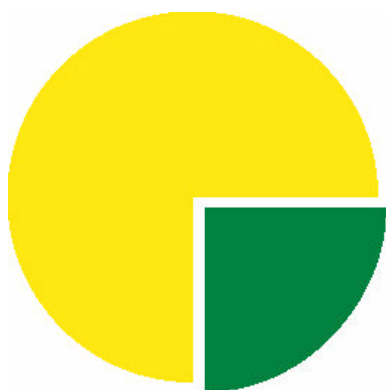


# KNOW YOUR PAPER

## - A Guide to Purchasing Recycled Content Office Paper-



**Southern Sydney  
Waste Board**

*Are you looking to purchase a recycled content office paper?*

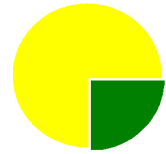
*Are you reluctant to change to a new brand of paper because you had a previous bad experience?*

*Are you confused about all the issues relating to the purchase of paper products and the related jargon?*

*Would you like a list of the available recycled content office papers?*

*Would you like more detailed information about the characteristics and recommended use of the different brands of paper?*

**If you have answered yes to any of these questions, please take the time to review this booklet!**



SOUTHERN SYDNEY WASTE BOARD

This guideline was prepared for the Southern Sydney Waste Planning and Management Board to provide you with information that will assist you to make more informed purchasing decisions. If you have any queries or would be interested in receiving any further information, please contact the Southern Sydney Waste Board:

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**Disclaimer:** This Guide has been prepared in good faith to assist purchasing officers in government and business to buy recycled content copy paper. The Southern Sydney Waste Board does not endorse any product or service contained in this Guide. Any representations contained herein are those of the contributors, and not the Board. The information provided in this Guide is accurate to the best of the Board's knowledge as at November 2000. The Board disclaims all liability for errors or omissions of any kind or for any loss or damage arising from any person relying on information published herein. There is no association between the Board and the products or services or the contributors contained in this Guide.

## Introduction

This guide has been developed by the Southern Sydney Waste Board to provide performance and product information for available brands of recycled content office paper to assist anyone wishing to purchase an alternative office paper that contains recycled fibre.

The information detailed in this guide is based on data and information obtained from manufacturers and suppliers of the papers and also manufacturers of office equipment. It should be noted that the information is subject to change as the quality of existing products are improved and new products are developed or become available on the market.

Please contact the Education Officer at the Southern Sydney Waste Board on (02) 9316 9199 for further enquires or if you are aware of any updates or additional information.

## Why Develop this Guide?

The “Buy Recycled Office Product Guide – A Guide to Purchasing Recycled Content Office Products” was developed by the Southern Sydney Waste Board to help consumers source office products that have recycled content.

As more emphasis is placed on the procurement of environmentally preferred products, office paper is a product that is often targeted because of its widespread use.

Concerns about the quality of recycled paper alternatives have been raised so more detailed investigations have been undertaken to answer some of the most commonly asked questions about the performance and characteristics of recycled content all-purpose office papers.

This guide provides more detailed information about office papers to supplement the Buy Recycled Office Product Guide and to help you make more informed purchasing decisions when selecting a new brand of paper.

Although the Office Product Guide lists all printing, copying, letterhead and specialty grades, the focus of this guide is on copy paper grades intended for everyday office use.

## Recycled Content Office Papers – An Overview

There are nine brands of recycled content office paper currently available in Australia. Six of these are manufactured in Australia by Australian Paper, two are manufactured at the Neusiedler Mill in Austria and the other brand is manufactured in Denmark.

The nine brands of paper source recycled fibre from various operations and have different fibre compositions that range from 50 to 100% recycled fibre. Because of the variation in fibre content the papers are described collectively as recycled content paper inferring that they contain a percentage of recycled fibre.

More specific information is provided in two simple tables to enable an easy comparison of the characteristics and recommended use of the nine brands of paper.

