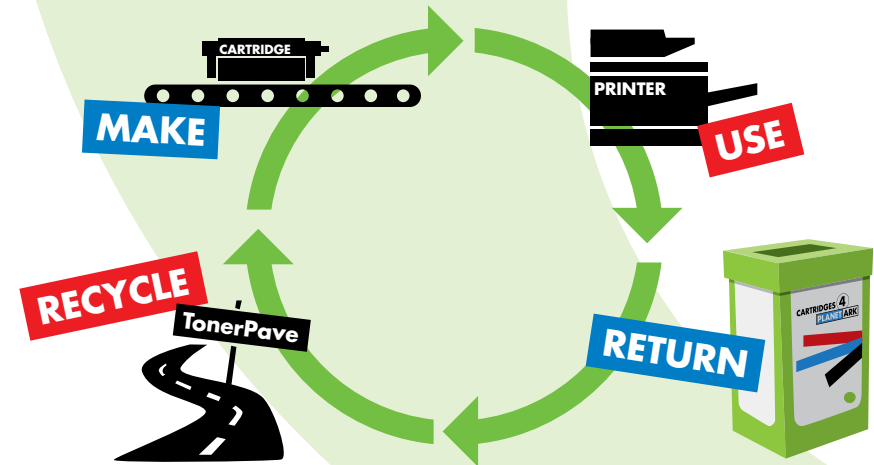
from being thrown 'away' (since there is no 'away'). The best way to do that is to reduce consumption or design out waste before it is created. And then via re-using or recycling the product or its component parts, we keep resources in the productive economy.

This approach creates a continuous cycle and capitalises on the fact that the longer an item is in use, the more value (and return on investment) can be extracted. The cycle is restorative and regenerative by design.

LINEAR ECONOMY



CIRCULAR ECONOMY



In a circular economy, printer cartridges are made, used, returned then recycled into TonerPave roads and new cartridges.




Why is a circular economy important?

The current economic model is reaching its physical limits. A circular economy will preserve natural resources, and not only mined minerals but also our oceans, soil, and whole ecosystems. It will minimise risks by managing limited stocks and renewable resources.

Waste in a circular economy builds capital rather than reduces it. By rethinking the way we make stuff, we can design a product or its parts to be disassembled and regenerated into new products.

Extending the life of a product or its parts reduces waste. In addition, a circular economy creates new business ventures and revenue streams.

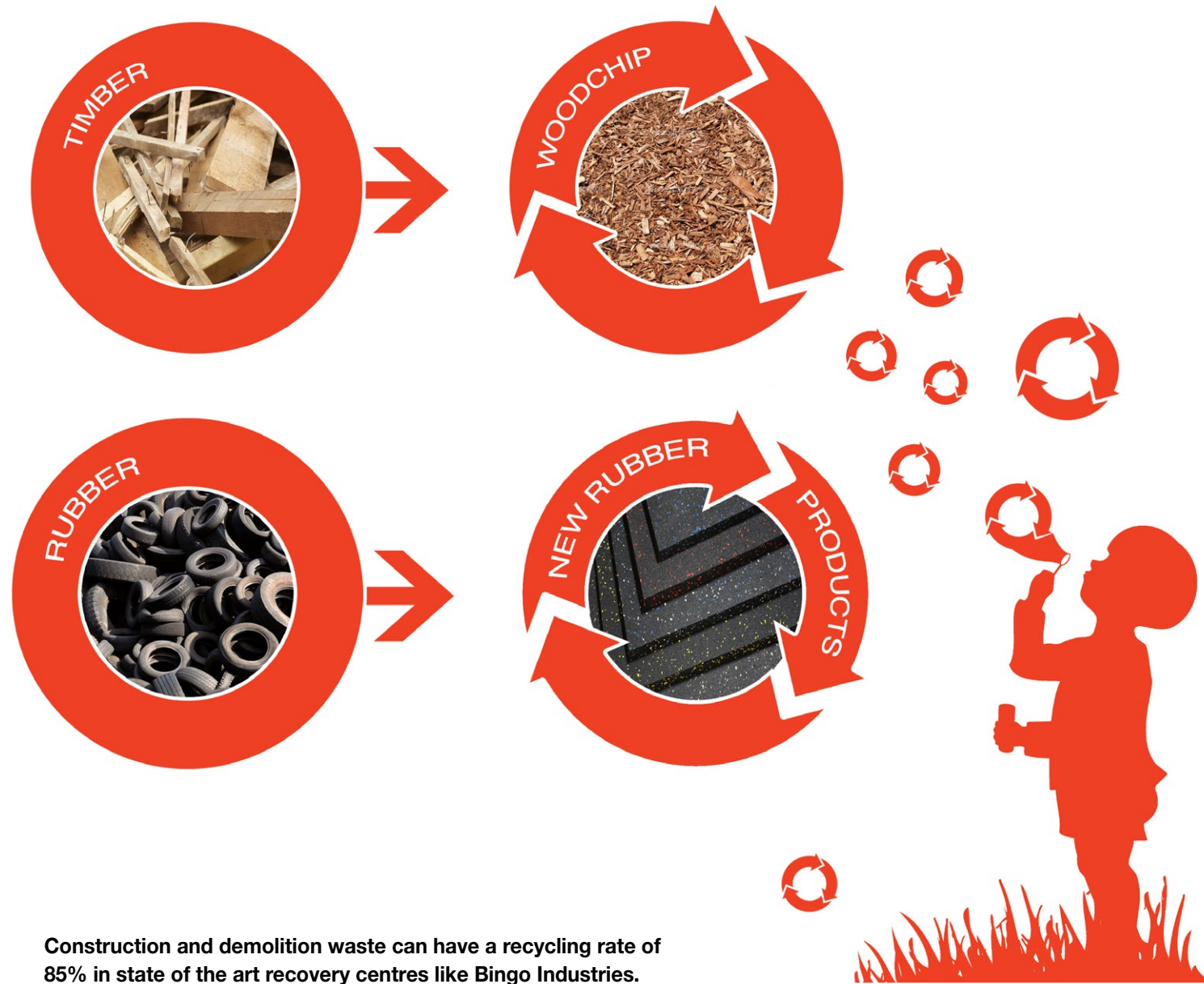
 **Examples of this are provided in the Inspiring Stories section of this guide.**

