

Know Your Paper

A Guide to Purchasing Recycled Content Office Paper

April 2004



Department of
Environment and Conservation (NSW)



Department of
Environment and Conservation (NSW)

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The Purpose of this Guide

KNOW YOUR PAPER 2004 – A Guide to Purchasing Recycled Content Office Paper is the second updated version of the popular ‘Know Your Paper Guide’, originally compiled in 2000 and first updated in 2002. The intention of the Guide is to assist anyone wishing to purchase 80gsm all-purpose office paper that contains recycled fibre, by providing:

- A list of office papers that contain some recycled fibre and are readily available in Australia;
- Up-to-date product and performance information for the available brands;
- Contact details for companies that supply the papers;
- Answers to commonly asked questions; and
- Links to further information about recycled content office papers and buying recycled products in general.

The Department of Environment and Conservation (NSW) aims to keep all recycled product guides up-to-date in line with market changes to ensure that consumers are kept well informed about recycled content alternatives. This Guide retains much of the original information compiled for the 2000 and 2002 Guides but also takes into consideration additional information, new papers and changes to existing paper products.

The information detailed in this Guide is based on data and information obtained from manufacturers and suppliers of the recycled office papers. It should be noted that the information is subject to change as

the quality of existing products is improved and new products are developed or become available in the Australian market place. You should check the information for its currency and make sure that any paper you buy is suitable for your purposes. Because of the variation in the recycled fibre content of the different papers, all papers are collectively described as ‘recycled content’ meaning that they contain a percentage of recycled wastepaper fibre.

One positive aspect to report on the ‘buy recycled front’ is that the availability of recycled content office papers has continued to climb since the production of the first Know Your Paper Guide in 2000. 18 brands of recycled content office paper are now readily available in the market place and manufacturers are increasingly providing a more detailed level of information to support environmental claims and assist consumers to make more informed purchasing decisions.

This continues to be a positive reflection of how market demand is impacting the recycled office paper arena as more emphasis is placed on the procurement of environmentally preferable products.

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

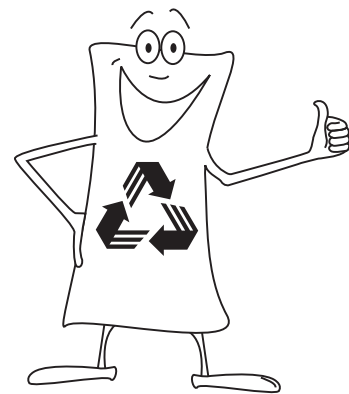
This Guide is written in response to the most frequently asked questions about recycled content office papers by their users.

This updated third edition of the Guide further contains additional information about:

- **Independent verification of manufacturer's claims;**
- **Accredited Environmental Labels;**
- **Environmental credentials of mills; and**
- **Archival properties of recycled papers.**

The Guide is designed to provide an overview and straightforward information about what recycled office papers are available, what they are made of, where they come from, what they are suitable for and how to get them.

Please contact the Department of Environment and Conservation (NSW) for further enquiries, other waste reduction resources or if you are aware of any updates or additional information that should be included in the next edition of this Guide.



Contents

Why Should We Buy Recycled Paper?2

What Brands of Paper Contain Recycled Fibre?3

How do the Different Papers Compare?3

Will the Paper Suit my Needs?10

Will Using Recycled Content Office Paper Void
Product Warranties and Impact Service Agreements?12

What is Pre- and Post-Consumer Waste?13

What Difference Does it Make if the Recycled Fibre is
Sourced from Pre- or Post-Consumer Waste Streams?15

Should I Choose a Paper that is 100% Recycled Fibre?15

Where Can I Find out More About Recycled Content
Papers and Other Recycled Content Products?16

Who do I Contact to Purchase Recycled Content Office Paper?19

Invitation to submit additional information for future updates of the Guide21



Why Should We Buy Recycled Paper?

Despite the well known endeavour to achieve the 'paperless office', the continuing growth of the economy is increasing the demand for paper products with printing and writing papers showing the strongest growth¹.

In the 2001/02 financial year Australians used approximately 1.23 million tonnes of printing and writing paper². This consumption is equivalent to over **30 million trees** based on the figure that 1 tonne of virgin office paper requires the equivalent of 24 trees³.

Further, office paper makes up a significant percentage of the commercial paper waste stream and is the largest component of solid waste generated by offices. It is estimated that 240,000 tonnes of high value printing and writing paper is still disposed to landfill each year⁴ in New South Wales alone.

There are sound economic and ecological reasons for recycling paper and also buying products that are manufactured from recovered fibre. The primary goals and rationale for recycling and 'buying recycled' include:

Diversion of materials from landfill

Recycling and buying recycled ensures that valuable resources are not disposed to landfill.

Energy savings

Producing paper from recovered fibres consumes 60-70% less energy than manufacturing paper from virgin pulp⁵.

Water conservation

Producing paper from recovered fibres consumes 55% less water than manufacturing paper from virgin pulp⁵.

Greenhouse gas benefits compared to landfilling the same material

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 dioxide⁶.

Reductions in the consumption of natural resources

Buying recycled content products helps to reduce pressure on natural resources.

Improving collection and processing infrastructure

Increasing the demand for recycled content products supports the economy and diversity of secondary markets.

Employment

Supporting recycling markets helps to create more jobs.

The closed loop recycling of printing and writing papers is a major practical requirement of ecologically sustainable development. The world volume of paper production in 1998 was 294 million tonnes⁷, which is a six fold increase since 1950 – and it is expected to increase by another one third by 2010.