## Commonly Asked Questions and Concerns about Recycled Content Office Paper....

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## *Will Using Recycled Content Office Paper Void Product Warranties and Impact Service Agreements?*

Twenty-four office equipment manufacturers, incorporating manufacturers of photocopiers, fax machines and printers were consulted to investigate the legitimacy of claims that the use of recycled content office paper will have an impact on service agreements, servicing costs and/or product warranties.

The response from the majority of companies was outwardly positive and supportive of the use of good quality brands of recycled content office paper. Companies understand that like all paper products, there is variation in the quality of different brands of recycled paper and each brand should be treated individually. Some companies have conducted testing on different brands of paper and may be able to provide further testing if requested by a client.

Most companies are clearly well informed about the improved quality of recycled papers over recent years and overall many company representatives see the importance of implementing sound environmental practices and the need to make a commitment to sustainability.

### *.... General Advice from Office Equipment Manufacturers*

The general consensus from office equipment manufacturers was that as long as a paper meets the specifications for the machine in which it will be used there should be no problems using a good quality recycled content paper. The general advice was to ensure a paper is compatible with the office equipment before conducting a trial and contact the office equipment manufacturer to investigate if any previous testing has been conducted.

No company representative responded that the use of recycled paper would definitely be detrimental to any warranty or service agreement. The general response was that different papers should be treated case by case and any new brand should undergo trials before committing to full-scale usage.

If over time it can be proven that a brand of paper is causing increased problems in office equipment your service technician should first advise you to discontinue the use of the paper. If you were to then continue using the paper, there may be costs associated with additional repairs or service calls that can be directly attributed to the use of that paper.

It should be noted that this is applicable to all types of office paper, not simply those containing recycled fibre!! When questioned about the performance of different brands of paper in office equipment, a number of companies mentioned that some cheap imported papers that are manufactured from new fibre are prone to causing problems in office equipment. They view this as more of an issue than using recycled content papers.

### *.... Trade Practices Act 1974*

Claims that the use of recycled office paper will increase the cost of service agreements and violate product warranties or that only a company specific brand of paper can be used in their equipment, can both actually be violations under the Trade Practices Act 1974.

Under the Trade Practices Act 1974, it is an offence to mislead the public about the characteristics or suitability for purpose of any goods. It is also an offence to make a false or misleading representation about the exclusion or effect of any condition, warranty or guarantee.

If a competitor's recycled paper is identical or equivalent in performance to their own, equipment manufacturers or suppliers cannot legally discriminate against the competing products. This applies to both misleading claims about competing products and also to attempts to establish bias through conditions in service contracts and warranties.

As a result no office equipment manufacturer can legally bias against the use of recycled paper if it meets the specifications for the machine in which it will be used. The Competition and Consumer Commission is also available for anyone wishing to seek further information.

## What Brands of Paper Contain Recycled Fibre?

There are currently nine brands of 80gsm all-purpose office paper available that contain recycled fibre.

### 1. "Best Of" Triotec

"Best Of" Triotec is manufactured in Austria from 50% wastepaper sourced from pre- and post-consumer waste streams and 50% oxygen bleached pulp from sawmill waste or plantation fibre. The de-inked pulp is sourced from the United States and Canada. The paper is manufactured as three layers with the centre layer containing the recycled fibre.

### 2. Nautilus / Canon 100

Nautilus paper is a 100% recycled content paper manufactured at the Neusiedler Mill in Austria. The paper is also packaged as Canon 100 and distributed through Canon in Australia. The recycled fibre is sourced from pre- and post-consumer waste streams as specified under the restrictions for products classified under the "Blue Angel" label, which is a German environment label for 100% recycled products.



### 3. Cyclus Offset

Cyclus Offset is a 100% recycled content paper manufactured in Denmark. This paper is primarily designed for offset printing, however is also suitable for some general office applications.

### 4. Green Wrap

Green Wrap is a Fuji Xerox paper that is manufactured in Australia from 50% recovered paper sourced from pre- and post-consumer waste streams. 10% of the content is cotton linter waste sourced from the cotton oil seed industry in NSW and the remaining 40% is plantation fibre.