A circular economy means more than just putting recyclables out for collection; developing robust end markets is the key.

Why does buying recycled matter?

An important part of the circular economy is buying goods with recycled content, but just why does it matter? Buying recycled serves a variety of purposes such as:

- Closing the loop – by purchasing a recycled product, you are keeping the product, or its components and materials, in the loop and out of landfill and groundwater.
- Growing markets, encouraging manufacturers to use recycled materials and rethink product design.
- Creating new business opportunities through new technologies and material collection networks. It is forecast that the circular economy in Australia could become an industry worth \$26bn by 2025.
- Minimising the consumption of depleting resources saves water and energy as well as reduces pollution.



Construction and demolition waste can have a recycling rate of 85% in state of the art recovery centres like Bingo Industries.

Recycled products are in limited supply: fact or myth?

Many people may be surprised to learn just how many products and packaging items are made fully or in part with recycled materials. The items with recycled content that are staples in the average home or business – aluminium drink cans, steel food cans, glass bottles and jars, newspapers, mobiles, paper products, and organic fertiliser – are the tip of the iceberg.

Over the past few years, the range of products in the marketplace made with recycled content has surged. In fact, in some sectors, it is easier to purchase goods made with recycled content than it is to buy the same goods made with virgin materials – cardboard, aluminium cans and newspapers are great examples of this.

The best way to tell if a product has been made with recycled materials is to read the packaging carefully and look for eco-labelling from **Good Environmental Choice Australia** (GECA) or the **International Organization for Standardization** (ISO). You can also ask the manufacturer or find out more from

bodies like **Good Environmental Choice Australia** or the **Australian Packaging Covenant Organisation**.

Organisations like **Tyre Stewardship Australia**, formed to promote the development of viable markets for end-of-life tyres; **Close the Loop**, Australia's largest printer cartridge recycling company; and **Replas**, an Australian recycled plastics manufacturer, have



been innovative in facilitating the return to the market place of recyclable materials.

➔ **Check out the Inspiring Stories section to read about circular economy innovation.**

For manufacturers, being able to claim that a product is made from recycled content is increasingly a selling point. Planet Ark research found almost no one

is less likely to buy a product or packaging because it is made with recycled materials. As businesses, councils and individuals demand both recyclable products and products made with recycled content, availability should keep rising.

The next section of this guide will help familiarise consumers with the range of recycled products available and just how to 'Buy It Back'.

What are the recycled products available?



Planet Ark's inaugural **Buy It Back Day** will be held on **Saturday 18 November 2017**. It is a day for the community to celebrate National Recycling Week with mindful purchasing by:

- Buying something secondhand OR
- Buying a product made from recycled materials.

The following list aims to provide a taster of the many wide-ranging products made from recycled materials. Buying it back means you're saving the resources and energy that go into making products from virgin materials, conserves raw materials and reduces waste going to landfill. We recommend buying a replacement product for an item that would normally be purchased anyway so that we're not contributing to consumption and waste. Remember, unless you're buying recycled, you're not really recycling!



For a more extensive list of recycled products, go to Planet Ark's online [Recycled Products List](#)

Disclaimer: The claims of recycled content are from the manufacturers or suppliers themselves. Planet Ark does not necessarily endorse the products on this list unless otherwise specified.

Home and Garden

Product

Toilet tissue

Recycled Material

Paper

Where Can I Buy This?

Coles and Woolworths Supermarkets

Naturelle Toilet Tissue

is proudly endorsed by Planet Ark and is made in Australia from 100% recycled paper.



Product

Paper towels

Recycled Material

Paper

Where Can I Buy This?

Coles and Woolworths Supermarkets

Naturelle Paper Towels

is proudly endorsed by Planet Ark and is made in Australia from 100% recycled paper.



Product

Pens

Recycled Material

Printer cartridges

Where Can I Buy This?

Close The Loop

The printer cartridges you recycle through **'Cartridges 4 Planet Ark'** can be turned into pens.



Product

Office Paper

Recycled Material

Office Paper

Where Can I Buy This?