The combination of successful office recycling programs and buying recycled content paper will help to 'close the loop' for paper recycling. Ways of introducing and improving office recycling systems can be found in the Department of Environment and Conservation's guides on Waste Reduction in Office Buildings, available at -

www.resource.nsw.gov.au/officebuildings

¹ <http://www.nafi.com.au/faq>

² <http://www.apic.asn.au>

³ <http://www.dolphinblue.com./whybuy.html>

⁴ Southern Sydney Waste Board (2001) Advancing Waste Paper Recovery in New South Wales

⁵ <http://www.treecycle.com/info.html>

⁶ Metz, M. (2000) A Load of Rubbish. Waste Management and Environment, Vol. 11(5) p.35-37

⁷ State of the World Report 2002

What Brands of Paper Contain Recycled Fibre?



There are currently 18 brands of recycled content office paper available in New South Wales. Amongst the available brands there is great diversity in the various paper characteristics and recommended usage.

To help procurement professionals source a paper that meets environmental preferences and performance needs, three tables have been compiled which enable an easy comparison of the basic and

environmental characteristics and the recommended use of the different brands of paper:

- Table 1 – Characteristics of Recycled Content Office Papers
- Table 2 – Production Details of Recycled Content Office Papers
- Table 3 – Recommended Use of Recycled Content Office Papers

How do the Different Papers Compare?

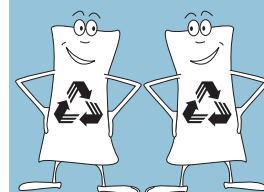


Table 1 details a range of characteristics for the different brands of recycled content office paper reported by paper manufacturers and suppliers under the following key headings:

Whiteness

CIE Whiteness is an internationally recognised standard of paper brightness developed in Europe by the Centre Internationale d’Eclairage (CIE). The higher the score for the CIE whiteness, the whiter the paper will appear. Recycled content papers were traditionally off-white with a lower CIE whiteness than new paper, however new advances in the manufacture of recycled papers has seen an



improvement in the relative whiteness of many brands.

Whiteness may be a purchasing factor but it is important to remember that it is an aesthetic consideration and not an indicator of performance.

Bleaching Agent

Bleaching agents are used during the pulping of virgin wood fibres and the whitening of recycled paper. The type of bleaching agent used in paper manufacturing is an important factor for procurement staff if considering the use of chlorine in the total environmental impacts of paper production. Because of health and environmental concerns associated with the production of organochlorines and other potentially harmful substances, some office papers are now manufactured and described as Totally Chlorine Free (TCF), Elemental Chlorine



Free (ECF – made without chlorine gas and using less harmful chlorine derivatives) or Processed Chlorine Free (PCF – recycled paper not re-bleached with chlorine). See pages 17 to 18 for websites containing more detailed information about recycled office papers' use of bleaching agents and possible environmental impacts.



Without a guarantee that all fibre in the paper is of archival quality, the manufacturers will not guarantee the paper for this use. However manufacturers do often recommend the paper for a specific number of years, either based on a certain standard or individual recommendations.



Most general correspondence is only kept for a few years but financial and contractual documents are often kept for 10 to 20 years.

Consideration should be given to how long your business requires paper to be archived for; manufacturers' recommendations of 100 years is a long time!



Archival Properties

Acid free

Paper used for archiving must have a pH of no less than 7.0. 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.



Lignin free

Lignin free refers to paper made with less than 1% lignin, which is most accurately called low-lignin. Lignin is an organic substance that, with cellulose, forms the chief part of woody tissue, ie. it is the bonding element which holds wood fibres together. Papers having a high-lignin content (including papers made using a mechanical pulping process) should not be used for archival applications as its presence causes paper to change colour and become brittle over time.



Moisture Content

The moisture content of paper is the amount of moisture contained in paper expressed as a percentage of its total weight. The amount 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 4.3-5% and meet the standard specification for office paper.

Recommended years

Many recycled papers are not recommended for archival purposes because the history of the recycled fibre that has gone into the



Finish (Sheffield)

The term 'finish' describes the smoothness or roughness apparent when handling or visually appraising the paper. Paper is produced in a variety of surface



finishes. The finish can be expressed in terms of Sheffield, Gurley, Bekk or Bendtsen units.

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 most of the recycled content papers is 88-94%. This is above the minimum requirement for office paper, which is generally around 85%.

Table 2 includes additional characteristics relating to the recycled fibre and other information about the paper manufacturers under the following headings:

Country of Manufacture

The country of manufacture refers to the area where the paper was manufactured, not necessarily where the fibre was sourced.

Fibre Composition and Source

Office paper can be manufactured from fibres sourced from native or plantation forests, recovered fibre from pre- and post-consumer waste streams, (see page 13 for definitions) 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.

Independent Verification of Environmental Claims

Increasingly companies are seeking independent verification of environmental claims to support credibility and provide external stakeholders with further confidence in the claims that are being made. Although not generally standard practice at present, paper manufacturers and importers were asked to report if the environmental claims for the recycled content papers (ie. the recycled content) are independently verified.



Environmental Labels

Environmental labelling is one mechanism for further increasing consumer confidence in the environmental claims made by manufacturers for certain products. Some of the imported products carry internationally accredited environmental labels. There is a newly developed environmental labelling scheme in Australia, introduced by the Australian Environmental Labelling Association Inc., which has developed a draft standard for office paper. Further information is available at www.aela.org.au.