### 5. Renew 100

### 6. Revive

### 7. Ozcopy (Recycled)

The Renew 100, Revive and Ozcopy (Recycled) are all Australian-made papers manufactured from 100% Australian wastepaper sourced from pre- and post-consumer waste streams. Revive is a Fuji Xerox paper.



### 8. Plantation 80

Plantation 80 is an Australian-made paper. It is manufactured from 70% wastepaper sourced from pre- and post-consumer waste streams and 30% cotton linter waste sourced from the cotton oil seed industry in NSW.



### 9. Renew 80

Renew 80 is an Australian-made paper that contains 80% Australian wastepaper sourced from pre- and post-consumer waste streams. The remaining 20% is plantation fibre.

## How do the Different Papers Compare?

The Table of Comparison provides an overview of the paper characteristics that were reported by paper manufacturers and suppliers. The level of detail provided for each brand is based on the information provided by the paper stakeholders. The overview allows an easy comparison of the papers that contain recycled fibre. Table of Comparison

Paper Name	Fibre Source	Fibre Composition	County of Manufacture	CIE Whiteness	Archival Properties	Moisture Content	pH	Whitening Agent	Finish (Sheffield)	Opacity
Revive	Pre/post-consumer collected from various sources around Australia. Includes milk cartons, printers' offcuts and office computer paper.	100% pre/post-consumer wastepaper	Australia	90	Nil	4.5%	>7.8	Sodium hypochlorite (common household bleach)	150 +/- 40	92%
Renew 80	Australian pre and post consumer wastepaper. Includes LPB containers, printers and converters waste. Cotton waste is from the cotton seed oil industry. New fibres are from ecologically sustainable resources.	80% pre/post-consumer wastepaper 20% plantation fibre	Australia	110	Nil	4.5%	>7.8	Sodium hypochlorite (common household bleach)	150 +/- 40	92%
Renew 100	Pre/post-consumer collected from various sources around Australia. Includes milk cartons, printers' offcuts, and office computer paper.	100% pre/post-consumer wastepaper	Australia	90	Nil	4.5%	>7.8	Sodium hypochlorite (common household bleach)	150 +/- 40	92%
Plantation 80	Australian wastepaper and cotton waste from the cotton oil seed industry in NSW.	70% pre/post-consumer waste 30% cotton waste	Australia	115	Nil	4.5%	Alkaline	Sodium hypochlorite (common household bleach)	150 +/- 40	-
Ozcopy (recycled)	Pre/post-consumer wastepaper collected from various sources around Australia. Includes milk cartons, printers' offcuts, and office computer paper.	100% pre/post-consumer wastepaper	Australia	90	Nil	4.5%	>7.8	Sodium hypochlorite (common household bleach)	150 +/- 40	92%
Green Wrap	Australian pre- and post-consumer wastepaper. Includes LPB containers, printers and converters waste. Cotton waste is from the cotton seed oil industry. New fibres are from sustainably managed plantation forests.	50% pre/post-consumer wastepaper 10% cotton waste 40% plantation fibre	Australia	130	Nil	4.5%	>7.8	Sodium hypochlorite (common household bleach)	145 +/- 35	92%
Cyclus Offset	De-inked pulp produced from recycled paper collected from offices, printers and households.	100% pre/post-consumer wastepaper	Denmark	-	100 years	-	Neutral 7.8	Hydrogen peroxide Formandinsulfon acid	-	94%
Canon 100 / Nautilus	Pre and post-consumer wastepaper sourced from a variety of different waste streams as specified under the restrictions for products classified under the "Blue Angel" sign.	100% pre/post-consumer wastepaper	Austria	85 +/- 1-3	200 years	<5%	Neutral 7.0+/-0.5	Oxygen	175 +/-70	93% +/-2
"Best of" Triotec	De-inked pulp produced from recycled paper collected from USA and Canadian pulp mills.	50% pre/post-consumer wastepaper 50% sawmill waste or plantation	Austria	130 +/-2	100 years	<5%	Neutral 7.0+/-0.5	Oxygen	150 +/-50	90% +/-1

### ***Fibre Source and Composition***

Office paper can be manufactured from fibres sourced from native or plantation forests, recovered fibre from pre- and post-consumer waste streams, alternative fibres such as hemp, bagasse (sugarcane) and cotton or a blend of the different fibres.