Officeworks, Australia Post, Office National, Office Products Depot, O-Net, ASA Australia, GNS Wholesale Stationers, winc. See stockists.

Planet Ark has created the most environmentally responsible paper on the market, **Planet Ark 100% Australian Recycled Paper**. It's carbon neutral, FSC certified and made from office paper recycled in Australia by Australian Paper.



Product

Juice & soft drink bottles

Recycled Material

P.E.T. plastic

Where Can I Buy This?

Supermarkets and food retailers.

Emma & Tom's Life Juice comes in 100% recycled P.E.T. plastic bottles.

Schweppes Australia use recycled content in their soft drink bottles.

Product

Produce bags (reusable)

Recycled Material

P.E.T. plastic bottles

Where Can I Buy This?

Onya online or search the stockist for local stores

Onya make fruit and vegetable bags from recycled P.E.T. plastic bottles.



Product

Shopping bags

Recycled Material

P.E.T. plastic bottles

Where Can I Buy This?

Onya online or search the stockist for local stores

With the major supermarkets introducing a plastic bag ban in 2018, what better time to get shopping bags made from recycled materials!

Onya make shopping bags from recycled P.E.T. plastic bottles.



Recycled Material

P.E.T. plastic bottles

Where Can I Buy This?

Smartbag online

Smart Bag make shopping bags from recycled P.E.T. plastic bottles. Can be made to various sizes and custom printed.

Recycled Material

Phone books

Where Can I Buy This?

The Trading Circle

White and Yellow Pages phone books are collected, cut into strips, woven and lacquered to create a sturdy and strong bag.

Product

Aluminium foil

Recycled Material

Aluminium

Where Can I Buy This?

Biome Eco Stores

If You Care makes aluminium foil from 100% recycled aluminium. Aluminium can be recycled infinitely without degrading. Using recycled aluminium saves 95% of the energy used to make virgin aluminium.



Product

Homewares (DIY)

Recycled Material

Furniture Old homewares

Where Can I Buy This?

James Treble

Learn useful tips and tricks from Planet Ark ambassador **James Treble** about turning unused items and objects into stylish pieces.



Product

Flooring (indoor)

Recycled Material

Carpet

Where Can I Buy This?

Gumtree
Affordable Carpets
McMats Recycled Carpets

To read more about the environmental aspects of flooring materials, see the [Liveability website](#)



Recycled (or re-used) carpets and carpet tiles are available in various conditions.

Recycled Material

Vinyl Linoleum

Where Can I Buy This?

Polyfloor
Forgo Flooring Systems

Numerous brands make products with recycled content – for example, Marmoleum, 42% and the Polyflor range with 40%. Through Recofloor, Polyflor can recycle smooth and safety installation off-cuts, smooth uplifted flooring and old stock-roll ends and samples. The material is recovered and recycled into new flooring or other useful products such as traffic cones.

Recycled Material

Foam

Where Can I Buy This?

Flooring Xtra stores actively support the Recycle by Dunlop program.

Dunlop EnviroTred carpet underlays are made of 90% recycled materials and are 100% recyclable.

Product

Bowls & cups

Recycled Material

Plastic milk bottles
Bike chains
Aluminium
Paper

Where Can I Buy This?

Biome
Oxfam

Biome supply bowls and cups made from recycled plastic milk bottles. [biome](#)

Oxfam sell bowls made from recycled bike chains, aluminium and paper!



Product

Toys

Recycled Material

Milk Containers
Wood
Paper
Polyester

Where Can I Buy This?

Biome Eco Stores
Ecotoys
Greentoys
Oxfam

Several companies exist which take an eco friendly approach to toys. **Ecotoys** makes toys out of sustainably sourced materials whilst **Greentoys** uses 100% recycled plastics to reinvent classic toys, even a recycling truck! **Oxfam** also has a range of ethical and environmentally friendly products.



Product

Surfing accessories

Recycled Material

Ocean plastic
Industry plastic waste

Where Can I Buy This?

Five Oceans
Jaguar

Ocean plastic pollution is one of the largest environmental problems. Five Oceans and Jaguar are two companies who are using plastics to create fins and surfboards which combine eco-friendly materials and performance.



Product

Newspaper & magazines

Recycled Material

Paper

Where Can I Buy This?

Wherever you buy newspapers



Australia's newspapers are voluntarily made with recycled fibre content in the 40-70% range, magazines are around the 1-6% mark. Australia has one of the best newspaper recycling rates in the world at 78%.

Product

Greeting cards

Recycled Material

Paper & cardboard

Where Can I Buy This?

Biome Eco Store
Earth Greetings

Marine Ferlazzo cards are printed on 100% recycled acid free paper and designed and printed in Melbourne, Australia by a family owned business. A portion of each sale is donated to wildlife conservation.



Earth Greetings supply cards made from recycled paper and cardboard.

Recycled Material

Various materials

Where Can I Buy This?

Oxfam

Oxfam supply cards made from different recycled materials from magazines to metal and copper wire.



Product

Garden beds

Recycled Material

Printer cartridges

Where Can I Buy This?

eWood Gardens online and in selected garden centres

The printer cartridges you recycle through 'Cartridges 4 Planet Ark' can be turned into eWood raised garden beds.