Environmental Credentials of Mills

Consumers are increasingly looking beyond the characteristics of products to the overall environmental performance of manufacturers and the outputs of the manufacturing process. Manufacturers were therefore asked to report if the mill where the different brands of recycled content paper were manufactured has an Environmental Management System (EMS) currently accredited or recognised by a third party.



KNOW YOUR PAPER – A Guide to Purchasing Recycled Content Office Paper

Table 1 – Characteristics of Recycled Content Office Papers

Paper Name	Whiteness (CIE)	Bleaching Agent	Archival Properties			Moisture Content	Finish (Sheffield)	Opacity
			Acid Free	Lignin Free	Manufacturer Recommended Years			
Best of Triotec	160 +/-2	Oxygen	Yes*	Yes**	100 years	<5%	150 +/-50	90% +/-1
Canon 100	94 +/-3	Oxygen	Yes*	Yes**	100 years	<5%	190 +/-70	91% +/-2
Canon 100 High White	134 +/-3	Oxygen	Yes*	Yes**	100 years	<5%	190 +/-70	91% +/-2
E-Copy	160 +/-2	Oxygen	Yes*	Yes**	100 years	<5%	150 +/-50	90% +/-1
Ecocern Brown	Brown	None	Variable per scrap used	Variable per scrap used	>10 years	<5%	Coarse	99%
Evolve Office	150	Sodium hydrosulphite, hydrogen peroxide	Yes*	No**	>100yrs***	4.5%	160 +/-20	90%
Evolve Business	160	Sodium hydrosulphite, hydrogen peroxide	Yes*	No**	>100yrs***	4.5%	160 +/-20	91-94%
EXP 50R	160 +/-2	Oxygen	Yes*	Yes**	100 years	<5%	150 +/-50	90% +/-1
EXP 60R	125 +/-2	Thiourea dioxide	Yes	Unknown – under test	>10 Years****	<4.3%	150 +/-35	92% +/-1
Green Wrap	125	Thiourea dioxide	Yes	Unknown – under test	>10 Years****	4.3%	150	92%
Nautilus Standard	94 +/-3	Oxygen	Yes*	Yes**	100 years	<5%	190 +/-70	91% +/-2
Nautilus High White	134 +/-3	Oxygen	Yes*	Yes**	100 years	<5%	190 +/-70	91% +/-2
Officeworks Recycled	160 +/-2	Oxygen	Yes*	Yes**	100 years	<5%	150 +/-50	90% +/-1
Recycled Supreme	134	Hydrogen peroxide, Oxygen + Sodium Hydrosulphite	Yes*	Yes**	100 years	4.5%	220 (Bendtsen)	90%
Reflex 35% Recycled	140	ECF equivalent using oxygen, peroxide and chlorine derivative	Yes	Unknown - under test	>10 Years****	4.5%	130-165 (Bendtsen)	93%
Renew 80	110	Thiourea dioxide	Yes	Unknown - may not pass test	>10 Years****	4.5%	150 +/-40	92%
Renew 100	90	Thiourea dioxide	Yes	Unknown - may not pass test	>10 Years****	4.5%	150 +/-40	92%
Revive	90	Thiourea dioxide	Yes	Unknown - may not pass test	>10 Years****	4.5%	150 +/-40	92%

* The alkaline reserve meets the standard requirement for ISO 9706:1994 Information and documentation – Paper for documents – Requirements for permanence.

** According to the lignin free standard for ISO 9706.

*** According to DIN 6738 - German permanent paper standard (Paper and Board: Lifespan Classes, April 1992) approved by the German Standards Institute.

**** When stored under the correct conditions.

Table 2 – Production Details of Recycled Content Office Papers

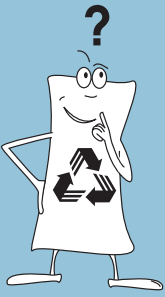
Paper Name	Country of Manufacture	Fibre Composition	Recycled Fibre Source		Environmental claims for the paper are independently verified	Paper carries one or more accredited environmental labels	Mill has an EMS currently accredited or recognised by a third party
			Country of Origin	Waste Stream			
Best of Triotec	Austria	50% recycled content – pre- & post-consumer 50% plantation fibre	Various	Recycled, de-inked and oxygen bleached pulp containing high percentage of post-consumer waste. Virgin TCF (totally chlorine free) oxygen bleached pulp.	No	No	Yes
Canon 100	Austria	100% recycled content – pre- & post-consumer	Various European countries	Pre- and post-consumer wastepaper sourced from a variety of different waste streams as specified under the restrictions for products classified under the German Blue Angel mark.	Information not available	German Blue Angel	Information not available
Canon 100 High White	Austria	100% recycled content – pre- & post-consumer	Various European countries	Pre and post-consumer wastepaper sourced from a variety of different waste streams as specified under the restrictions for products classified under the German Blue Angel mark. However, due to inclusion of optical brightening agents for higher whiteness, this product does not carry the Blue Angel mark.	Information not available	No	Information not available
E-Copy	Austria	50% recycled content – pre- & post-consumer 50% plantation fibre	France, Belgium, Holland, Germany, Switzerland, United Kingdom	Recycled, de-inked and oxygen bleached pulp containing high percentage of post-consumer waste. Virgin TCF (totally chlorine free) oxygen bleached pulp.	No	Scandinavian Nordic Swan	No
Ecocern Brown	Australia	100% recycled content – post-consumer	Australia	Kerbside collections and industrial scrap. Not de-inked or bleached.	Yes	No	Yes
Evolve Office	United Kingdom	100% recycled content – post-consumer	United Kingdom	Collected from offices. 70% sourced within 70km radius from the mill.	Yes	No	Maintains certification to ISO14001
Evolve Business	United Kingdom	100% recycled content – post-consumer	United Kingdom	Collected from offices. 70% sourced within 70km radius from the mill.	Yes	No	Maintains certification to ISO14001
EXP 50R	Austria	50% recycled content – pre- & post-consumer 50% plantation fibre	Austria	Recycled, de-inked and oxygen bleached pulp containing 86% post-consumer waste. Virgin totally chlorine free oxygen bleached pulp.	Yes	No	Yes