Details on the source of the fibre for the recycled content papers is provided in terms of country of origin, whether the fibre is sourced from pre- or post-consumer waste streams and the use of alternative or new fibres. A breakdown of pre- and post-consumer fibre used in the different papers is not defined. Based on the fact there is variability in the source of fibre between different batches of paper manufactured, it is more accurate to state the paper is manufactured from a certain percentage of recycled fibre. The same was reported for both the Australian and imported papers.

If the priority is to purchase a paper that contains a high percentage of recycled fibre the brands that are manufactured from 100% recovered paper include:

1. Canon 100 / Nautilus, Ozcopy (Recycled), Renew 100 and Revive

If the priority is to purchase a paper that contains wastepaper recovered within Australia, any of the papers manufactured in Australia utilise wastepaper recovered in Australia.

### ***CIE Whiteness***

CIE Whiteness is an internationally recognised standard of paper brightness developed in Europe by the Centre Internationale d'Eclairage. The higher the score for the CIE whiteness, the whiter the paper will appear. Recycled content papers are frequently off-white and have a lower CIE whiteness than new paper.

If the priority is to purchase a white paper, the highest rating papers are:

1. "Best Of" and Green Wrap – CIE Whiteness 130
2. Plantation 80 – CIE Whiteness 115
3. Renew 80 – CIE Whiteness 110

If the priority is to purchase a paper that has a recycled paper appearance and is not bright white, the Canon100/Nautilus has the lowest CIE Whiteness, 85.

### ***Archival Quality***

Many recycled papers are not recommended for archival purposes because the history of the recycled fibre that has gone into the manufacture of the paper is unknown. Without a guarantee that all fibre in the paper is of archival quality, the manufacturers will not guarantee the paper for this use. If the priority is to purchase a paper that has archival properties, the highest rating papers are:

1. Canon 100 / Nautilus – 200 years
2. Best Of and Cyclus Offset – 100 years

Paper used for archiving must have a pH of no less than 7.0. All papers listed in Table 1 meet this specification.

### ***Moisture Content***

The moisture content of paper is the amount of moisture contained in paper expressed as a percentage of its total weight. The percentage of moisture found in paper can influence how the paper performs in office equipment because the dimensional stability of the paper may be altered by changes in temperature and humidity levels. For example a paper that has high moisture content is likely to curl when run through a photocopier or printer.

All papers listed in Table 1 have a moisture-content of 4.5 - 5% and meet the standard specification for office paper.

### ***pH***

All papers listed in Table 1 are alkaline and have a pH between 7 and 7.8. Alkaline papers are preferable to acidic papers as they maintain quality over a long timeframe and are suitable for long-term storage.

### ***Finish (Sheffield)***

Paper is produced in a variety of surface finishes and the term "finish" describes the smoothness or roughness apparent when handling or visually appraising the paper. The finish can be expressed in terms of Sheffield, Gurley, Bekk or Bendtsen units.

The lower the number, the smoother the surface of the paper. If the priority is to purchase a paper that has a smoother finish, using the Sheffield rating, the top rating papers are:

1. Green Wrap
2. "Best Of", Ozcopy (Recycled), Plantation 80, Renew 80 and Renew 100

### ***Opacity***

The opacity of a paper is the property that prevents "show-through" of printing from one side of the sheet to the other. This is particularly important for double-sided copying or printing. A paper that has a low opacity rating is more transparent and less suitable for double-sided printing or copying. The opacity of all nine recycled content papers is between 90-94%. This is above the minimum requirement for office paper, which is generally around 85%.