Product

Outdoor flooring/decking

Recycled Material

Printer cartridges

Where Can I Buy This?

eWood Gardens online and in selected garden centres

eWood Gardens make DIY planks that can be used for outdoor flooring or steps from the printer cartridges you recycle through 'Cartridges 4 Planet Ark'



Recycled Material

Soft plastics

Where Can I Buy This?

Replas



Replas make outdoor flooring from the soft plastics you drop off at REDcycle bins in Coles and Woolworths.



Product

Outdoor furniture

Recycled Material

Soft plastics

Where Can I Buy This?

Replas

Replas make outdoor furniture from the soft plastics you drop off at REDcycle bins in Coles and Woolworths.



Product

Fencing

Recycled Material

Printer cartridges

Where Can I Buy This?

eWood Gardens online and in selected garden centres

eWood Gardens make fencing from the printer cartridges you recycle through 'Cartridges 4 Planet Ark'



Product

Bins

Recycled Material

Plastic

Where Can I Buy This?

Ecobin

Ecobin supply some bins made of recycled plastic.



Recycled Material

Phone books and newspaper

Where Can I Buy This?

Trading Circle

White and Yellow Pages phone books are collected, cut into strips, woven and lacquered to create waste paper baskets by the Alay Kapwa Cooperative.

Product

Compost bins

Recycled Material

Plastic

Where Can I Buy This?

Garden centres and at the Biome online store



Bokashi make compost bins from recycled plastic

Product

Worm farms

Recycled Material

Plastic

Where Can I Buy This?

Tumbleweed Composting Home

Worm farms can be made from recycled plastic.



That's just the start! For a more extensive list of recycled products, go to Planet Ark's online [Recycled Products List](#)

Fashion & Accessories

Don't forget to try to [find re-use](#) first before recycled (where possible). And secondhand stores are a great place to find a cool bargain, especially on [Buy It Back Day](#). Or you can host or find a [Swap Party](#) in your area during National Recycling Week.

Product

Accessories

Recycled Material

Timber
Paper
Plastic bottles
Sari
Tyre inner tubes
Metal
Glass

There is an abundant range of accessories made from recycled materials to choose from. Timber, textile scraps, saris, paper and plastics are just some of the materials that are used in these pieces. You can search [Good On You](#) or [Etsy](#) for brands that do recycled accessories.

Where Can I Buy This?

[Good On You](#)
[Etsy](#)
[Eco Bling Brit Co](#)
[Oxfam](#)
[Recover Brands](#)
[Upcycle Studio](#)
[The Moose Hub](#)
[The Elephant Emporium](#)





Product

Clothing

Recycled Material

Textile scraps
Fleece
Cotton

Where Can I Buy This?

Charity Stores
Good On You
The Social Outfit
Worn Wear -
Patagonia
tonle
brit co
VAUTE

Many charities sell pre-loved clothing and goods via shops. However, if your local op shop doesn't have what you want and you need to buy new, there are some brands that use recycled materials in their clothing. You can try searching **Good On You** for brands that do recycled clothing.

Product

Shoes

Recycled Material

Cotton
Rubber
Leather
Plastic bottles
Tyres
Cardboard
Cork

Where Can I Buy This?

Good On You
Eco
Indosole
vegan wares
nae
Beyond Skin
Veja
Matt & Nat
Ecoalf



Eco friendly footwear combines recycled materials such as rubber and plastic bottles with other inputs such as synthetic leathers. Each part of the shoe can utilise different recycled materials to create comfortable long lasting footwear. You can try searching **Good On You** for brands that do recycled shoes.

Product

**Wallets/
Purses/
Handbags**

Recycled Material

Fabric
Belts
Plastic bags
Plastic bottles
Nylon
Polyester
Advertising
banners
Tyre inner tubes
Phone books

Where Can I Buy This?

Good On You
Etsy
Chic Made
Consciously
David Jones
Change Merchants
Oxfam
Tyred Wallets
Upcycled Tyre Tube
Accessories
Going Green
Solutions
The Trading Circle