Table 2 – Production Details of Recycled Content Office Papers

Paper Name	Country of Manufacture	Fibre Composition	Recycled Fibre Source		Environmental claims for the paper are independently verified	Paper carries one or more accredited environmental labels	Mill has an EMS currently accredited or recognised by a third party
			Country of Origin	Waste Stream			
EXP 60R	Australia	60% recycled content - pre- and post-consumer 40% plantation fibre	Australia (<5% New Zealand)	Recycled, de-inked pulp containing a high percentage of post-consumer waste. Virgin imported sustainably managed plantation fibre. No native forest pulp or sawmill waste.	No – currently investigating	No	Maintains certification to ISO14001
Green Wrap	Australia	60% recycled content - pre- and post-consumer 40% plantation fibre	Australia (<5% New Zealand)	Australian pre- and post-consumer wastepaper. Includes liquidpaperboard containers, printers and converters waste. New fibres are from sustainably managed plantation forests.	No – currently investigating	No	Maintains certification to ISO14001
Nautilus Standard	Austria	100% recycled content – pre- & post-consumer	Various European countries	Pre and post-consumer wastepaper sourced from a variety of different waste streams as specified under the restrictions for products classified under the German Blue Angel mark.	Information not available	German Blue Angel	Information not available
Nautilus High White	Austria	100% recycled content – pre- & post-consumer	Various European countries	Pre and post-consumer wastepaper sourced from a variety of different waste streams as specified under the restrictions for products classified under the German Blue Angel sign. However, due to inclusion of Optical Brightening Agents for higher whiteness, this product does not carry the Blue Angel mark.	Information not available	No	Information not available
Officeworks Recycled	Austria	50% recycled content – pre- & post-consumer 50% plantation fibre	Various	Recycled, de-inked and oxygen bleached pulp containing high percentage of post-consumer waste. Virgin TCF (totally chlorine free) oxygen bleached pulp.	No	No	Yes
Recycled Supreme	Sweden	100% post-consumer office waste	France, UK, Holland, Germany, Belgium	100% post-consumer office waste pulp, de-inked and TCF (totally chlorine free) bleached.	Yes	NAPM Eugropa HMISO	Yes. ISO 14001, EMAS Environmental Management Systems
Reflex 35% Recycled	Australia	35% recycled content – pre- & post-consumer 65% new fibre	Australia	Post-consumer office paper and pre-consumer fibre. New fibres are sourced from local and international plantation and regrowth forests with sound environmental credentials.	No	No	Maintains certification to ISO14001

Table 2 – Production Details of Recycled Content Office Papers

Paper Name	Country of Manufacture	Fibre Composition	Recycled Fibre Source		Environmental claims for the paper are independently verified	Paper carries one or more accredited environmental labels	Mill has an EMS currently accredited or recognised by a third party
			Country of Origin	Waste Stream			
Renew 80	Australia	80% recycled content – pre- & post-consumer 20% plantation fibre	Australia	Australian pre- and post-consumer wastepaper. Includes liquidpaperboard containers, printers and converters waste. New fibres are from ecologically sustainable resources.	No – currently investigating	No	Maintains certification to ISO14001
Renew 100	Australia	100% recycled content – pre- & post-consumer	Australia	Pre- and post-consumer collected from various sources around Australia. Includes liquidpaperboard containers, printers' offcuts and office computer paper.	No – currently investigating	No	Maintains certification to ISO14001
Revive	Australia	100% recycled content – pre- & post-consumer	Australia	Pre- and post-consumer collected from various sources around Australia. Includes liquidpaperboard containers, printers' offcuts and office computer paper.	No – currently investigating	No	Maintains certification to ISO14001



Will the Paper Suit my Needs?

As well as actual paper characteristics, it is important to understand the recommended use of different papers to ensure that a particular brand is only used for the purpose for which it was designed. The Table of Recommended Use provides a matrix of supplier recommendations for the use of the different papers.

The four categories of recommended use provided for this summary are:

Guaranteed

Where the paper is suitable for a particular use, has been tested extensively across a range of office equipment in the particular category and is guaranteed by the manufacturer.

Recommended

Where a paper is suitable for a particular use and is recommended by the manufacturer for that application. The difference between the recommended and guaranteed ratings is the level of testing conducted in different office equipment and the manufacturer's certification of the product.

Not Recommended (Q)

Not recommended by the manufacturer because the final Quality of the printed product may be affected (ie. in the case of colour printing). This category of 'not recommended' is not an indication that the paper will not perform in the certain type of office equipment (ie. that it will cause jamming) but rather that the actual quality of the final print may be compromised and not of the highest quality. This is reported to be especially applicable to the use of recycled papers for colour printing if the paper has a low 'whiteness'.

Not Recommended (P)

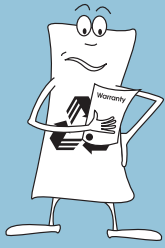
Not recommended by the manufacturer because the actual Performance of the paper in the office equipment may be affected. This category of 'not recommended' is allocated if the paper is not actually designed for use in particular office equipment based on its actual performance in the equipment, i.e. not recommended for high speed copying if the paper is likely to curl and jam.