In conjunction with actual paper characteristics you should ensure you are only using a product for the purpose in which it is designed. The Table of Recommended Use provides a matrix of supplier recommendations for the use of the different papers.

*Table of Recommended Use*

PAPER NAME	RECOMMENDED USE										
	Copying – Low/Medium Volume	Copying – High Volume	Colour Copying	Low-medium Laser Printing	High Volume Laser	Colour Laser	Digital Printing	Mono Ink Jet Printing	Colour Ink Jet Printing	Faxing	Duplexing
<b>Revive</b>	Guaranteed	Guaranteed	Not Recommended	Guaranteed	Guaranteed	Not Recommended	Guaranteed	Recommended	Not Recommended	Recommended	Guaranteed
<b>Renew 80</b>	Recommended	Recommended	Recommended	Guaranteed	Recommended	Recommended	Recommended	Recommended	Recommended	Recommended	Recommended
<b>Renew 100</b>	Recommended	Not Recommended	Not Recommended	Recommended	Not Recommended	Not Recommended	Recommended	Recommended	Not Recommended	Recommended	Not Recommended
<b>Plantation 80</b>	Recommended	Recommended	Recommended	Guaranteed	Recommended	Recommended	Recommended	Guaranteed	Recommended	Recommended	Recommended
<b>Ozcopy (Recycled)</b>	Recommended	Not Recommended	Not Recommended	Recommended	Not Recommended	Not Recommended	Recommended	Recommended	Not Recommended	Recommended	Not Recommended
<b>Green Wrap</b>	Guaranteed	Guaranteed	Recommended	Guaranteed	Guaranteed	Recommended	Guaranteed	Guaranteed	Recommended	Guaranteed	Guaranteed
<b>Cyclus Offset</b>	Not Tested	Not Tested	Not Tested	Recommended	Recommended	Recommended	Not Recommended	Not Recommended	Not Recommended	Not Tested	Not Tested
<b>Canon 100 / Nautilus</b>	Guaranteed	Guaranteed	Not Tested	Guaranteed	Guaranteed	Not Tested	Guaranteed	Guaranteed	Not Tested	Guaranteed	Guaranteed
<b>“Best Of”</b>	Guaranteed	Guaranteed	Not Tested	Guaranteed	Guaranteed	Not Tested	Guaranteed	Guaranteed	Not Tested	Guaranteed	Guaranteed

The four categories provided for this summary are:

- Guaranteed – allocated if the paper is suitable for a particular use and has been tested extensively across a range of office equipment in the particular category.
- Recommended – allocated if a paper is suitable for a particular use and is recommended for that application. The difference between the recommended and guaranteed rating is the level of testing conducted in different office equipment and the manufacturer’s certification of the product.
- Not tested – generally not an indication that the product should not be used, but simply an indication that no test results are available for the particular use. For example, Cyclus Offset is primarily sold to industrial printers for offset printing, however the 80gsm paper is sometimes used for printing and copying purposes. Because the company does not specifically sell the paper for these purposes and has not conducted any testing, the ‘not tested’ category is highlighted for many applications. A not tested rating was also given for some colour applications if the quality of final prints is believed to be compromised and not of the highest quality that would be achieved if paper designed specifically for colour printing was used.
- Not Recommended – generally allocated if the paper is not designed for a particular use or if it is felt that the quality of final prints may be compromised. This is especially applicable to the use of recycled papers for colour printing if the paper has a low CIE Whiteness.

## *Performance Versus Quality*

The issue of performance versus quality is important because it influenced the response from some of the paper manufacturers and suppliers. Recycled content paper often lacks the brightness of new fibre papers, however brightness is not an indication of an inferior quality paper in terms of its performance in office equipment. Despite this, many companies gave consideration to the expected quality of the final print when guaranteeing a product for a particular use. The following advice was given:

“If the final print quality is not of the highest quality, the paper product should not be guaranteed for that use. Although some brands of paper containing recycled fibre will work in colour printing equipment, the final print quality may not be the superior finish as would be achieved with the use of grades that are specially produced for colour printing uses.”