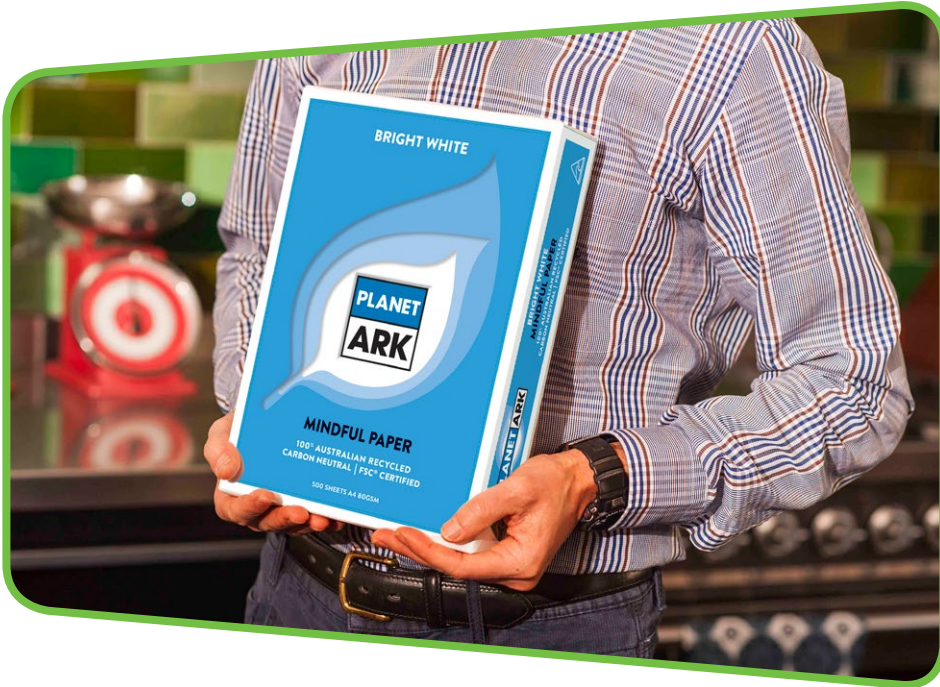
You can find wallets, purses and handbags made from all sorts of recycled and upcycled materials.



That's just the start for fashion, home and garden! For a more extensive list of recycled products, go to Planet Ark's online **Recycled Products List**

Work & Study

Local councils can also search the [Local Government Procurement's Sustainable Choice Database](#)



Product

Office Paper

Recycled Material

Office Paper

Where Can I Buy This?

Officeworks, Australia Post, Office National, Office Products Depot, O-Net, ASA Australia, GNS Wholesale Stationers, winc. [See stockists.](#)

Planet Ark has created the most environmentally responsible paper on the market, [Planet Ark 100% Australian Recycled Paper](#). It's carbon neutral, FSC certified and made from office paper recycled in Australia by Australian Paper.

Product

Backpack/Computer bag

Recycled Material

P.E.T. plastic bottles Polyester

Where Can I Buy This?

Biome Eco Stores or Planetbox

The Planetbox Jetpack backpack range is made from recycled plastic bottles.

[biome](#)



Recycled Material

P.E.T. plastic bottles Polyester

Where Can I Buy This?

Officeworks – online or in-store

The J.Burrows Recycled Laptop Backpack has interior and exterior fabric made using 100% recycled materials, with the total recycled content totalling 95%.

Recycled Material

P.E.T. plastic bottles Polyester

Where Can I Buy This?

Patagonia – online or in-store

Patagonia supply large backpacks made from 50-100% recycled polyester.

Product

Pens

Recycled Material

Printer cartridges

Where Can I Buy This?

Close The Loop

The printer cartridges you recycle through [‘Cartridges 4 Planet Ark’](#) can be turned into pens.



Recycled Material

Paper

Where Can I Buy This?

Buy Eco Green Etsy

Pen bodies can be made from recycled paper.



That's just the start for work and study! For a more extensive list of recycled products, go to Planet Ark's online [Recycled Products List](#)

Construction & Infrastructure

Local councils can also search the [Local Government Procurement's Sustainable Choice Database](#)



Product

Road surfaces

Recycled Material

Printer cartridges

Where Can I Buy This?

TonerPave
Downer Group
(Tonerseal)

The printer cartridges you recycle through 'Cartridges 4 Planet Ark' can be turned into **TonerPave** asphalt and **Tonerseal** spray road surfaces. Tonerseal is also made with recycled tyres.



Product

Construction aggregate

Recycled Material

Construction & demolition waste:
Asphalt
Bricks
Concrete
Glass
Gravel
Metal
Plasterboard
Plastic
Rock
Rubber
Sand
Tiles
Timber

Where Can I Buy This?

Boral
Bingo Industries



Boral makes a recycled granular material processed from deposits of sand, gravel, rock or demolition concrete.

Bingo Industries are leading Construction & Demolition recyclers and partners of Planet Ark. Their hi-tech Auburn facility in Sydney, yielded an average resource recovery rate of 85%, which is well above industry average. Bingo advises that bricks can be recycled into road-base or new bricks; concrete into aggregate and road base; tiles into drainage material or driveway rock base; plasterboard into gypsum powder; timber into buildings, landscaping and furniture; metal into cars, cans and boats.

Product

Bollards

Recycled Material

Soft plastics

Where Can I Buy This?

Replas



Replas make bollards from the soft plastics you drop off at REDcycle bins in Coles and Woolworths.



Product

Outdoor flooring/decking

Recycled Material

Soft plastics

Where Can I Buy This?

Replas



Replas make outdoor decking from the soft plastics you drop off at REDcycle bins in Coles and Woolworths



Recycled Material

Printer cartridges

Where Can I Buy This?

eWood Gardens online and in selected garden centres



eWood Gardens make DIY planks that can be used for outdoor flooring or steps from the printer cartridges you recycle through 'Cartridges 4 Planet Ark'



Product

Outdoor furniture

Recycled Material

Soft plastics

Where Can I Buy This?

Replas



Replas make outdoor furniture from the soft plastics you drop off at REDcycle bins in Coles and Woolworths.