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Table 3 - Manufacturers' Recommended Use for Recycled Content Office Papers

PAPER	RECOMMENDED USE									
	Copying High Volume	Colour Copying	Low-Medium Volume Laser Printing	High Volume Laser Printing	Inkjet Printing (Text)	Inkjet Printing (Graphics)	Faxing	Duplexing		
Best of Triotec	Guaranteed	Not Recommended (Q)	Guaranteed	Guaranteed	Recommended	Not Recommended (Q)	Guaranteed	Guaranteed		
Canon 100	Guaranteed	Not Recommended (Q)	Guaranteed	Guaranteed	Recommended	Not Recommended (Q)	Guaranteed	Guaranteed		
Canon 100 High White	Guaranteed	Not Recommended (Q)	Guaranteed	Guaranteed	Recommended	Not Recommended (Q)	Guaranteed	Guaranteed		
E-Copy	Guaranteed	Not Recommended (Q)	Guaranteed	Guaranteed	Recommended	Not Recommended (Q)	Guaranteed	Guaranteed		
Ecocern Brown	Recommended	Not Recommended (Q)	Recommended	Recommended	Recommended	Not Recommended (Q)	Not Recommended (Q)	Recommended		
Evolve Office	Guaranteed	Not Recommended (Q)	Recommended	Recommended	Recommended	Not Recommended (Q)	Guaranteed	Guaranteed		
Evolve Business	Guaranteed	Guaranteed	Guaranteed	Guaranteed	Guaranteed	Guaranteed	Guaranteed	Guaranteed		
EXP 50R	Guaranteed	Not Recommended (Q)	Guaranteed	Guaranteed	Recommended	Not Recommended (Q)	Guaranteed	Guaranteed		
EXP 60R	Guaranteed	Recommended	Guaranteed	Guaranteed	Guaranteed	Not Recommended (Q)	Guaranteed	Guaranteed		
Green Wrap	Guaranteed	Recommended	Guaranteed	Guaranteed	Recommended	Recommended	Guaranteed	Guaranteed		
Nautilus Standard	Guaranteed	Not Recommended (Q)	Guaranteed	Guaranteed	Recommended	Not Recommended (Q)	Guaranteed	Guaranteed		
Nautilus High White	Guaranteed	Not Recommended (Q)	Guaranteed	Guaranteed	Recommended	Not Recommended (Q)	Guaranteed	Guaranteed		
Officeworks Recycled	Guaranteed	Not Recommended (Q)	Guaranteed	Guaranteed	Recommended	Not Recommended (Q)	Guaranteed	Guaranteed		
Recycled Supreme	Guaranteed	Recommended	Guaranteed	Guaranteed	Guaranteed	Recommended	Guaranteed	Guaranteed		
Reflex 35% Recycled	Guaranteed	Recommended	Guaranteed	Guaranteed	Guaranteed	Recommended	Guaranteed	Guaranteed		
Renew 80	Recommended	Recommended	Guaranteed	Recommended	Recommended	Not Recommended (Q)	Recommended	Recommended		
Renew 100	Not Recommended (P)	Not Recommended (Q)	Recommended	Not Recommended (P)	Recommended	Not Recommended (Q)	Recommended	Not Recommended (Q)		
Revive	Guaranteed	Not Recommended (Q)	Guaranteed	Guaranteed	Recommended	Not Recommended (Q)	Recommended	Guaranteed		





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

What the Office Equipment Manufacturers Say... on the Record!

When the 2000 Guide was developed 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 would 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.

The general consensus from office equipment manufacturers was that good quality recycled content papers are satisfactory as long as they meet the

specifications for the machines in which they will be used. It is important to ensure that a paper is compatible with the office equipment before conducting a trial and to contact the office equipment manufacturer to investigate whether any previous testing has been conducted.

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 cheaper imported papers that are manufactured from new fibre are prone to causing problems in office equipment. They viewed this as more of an issue than using recycled content papers.

No company representative responded that the use of recycled paper would definitely be detrimental to any warranty or service agreement.

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, may constitute a breach of 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 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 discourage the use of recycled paper if it meets the specifications for the machine in which it will be used. The Australian Competition and Consumer Commission (ACCC) can also be contacted by anyone seeking further information.

What is Pre and Post-Consumer Waste?

Pre- and post-consumer materials have been defined as the following:

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.

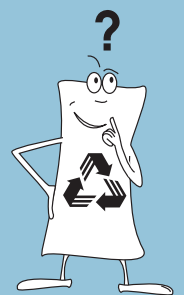
Post-consumer material

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.⁸

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

- Envelope and paper packaging manufacture.
- Paper sack converting.
- Printed stationery manufacture.
- Office paper converting – offcuts and trimmings.
- Tetrapak, carton and drinking cup manufacture.
- Printed products manufacture – offcuts and trimmings.

The paper sourced from these companies is generally high quality, provides a regular supply and would otherwise be



disposed to landfill if it was not collected for use in new paper products.