### *Who Do I Contact to Purchase Recycled Content Paper?*

<i>Supplier</i>	<i>Phone</i>	<i>Address</i>	<i>Product</i>	<i>Contact</i>
A. Moir & Co.	(02) 8595 1111	4 Fountain Street ALEXANDRIA NSW 2015	Nautilus	Chris Gerbach
Canon Fax and Copy Supplies	13 13 93	1 Thomas Holt Drive NORTH RYDE NSW 2113	Canon 100	Glen Rooney
CPI	(02) 9681 0555	115 Woodpark Road SMITHFIELD NSW 2164	Cyclus Offset	Michael Decourcey
Danka Australia	1300 787 871		“Best Of” Triotec	
Ecocern	(02) 9337 2737	PO Box 59 WATSONS BAY NSW 2030	Nautilus Ozcopy (Recycled)	Michael Perroux
EcoPaper Pty Ltd	(02) 4464 3210	2A Old Creamery Lane BERRY NSW 2535	Renew 80 Renew 100	
Edwards Dunlop	(02) 8746 8746	457 Waterloo Road CHULLORA NSW 2190	Renew 80 Renew 100	
Fuji Xerox	(02) 9700 6800	55 Bourke Road ALEXANDRIA NSW 2015	Green Wrap Revive	Mike Aldred
Genesis Australia	(02) 9584 2555	Unit 2/6 Jindalee Place RIVERWOOD NSW 2210	Renew 80 Renew 100 <i>Hemptec (Alternative Fibre)</i>	Mark Plateris
Longbottom Paper		PO Box 46 RIVERWOOD NSW 2210	Nautilus <i>Hemptec (Alternative Fibre)</i>	Beatrice
Premier Paper Co.	(03) 9416 8188	27-29 Raglan Street PRESTON NSW 3072	Renew 80 Renew 100	
Q-Stores	(02) 9318 7888	4 Huntley Street ALEXANDRIA NSW 2015	Green Wrap Renew 80 Renew 100	Sharon Field
Raleigh Paper	(02) 9743 1311	5 Leeds Street RHODES NSW 2138	Plantation 80	Rebecca Williams
Tomasetti Paper House	(02) 9335 1444	21 Worth Street CHULLORA NSW 2190	Renew 80 Renew 100 Ozcopy (Recycled)	Stephen Lowe

## *What Difference Does it Make if the Recycled Fibre is Sourced from Pre- or Post-Consumer Waste Streams?*

The rationale behind the focus on purchasing products manufactured from material recovered from the post-consumer waste stream is that it creates markets for materials recovered from recycling programs and diverts materials disposed of further down the supply chain. This point of view should be encouraged, however with due regard for actual end-product requirements, expected quality and a clear understanding of why certain materials are used.

All-purpose copy and office paper must be of high quality to meet a certain standard of performance. To achieve the expected quality in the paper, only certain grades of recovered fibre can be used in the paper making process and these need to be carefully monitored and sourced from suitable operations.

A point to remember is that whether the source of recycled fibre is from printers' offcuts, office waste or sourced from kerbside collections, they are all reusable resources that should be diverted from landfill. If pre-consumer waste is not recycled it will still end up as landfill.