That's just the start for construction and infrastructure! For a more extensive list of recycled products, go to Planet Ark's online [Recycled Products List](#)

Packaging

The [Australian Packaging Covenant Organisation](#) is a co-regulatory, not-for-profit organisation that partners with government and industry and provides resources to help businesses develop sustainable procurement policies in relation to packaging.

Product

Cardboard

Recycled Material

Cardboard

Where Can I Buy This?

For boxes, try hardware stores, storage & moving companies or search 'buy cardboard boxes' online.

More than 80% of Australia's paper and cardboard packaging is made from recycled fibre!



Product

Aluminium cans

Recycled Material

Aluminium

Where Can I Buy This?

Supermarkets, other retailers & online
Find packaging suppliers: [Alcoa](#)

Most aluminium cans have a proportion of recycled content. Aluminium can be recycled infinitely without degrading. Using recycled aluminium saves 95% of the energy used to make virgin aluminium.



Product

Glass bottles and jars

Recycled Material

Glass bottles and jars

Where Can I Buy This?

Supermarkets, other retailers & online
Packaging suppliers:
[Cossack](#)
[Jar Bottles Direct](#)
[Silverlock Packaging](#)

In Australia, most glass bottles and jars produced contains a substantial proportion of recycled glass. Glass containers can be re-used many times and recycled indefinitely.



Business Procurement

Planet Ark research found an overwhelming majority of Australians

88%

say they already **purchase products that contain recycled materials.** Most

Australians

70%

also say they would be **more likely to purchase a product and/or packaging if they contained recycled materials.**



To help businesses buy more materials and products with recycled content, this section of the guide will provide an introduction to sustainable procurement.

What is sustainable procurement?

Sustainable procurement aims to reduce the adverse environmental, social and economic impacts of purchased products and services throughout their entire life cycle. Broadly speaking, that includes considering the:

- natural resources, energy and water that go into the manufacture, use and disposal of goods
- the labour conditions of the workers used to make and transport the goods or delivery of services
- the costs of operation and maintenance of the products.

How is government involved?

Government agencies have mandated policies to reduce the amount of waste sent to landfill, in order to maximise recycling opportunities and encourage sustainable procurement. It is extremely important that the public sector spend public funds responsibly.

Local councils have a significant role in encouraging residents and local business to look for products and packaging made from recycled materials. A Planet Ark survey of 115 councils from around Australia showed that a majority (64%) rate encouraging residents and around half (49%) rate encouraging businesses to look for products or packaging made from recycled materials a high or mid priority. 64% also rate implementing a 'buy recycled' policy or similar for council operations as a high or mid priority.

Implementing policies that ensure sustainable procurement in all levels of government helps drive positive social and environmental outcomes.



Tips for businesses to buy recycled

Becoming a business that has a 'buy recycled' policy is a journey that will typically involve incremental steps. Fortunately, in most cases, it is a process a business can kick-off quite easily with the assistance of its suppliers and industry bodies.

1. Implement easy changes

Depending on the business, some easy changes may include starting with paper products:

- Switching to 100% Australian recycled office paper (like [Planet Ark Paper](#)) & other paper stationery
- Switching to 100% Australian recycled paper towels and toilet tissue like Naturale



2. Engage & research suppliers

It's important to begin discussions with your current supplier about sustainability and buying recycled. It may also be handy to identify the key suppliers in the industry who are engaged in sustainability. This is where bodies like [Good Environmental Choice Australia \(GECA\)](#) and the [Australian Packaging Covenant Organisation \(APCO\)](#) can be particularly useful.

GECA provides rigorous, independent environmental certification and standards for products in the form of an ecolabel and [one of those standards addresses recycled products](#). The ecolabel signals that a product is a good environmental choice.

APCO is an initiative focussed on sustainable packaging and aims to change the culture of all businesses to decrease packaging waste and increase recycling rates. APCO also provides resources to help businesses develop sustainable procurement policies in relation to packaging.



3. Establish a 'buy recycled' policy

Communication is the key to success, so the next step is to establish a 'buy recycled' policy as part of a sustainable procurement strategy. This policy can be used to communicate your commitment to buy recycled content products to suppliers, employees and clients. It is beneficial to ask suppliers to report on the recycled content of the goods they provide to enable your business to promote this information to clients.

Don't forget to schedule regular reviews to incorporate additional products with recycled content.

Sustainable procurement also includes reviewing the energy and water efficiency of a product or service, the use of toxic or hazardous ingredients, whether it has excess packaging and whether it's locally sourced.



For more information and support, download the [Australian Government's Sustainable Procurement Guide](#) and/or take [GECA's Positive Procurement Pledge](#)

Many of the components within mobile phones contain valuable materials which can be recovered and used to make new products. Cobalt, nickel and lithium dust that is recovered from batteries can go into producing new batteries. Get a mobile phone collection box at work through [MobileMuster](#).

Planet Ark provides resources to help businesses develop best practices for waste management and recycling.

Visit [BusinessRecycling.com.au](https://www.BusinessRecycling.com.au).



BusinessRecycling
.com.au

PLANET ARK

Inspiring stories

Innovation for a circular economy

Enviropoles Operations Manager, Chris Holwell, with 68 kg of cigarette butts collected from Melbourne's streets for recycling



Building roads from cigarette butts

Cigarette butts are the most littered item in Australia. Recently, **RMIT University** found a way to deal with the 1.2 million tonne problem that sees the release of toxic chemicals into the environment every year. Their solution? To mix cigarette butts with asphalt and use it in road construction.