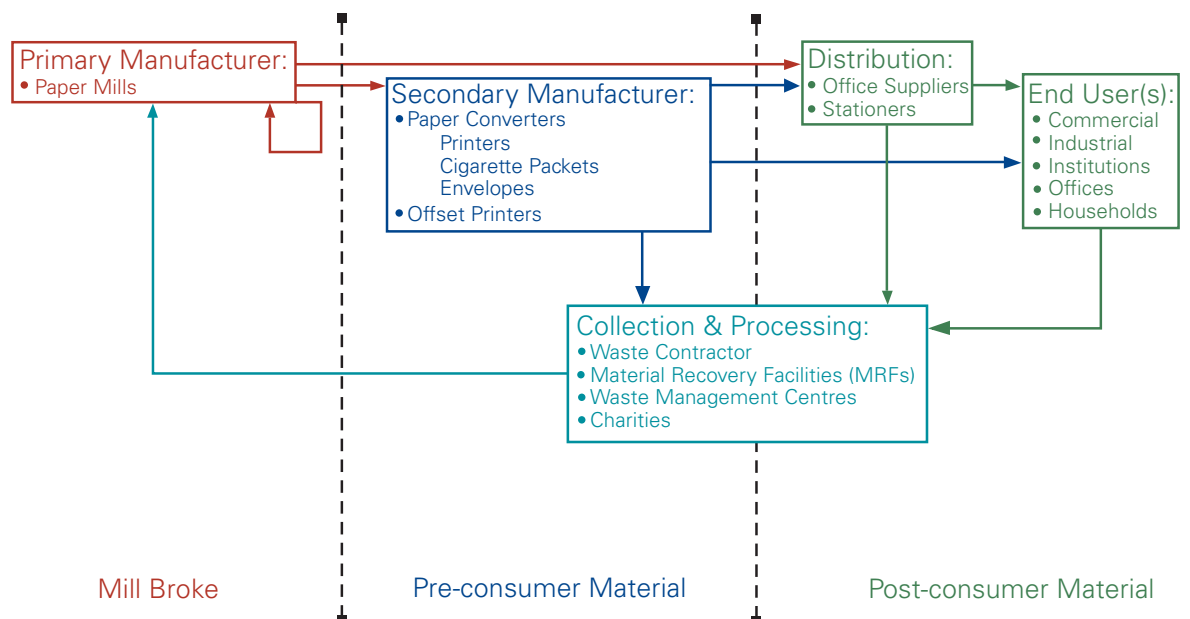
Post-consumer waste is the material that is collected further along the supply chain from sources such as households, offices and schools, as these are the end consumers. Much of this material is collected as mixed grades of paper, which may include newspapers, office paper, magazines and cardboard packaging.

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.

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. It has been documented that Australian and New Zealand definitions of pre- and post-consumer materials can differ to some international definitions. It is therefore important to ensure that the same meaning is given to definitions when comparing international and Australian products.

Figure 1 – Movement of recovered wastepaper through distribution back to the mill.



⁸ AS/NZS ISO 14021:2000 Environmental Labels and Declarations – Self-declared Environmental Claims (Type II Environmental Labelling)

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

Any wasted paper resources recovered for recycling reduces the amount of virgin material (trees) needed to produce paper and cardboard products. Purchasing products made from post-consumer recycled materials supports the markets for materials recovered by recycling services.

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, the fibre is a reusable resource that should be diverted from landfill. If pre-consumer waste is not recycled it will still end up disposed to landfill.

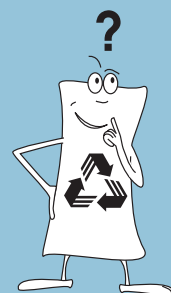
Should I Choose a Paper that is 100% Recycled Fibre?

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 eventually they are 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.

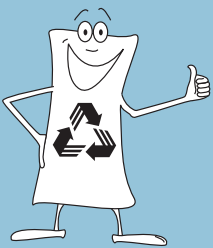
It is sometimes viewed that using a paper that is made from partially recycled materials is 'not truly' supporting recycled products because the product is not manufactured from 100% recycled fibre. Supporting a product that contains some percentage of recycled fibre is beneficial and particularly in the case of office papers, using a higher quality paper that



contains a percentage of new fibre is utilising wastepaper without compromising the reliability of the paper.

What is important is that you choose the highest content that is fit for purpose and in many cases this will be 100%; see Tables 2 and 3.

Where Can I Find out More About Recycled Content Papers and Other Recycled Content Products?



Department of Environment and Conservation (NSW)

www.environment.nsw.gov.au

(Australia) The Department of Environment and Conservation's Sustainability Programs Division works in partnership with industry, governments and the community to implement statewide and local programs. The NSW Waste Avoidance and Resource Recovery Strategy 2003 provides the framework and targets for waste reduction and better use of resources. Its website provides access to directories, tools, reports and other information including the Buy Recycled Guide, the Office Products Guide and Know Your Printing Paper Guide.

EcoRecycle Victoria

www.ecorecycle.vic.gov.au

(Australia) EcoRecycle Victoria is a government agency created to bring about significant changes in the way Victoria addresses resource recovery, recycling and waste management. EcoRecycle's website provides a range of resources, publications and links to related sites to assist anyone wishing to implement a 'buy recycled' program.

Buy Recycled Business Alliance (BRBA)

www.brba.com.au

(Australia) The BRBA is a business based, non-profit organisation which promotes the purchase and use of recycled content products and materials through leadership by example, education and information, research and development and partnerships.

EcoOffice

www.ecoOFFICE.com.au

(Australia) The EcoOFFICE website has been established by the Nature Conservation Council of New South Wales. It's an invaluable site, packed with ideas and practical tips on how to reduce the environmental impact of your office.

Australian Paper

www.australianpaper.com.au

(Australia) Australian Paper is the marketing and manufacturing division of Paperlinx, which produces the Australian brands of recycled content office paper. The site provides further information about products, mills, plantations and has links to both product and parent company websites

such as PaperlinX (www.paperlinx.com.au), which includes information on the papermaking process and the environment.