## *What is Pre- and Post-consumer Waste?*

The Australian/New Zealand Standard AS/NZS ISO 14021:2000, Environmental labels and declarations - Self-declared environmental claims (Type II environmental labelling) defines pre- and post-consumer materials as the following:

### **1) Pre-consumer material**

*Material diverted from the waste stream during a manufacturing process. Excluded is re-utilisation of materials such as rework, regrind or scrap generated in a process and capable of being reclaimed within the same process that generated it.*

### **2) Post-consumer material**

*Material generated by households or by commercial, industrial and institutional facilities in their role as end-users of the product which can no longer be used for its intended purpose. This includes returns of material from the distribution chain.*

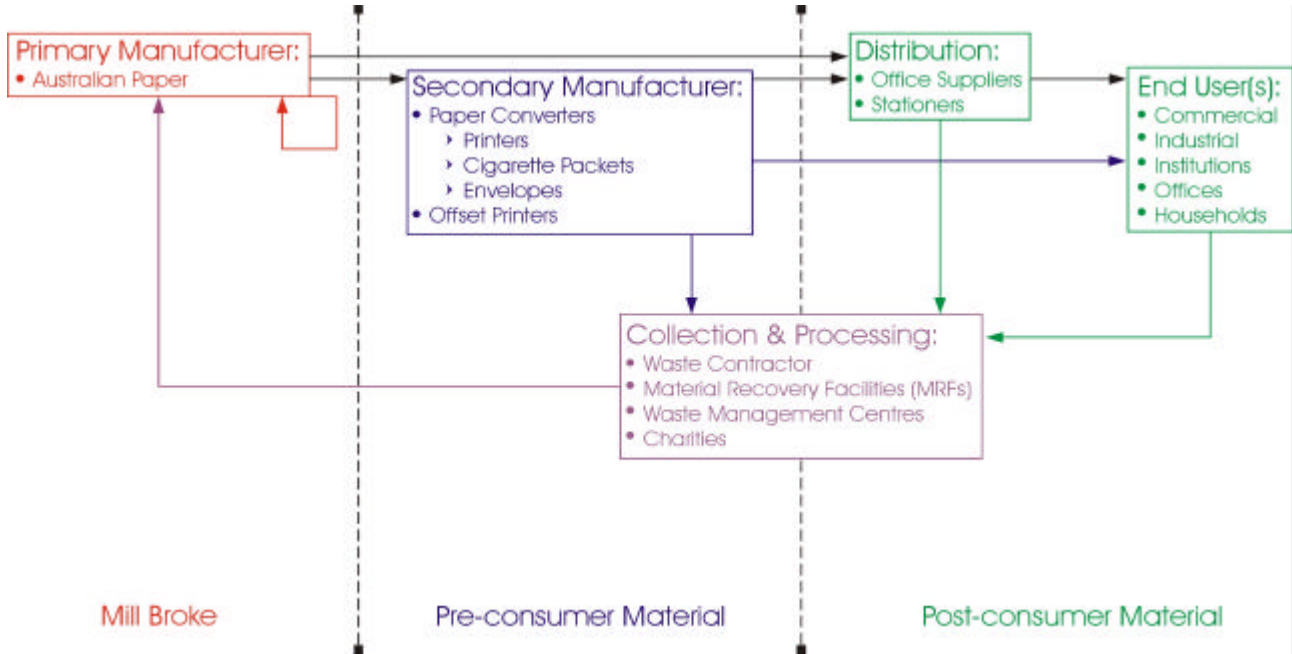
In the case of fibre used to manufacture office paper, sources of pre-consumer waste are retrieved from companies such as printers and converters. These companies produce paper waste when conducting some of the following activities:

- Manufacturing envelopes and paper packaging
- Paper sack converting
- Printed stationary manufacturing
- Office paper converting – offcuts and trim
- Manufacturing tetrapaks, cartons and drinking cups
- Producing printed products – offcuts and trim

The paper sourced from these companies is generally high quality, provides a regular supply and would otherwise be disposed of to landfill if it was not collected for use in new paper products. Post-consumer waste is the material that is collected further down the supply chain from sources such as households, offices and schools, as these are the end consumers. Much of this material is collected as mixed grades of paper which include newspapers, office paper, magazines and cardboard packaging.

There is a third type of waste produced that is sometimes confused with pre-consumer waste. This is material that can be reused by the company that actually creates the waste. In the case of office paper this resource is known as mill broke and it is the paper waste generated by the mill itself in the production of paper. Mill broke is not classed as recycled fibre as it is simply good business practice to reuse this material.