The concept, according to lead researcher Dr Abbas Mohajerani, is viable due to the sheer quantity of asphalt concrete produced in Australia each year. The butts are encapsulated and used in the second layer of the paving material, so that their chemicals don't leech out. Another benefit is that,

compared to traditional asphalt, the new asphalt material has lower thermal conductivity, which will help lower atmospheric temperatures.

Another initiative in Melbourne is also dealing with cigarette butts that typically find their way into rivers and oceans via drains. Through a collaboration between the **City of Melbourne**, **Enviropoles** and **TerraCycle**, waste cigarette butts are collected and converted into plastic products like shipping pallets and plastic furniture. The initiative has been modelled on successful ventures in Vancouver and New Orleans.

Creating eyeglasses from milk bottle lids

Eyewear retailer **Dresden Optics**, are putting a stylish twist on recycled plastics. Who would have thought milk bottle lids and beer keg caps donated by local cafes and brewers, lego pieces, marine debris and most recently, ghost nets discarded by fishing trawlers, could end up in prescription glasses and sunnies. Their philosophy is to carefully consider every material that passes through their hands and ask what the environmental consequences are of the materials and the manufacturing processes they choose.

Their founders, Bruce Jeffreys and Jason McDermott, are two frustrated eyeglass-wearers. They want glasses

to be more functional, versatile and playful with backups if you need them. After opening their first store in Sydney's inner west in 2015, they now have 6 Australian stores, with plans to rollout up to 80 stores both nationally and overseas. They're also a finalist for the 2017 Banksia Sustainability Awards in the Smart Award category.

Dresden pride themselves on being part of the solution to an environmental challenge, helping to remove some of the burden of discarded plastics on marine ecosystems. The result not only benefits the environment, but also benefits the consumer as Dresden frames are well priced.



James Treble with Dresden sunglasses made from recycled plastic

Making roof sheeting from mattresses

Soft Landing is a product stewardship scheme that aims to address the environmental issue caused by the 1.6 million mattresses that are discarded each year in Australia. Mattresses are a headache for landfill operators since each one takes up 0.75 cubic metres of space. Soft Landing is working with mattress retailers to create a recycling program that takes away old mattresses when new ones are delivered.

Up to 75% of the components of a typical mattress can be recycled – the steel springs can get turned into roof

sheeting, the foam can be recycled into carpet underlay, the husk into weed matting and mulch, and even the timber gets recycled or repurposed into kindling or animal bedding. Being a product stewardship scheme means that the participating bedding companies are sharing responsibility for the end-of-life mattresses they manufacture and sell. The Soft Landing scheme is not only closing the loop, but is providing opportunities for those facing barriers to employment, which benefits the economic health and well-being of the community as well.



The mattress recycling team at Soft Landing

Landscaping a garden bed from printer cartridges

Close the Loop is Australia's biggest resource recovery and recycling company for printing consumables and the resource recovery partner for 'Cartridges for Planet Ark'. It is driven by a promise of zero-waste-to-landfill and in 2016 was inducted into the Victorian Manufacturing Hall of Fame which celebrates excellence in manufacturing.

eWood®, TonerPave®, Tonerseal™ and engineered products like pens

eWood Garden Beds made from recycled printer cartridges

and flexographic ink are some of the innovative product developments by Close the Loop that allow the recycled ink cartridges, toner cartridges, toner bottles and other print consumables to find new life.

eWood Gardens (now owned by Newtecpoly) is a functional and sustainable replacement material for timber, concrete, brick and steel which can be used for garden beds, flooring and more. A single tiered eWood raised garden bed contains approximately 100 recycled printer cartridges. This year so far eWood Gardens have purchased around 10 tonnes of recycled printer cartridge material from Close the Loop for eWood production.

TonerPave is a low-carbon road surface produced by Close the Loop in partnership with Downer EDI. It is 40% more energy efficient compared to the manufacture of standard bitumen and performs better with less rutting and cracking. It is used by around twenty councils Australia wide and the list is growing. Around 1,000 kms of Australian roads have already been surfaced with TonerPave and Tonerseal, the new spray seal binder for roads made from 20% recycled waste toner and used tyre rubber.



Constructing concrete from glass

Glass stockpiling has become an issue recently due to a drop in commodity prices making it cheaper to import glass bottles from overseas than to use glass recycled in Australia. Innovative research and development into new uses for recycled glass is needed. This is happening in the cities of **Lismore** and **Canberra**. Surplus glass from waste collections is being crushed and ground into a fine sand-like substance which is then used as a construction material for road bases. In Lismore it is also being used in the construction of a sewage pump station. Glass as part of a road base has also been trialled at a demonstration site in Waverley in Sydney's eastern suburbs.