Chlorine Free Products Association

www.chlorinefreeproducts.org

(USA) The Chlorine Free Products Association is a unique trade association representing companies dedicated to implementing advanced technologies and/or groups supporting products free of chlorine chemistry. Advances in totally chlorine free (TCF) pulp and paper making, water purification, air conditioning, etc. make it possible to eliminate releases of toxic chlorinated compounds to our air, water, and soil. The website includes information on how to tell whether paper has been produced using chlorine processes and certification marks for chlorine free products.

Conservatree

www.conservatree.com

(USA) Conservatree is a non profit organisation that provides extensive information resources on ecologically sustainable paper markets. The website includes information on standards for recycled content papers, labelling of products, information for paper buyers and specifiers on environmental papers that meet their needs, answers to concerns and myths that create resistance to environmental papers and strategies for source reduction, to reduce paper use as well as costs.

Dolphin Blue

www.dolphinblue.com

(USA) Dolphin Blue makes it easy for businesses to be responsible in what they consume by providing an assortment of recycled content office products for purchase. Dolphin Blue products contain, at

minimum, 20% post-consumer recycled material, and packages and labels are made using only post-consumer recycled materials and are printed using only soy and vegetable-based inks. Dolphin Blue supports initiatives that foster education and awareness in issues of sustainability, energy alternatives, organic agriculture and reducing waste and educates consumers on the effects of conventional office product consumption. The website includes information resources such as "A Guide to Environmentally Responsible Paper".

Office of the Federal Environmental Executive

www.ofee.gov

(USA) The Office of the Federal Environmental Executive (OFEE) was formed in 1993 to oversee the implementation of Executive Order 12873, Federal Acquisition, Recycling, and Waste Prevention. The OFEE advocates, coordinates and assists environmental efforts of the Federal community in waste prevention, recycling, the affirmative procurement of guideline items and the acquisition of recycled and environmentally preferable products and services. Site resources include a downloadable study of performance of paper containing 30% post-consumer content compared with other papers, a newsletter and success stories.

Reach for Unbleached Campaign

www.rfu.org

(USA) Reach for Unbleached started as a campaign to encourage consumer acceptance of unbleached or oxygen-bleached paper for many routine uses. The campaign now encourages other aspects of environmentally preferred paper use, such as reduction and also includes a broad focus on toxics in its work towards sustainability in the pulp and paper industry. Its on-line publication, Mill-Watch,

features news, analysis, resources and contacts for pulp and paper issues and paper and pulp mill monitoring.

Recycled Paper Coalition

www.papercoalition.org

(USA) The Recycled Paper Coalition is an innovative group of major organisations representing a unique effort to rethink traditional business practices regarding office paper purchase and usage. The website includes information/publications on paper-related terminology and symbols, identifying the paper product for a buy recycled program, paper use reduction tips, how to cut costs while buying recycled, recycled paper coalition surveys and a recycled paper fact sheet.

Understanding the German Paper Standard, DIN 6738

<http://palimpsest.stanford.edu/byorg/abbey/ap/ap07/ap07-2/ap07-202.html>

(Germany) English translation of the permanent paper standard DIN 6738, "Papier und Karton: Lebensdauer-Klassen (Paper and Board: Lifespan Classes)" April 1992, approved by the Deutsches Institut für Normung (German Standards Institute). This is a permanent paper standard with four levels of permanence.

Standards Australia Newsroom

<http://www.standards.com.au/STANDARDS/NEWSROOM/TAS/2000-03/T2103F02/T2103F02.HTM>

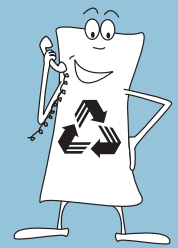
Simple overview of the aim and history of ISO 9706:1994 Information and documentation – Paper for documents – Requirements for permanence.

The Australian Environmental Labelling Association Inc.

<http://www.aela.org.au>

The Australian Environmental Labelling Association Inc is a non-profit organisation working to provide the Australian market with an independent environmental labelling system in line with international best practice standards.

Who do I Contact to Purchase Recycled Content Office Paper?



The following companies can direct you to the nearest outlet to help you obtain the office paper of your choice.

Company Name	Location	Contact	E-Mail/Internet	Paper
Alexander Moir and Co Pty Ltd	Erskineville	02 8595 1111	www.moirspaper.com.au	<ul style="list-style-type: none"> • Nautilus Standard • Nautilus High White
Australia Post	Selected Outlets	02 9202 6033	www.auspost.com.au	<ul style="list-style-type: none"> • Reflex 35% Recycled
Boise Office Solutions	Chullora	02 8732 0333	www.boise.com.au /index.jsp	<ul style="list-style-type: none"> • E-Copy • Greenwrap • Renew 80 • Renew 100
Canon Australia Ltd	North Ryde	02 9805 2000	www.canon.com.au	<ul style="list-style-type: none"> • Canon 100 • Canon 100 High White
Complete Office Supplies	Sydney, Newcastle	02 8822 4104	www.cos.net.au	<ul style="list-style-type: none"> • Evolve Office • Greenwrap • Reflex 35 % Recycled • Renew 80
Corporate Express	Rosebery	02 9335 0555	www.ce.com.au	<ul style="list-style-type: none"> • EXP 50R • EXP 60R • Renew 80 • Renew 100
CPI Papers	Wetherill Park	02 8787 6567	www.cpigroup.com.au	<ul style="list-style-type: none"> • Evolve Office • Reflex 35 % Recycled
Dalton Fine Papers	Chullora	02 8746 8236	www.dalton.com.au	<ul style="list-style-type: none"> • Reflex 35% Recycled
Danka Australia	North Ryde	02 9978 6000	www.danka.com.au	<ul style="list-style-type: none"> • Best of Triotec • Nautilus Standard
Ecocern	Watsons Bay	02 9337 2737	ecocern@ecocern.com www.ecocern.com	<ul style="list-style-type: none"> • Canon 100 • Ecocern Brown • Evolve Business • Nautilus Standard
Edwards Dunlop	Chullora	02 8746 8746	www.victorypaper.com.au	<ul style="list-style-type: none"> • E-copy • Reflex 35% Recycled
Fuji Xerox	Alexandria	13 14 11	www.xeroxsupplies.com.au	<ul style="list-style-type: none"> • Green Wrap • Revive • Recycled Supreme
Genesis Australia	Riverwood	02 9584 2555	sales@genesisaust.com.au	<ul style="list-style-type: none"> • E-Copy • Evolve Office • Evolve Business • Reflex 35% Recycled • Renew 80 • Renew 100
K W Doggett Fine Papers	Sydney, Melbourne, Brisbane	02 9938 3444	www.kwdoggett.com.au	<ul style="list-style-type: none"> • Evolve Office