Figure 1 provides a visual representation of the three paper waste streams and the movement of wastepaper through distribution back to the mill.



**Figure 1: Paper Waste Stream Overview**



**Figure 2: Baled Liquidpaperboard for Recycling**

Another waste product utilised in the production of Australian papers is a by-product of the annual cotton seed oil industry in NSW. This material is classed as industrial waste AS4082 – 1992, but is not a post-consumer waste product.

Utilising cotton linters assists the cotton industry to dispose of their industrial waste and also helps to ease the demand for new wood fibres from native and plantation forests. This has merit but would be overlooked if seeking only 100% post-consumer paper.

Fibre from liquidpaperboard (LPB) packaging is utilised to make recycled papers in Australia because the quality of the fibre meets quality specifications for office paper. LPB is sourced from companies that generate scrap in the manufacture of LPB packaging, which is pre-consumer waste, and also the containers themselves collected from kerbside collections, which is post-consumer waste.



**Figure 3: Baled Cotton Linter Waste**

Confusion about the origin of the recycled content in paper is a matter of importance because of the influence it may have on purchasing decisions. Furthermore, when comparing international and Australian products it is important to ensure that the same meaning is given to definitions.

Initial investigations of the fibre content of the different recycled papers indicated that one paper, Nautilus or Canon 100, was manufactured from 100% post-consumer wastepaper. More detailed correspondence with the Austrian mill and the Australian representative identified that the Austrian mill categorises any paper product that has left the mill to be post-mill and therefore post-consumer waste. As a result many of the grades of paper that are used to make the Nautilus or Canon 100, which the Austrian mill class as post-consumer, would be categorised as pre-consumer under Australian and New Zealand standards.

Furthermore the actual percentage of pre- and post-consumer waste used in the manufacturing process cannot be defined for the Austrian papers because the content varies considerably between the different batches of paper produced. This is the same for the recycled content papers manufactured in Australia. It was determined that it would quite difficult to manufacture a high performance office paper from post-consumer paper, given the Australian and New Zealand definition.

### *I Only Want a Paper that is 100% Recycled Fibre*

Paper fibres differ from other recyclable materials such as glass and steel in that they can only be recycled five or six times. Paper fibres become damaged during the recycling process, shrink and break, so they are eventually no longer strong enough to form paper.

The fact that paper fibres break down is rationale for some papers containing a percentage of new fibre. When wastepaper is used to make recycled products, it is not possible to determine how many times the paper has previously been recycled, which impedes the ability to guarantee paper quality from batch to batch.

Australian Paper has determined that the inclusion of at least 20% new fibre in the production of recycled content office paper is sufficient to ensure paper quality can be maintained more readily. Using a paper that is 80% recycled content could be viewed as 'not truly' supporting recycled products because the product is not manufactured from 100% recycled fibre. However, on the other hand, higher quality paper that contains a percentage of new fibre may be viewed as utilising wastepaper without compromising on reliability of the paper.

There needs to be a balance between environmentally preferred products and a paper that will meet end user needs in terms of performance and quality of final print.

### *Why Should I Buy Recycled Paper?*

There are sound economic and ecological reasons for recycling paper and buying products that are manufactured from recovered fibres. The two primary goals and rationale for recycling are to divert waste that would normally be disposed of to landfill and to reduce the consumption of natural resources.

Increasing the amount of wastepaper that is utilised in paper production relieves the need for new fibre which eases the impact on forests, reduces the amount of material that needs to be disposed of to landfill, reduces greenhouse gases and also supports waste management systems.

Preliminary studies show that paper recycling has substantial greenhouse gas benefits compared to landfilling the same material. Some of the most significant impacts result from water conservation, decreased energy use and process emissions compared to that consumed during primary production. Furthermore, paper disposed to landfill is a significant contributor to methane gas, which has a global warming potential that is 21 times more damaging than carbon dioxide (Metz, 2000).

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