University of Melbourne researchers are looking at ways to incorporate waste glass into concrete as a viable replacement for dwindling sand supplies, along with existing supplementary material like fly ash. Researcher Dr Ali Kashani is confident that a reasonably high proportion of recycled glass can be used, resulting in excellent sound and thermal insulation as well as fire-resistance. The cost of glass will be an attractive factor for industry as it is readily available and



Researchers are finding new and innovative uses for glass

inexpensive, being about a third of the cost of fine sand, or less.

RMIT University is looking at new processing methods to recycle glass into household items including kitchen bench-tops, floors, walls or roof tiles. Adding glass to the panels reduces the greenhouse gas emissions generated in the concrete-making process and reduces the need to use virgin raw materials.

Sporting fields made from tyres

Tyre Stewardship Australia (TSA) is a government supported product stewardship initiative that aims to effectively reduce the environmental, health and safety impacts of the 51 million tyres (equivalent passenger units) that reach their end of life each year.

With TSA's funding, development of new products, industries and employment is forging ahead. One such innovative development, spearheaded by Geelong-based manufacturing companies Polymeric Powders and Austeng, is seeing tyre crumb turned into composite material used for commercial pipes. The technology making this a reality will have scores of other applications,

ranging from building and construction to aerospace and electronics.

The benefit of tyre crumb is that it has unique qualities compared with traditional plastics. Grassports Australia makes synthetic hockey and soccer pitches from recycled tyres. The recycled rubber can also be used in children's play areas and as supporting infill on natural turf.

Another research project funded by TSA involves creating a lightweight, malleable concrete from recycled tyres. Managed by Associate Professor Tuan Ngo of the University of Melbourne, the inclusion of tyre crumb has created a product with high levels of heat and sound insulation.



This sports field was made from recycled tyres

Introducing small businesses to the circular economy

An innovative pilot project is helping small businesses on the Sunshine Coast to reduce their costs and increase their profits by improving their management of materials and resources. Run by The Circular Experiment, an initiative formed by Jaine and Ashleigh Morris, the Ocean Street Project will help the 45 small businesses, ranging from hairdressers to cafés, plan and implement principles of a circular economy.

Since finding out that 70% of business waste in their area was going to landfill, the sisters have launched a range of initiatives such as:

- A food waste pilot program which means organic waste from three businesses will now be transported to a nearby bulk composter

- Coffee ground composting by several cafes and restaurants in the precinct that sends a whopping 500 kgs of used coffee grounds per week to a nearby farm to be used as fertiliser
- The installation of two new cigarette bins have already reduced cigarette litter on Ocean Street by 46% (the collected butts are being sent to TerraCycle for recycling)
- An audit by the Post Office bar to ensure its energy use is as efficient as possible

The project also involves University of Sunshine Coast students who benefit by gaining real-world business experience.



Sisters Jaine and Ashleigh Morris of The Circular Experiment

Making 3D printer parts from e-waste

The Sustainable Materials Research & Technology division at the University of New South Wales (**SMaRT UNSW**), led by Planet Ark ambassador Professor Veena Sahajwalla, focuses on research and development of green materials, made from rubbish.

The green materials produced by SMaRT UNSW are diverse:

- 3D printer parts are produced by SMaRT UNSW from unwanted plastics using a combination of automated drones and robotic parts to remove the plastics from discarded electronics, like mobile phones, which otherwise would end up in landfill.
- Their 'SMaRT' stone is made from rejected glass, ground and mixed into resin (a proprietary polymer invented by SMaRT UNSW) and processed to create an inexpensive artificial stone similar to Caesarstone.
- SMaRT UNSW is creating products like green steel, made from waste tyres, a typically complex and challenging waste product.
- They are turning waste tyres into silicon carbide nanoparticles, activated carbon, and carbon black (a colouring pigment and electric conductive agent).
- They're also producing sustainable building materials, including a particleboard made from agricultural and forestry by-products such as ground macadamia shells, pinecones and eucalyptus.



Professor Veena Sahajwalla is the Director of SMaRT UNSW producing green materials

All products have a multitude of benefits – they are cheaper, more sustainable, non-toxic, have less demand for energy, and reduce the depletion of virgin resources. In addition, they're creating more local industry and employment opportunities.



The soft plastics you recycle at participating supermarkets gets turned into outdoor seats

Creating outdoor furniture from soft plastics

As Australia's leading manufacturer of products made from recycled soft plastics, innovation is core to Replas' business.

The 20 year old business has over 200 recycled plastic products on offer in Australia and is constantly pushing the envelope in their drive to provide solutions for plastic waste. Their range spans durable outdoor furniture, bollards, fitness equipment, decking and traffic control products.

Their energy efficient processes saves

around three quarters of the power needed to make virgin plastic. Their products are reducing landfill and saving natural resources – and are available at a price point that is as competitive as virgin materials

Much of the plastic they source comes through their partnership with REDcycle, which collects soft plastics from retailers like Coles and Woolworths. Their 1.8m seat, which weighs around 31kg, contains an estimated 7,750 recycled soft plastic bags!



13 – 19 November 2017

At Work



Friday File Fling

At School



Schools Recycle Right Challenge

Get Involved

At Home



Recycle Right Quiz or Swap Party



While shopping

Buy It Back Day
Saturday 18 November 2017

A day to celebrate mindful purchasing by buying something secondhand OR a product made from recycled materials #BuyItBack

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