Company Name	Location	Contact	E-Mail/Internet	Paper
Kalamazoo	Sydney, Melbourne, Brisbane, Adelaide, Perth	02 8724 1322	www.kalamazoo.com.au	<ul style="list-style-type: none"> • Renew 80 • Renew 100
Longbottom Papers	Peakhurst	02 9533 5911	www.longbottom.com.au	<ul style="list-style-type: none"> • Evolve Office • Nautilus Standard
National 1 Limited	All states	1300 363 608	www.national1.com.au	<ul style="list-style-type: none"> • Evolve Office • Greenwrap • Reflex 35 % Recycled • Renew 80
Officeworks	All states	131 505	www.officeworks.com.au	<ul style="list-style-type: none"> • Canon 100 • Officeworks Recycled • Reflex 35% Recycled
Paper Agencies	Victoria	02 9957 3177	www.m-realalliance.com	<ul style="list-style-type: none"> • Evolve Business • Evolve Office
Premier Paper Company Pty Ltd	Melbourne	03 9416 8188	premierpaper@iprimus.com.au	<ul style="list-style-type: none"> • Canon 100 • Evolve Office • Renew 80 • Renew 100
Q-Stores	Alexandria	02 9318 7854	www.qstores.dpws.nsw.gov.au	<ul style="list-style-type: none"> • E-Copy • Greenwrap • Reflex 35% Recycled • Renew 80 • Renew 100
Specialty Office Supplies	Parramatta	02 9633 4019	specialtyofficesupplies@bigpond.com	<ul style="list-style-type: none"> • E-Copy • Evolve Office
Spicers Office Paper	Chullora	02 9735 2626	www.spicerspaper.com.au	<ul style="list-style-type: none"> • Evolve Office • Green Wrap • Reflex 35% Recycled • Renew 80 • Renew 100
Tredex Pty Ltd	Mona Vale	02 9997 3366 0407 973 366	www.tredex.com.au	<ul style="list-style-type: none"> • Evolve Business • Evolve Office
Viking Office Products	North Rocks	1800 621 862	www.vikingop.com.au	<ul style="list-style-type: none"> • Evolve Office • Greenwrap • Reflex 35% Recycled • Renew 80 • Renew 100
Vilensky D Paper Merchants	Smithfield	02 9725 4266	sales@vilenskypaper.com.au	<ul style="list-style-type: none"> • Renew 80
W C Penfold & Co. Pty Ltd	Sydney	1800 999 927	www.pcpenfold.com.au	<ul style="list-style-type: none"> • E-copy • Renew 100

NSW Government agencies can purchase through State Procurement, (02) 9372 8877, www.supply.dpws.nsw.gov.au Contract 436 – Photocopying, Printer and Specialist Paper.

The Department of Environment and Conservation (NSW) doesn't endorse these products or suppliers. The information has been provided by the paper suppliers.

Who Should I Contact to Organise Office Paper Recycling for my Company?

Further information about how to go about recycling your office paper can be obtained by contacting one or more of the companies listed under Recycling Services in the Yellow Pages, the Waste Contractors and Recyclers Association of NSW, or by contacting the Department of Environment and Conservation (NSW). Asking other companies nearby or the building manager for your office building can be a good way of finding out the types and quality of recycling services available in your area.



Invitation to submit additional information for future updates of the Know Your Paper Guide

The Department of Environment and Conservation (NSW) understands that the recycled content office paper market is constantly evolving as new products become available and merchants update paper stocks.

We therefore welcome all feedback and information about new paper stocks and market trends to ensure the Recycled Content Office Paper Guide is maintained as an up to date and useful resource. Any information forwarded may be included in the next edition of the Guide.

Name:

Title:

Company:

Address:

Phone: Fax:

E-mail..... Website:

Stakeholder Group: (Please tick)

- Merchant, Manufacturer, Local Government Procurement,
- Industry Procurement, State Government Procurement, Other _____

General description of the information you would like added and/or modified:

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Please return a copy of this form to:

Department of Environment and Conservation (NSW)
 Sustainability Programs Division
 Level 2, 1 Fitzwilliam Street, Parramatta NSW 2150
 PO Box 644, Parramatta NSW 2124

Phone: (02) 8837 6000
Fax: (02) 8837 6099

Email: info@resource.nsw.gov.au Website: <http://www.environment.nsw.gov.au>

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OUR ENVIRONMENT

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Department of
Environment and Conservation (NSW)