



## Choosing recycled office paper

This guide helps you choose the most appropriate recycled paper for your printing and copying needs. Recycled papers commonly have between 10% and 100% recycled content. This guide contains an easy to use checklist as well as providing a comprehensive description of the widely available recycled papers.

### Why use paper with recycled content?

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Recycled paper is as good as virgin paper to use around the office

Papers that contain recycled content are equivalent to virgin papers in terms of finish, opacity, whiteness and GSM (grams per square metre, a measure of the weight of paper). It is not possible by sight to tell whether a given sheet is recycled paper and virgin paper.

Recycled paper consumes less energy, less water & less virgin pulp to manufacture than virgin papers

Recycled pulp (used in the making of recycled paper) is acquired from two sources, pre- and post-consumer (see *Fibre Composition* below).

Recycled fibres (the individual strands of paper that make up the pulp) require less water and energy to reduce to useable pulp than fibres from a tree. Ideally, the original source of fibre should be identifiable. Higher-grade papers generally require some virgin pulp to achieve comparable quality levels as the quality of fibre degrades each time it passes through the recycling process.

Recycled paper lasts as long as virgin paper

There is the common misconception that recycled paper is not equivalent in standard to virgin paper when it comes to archiving, when in fact it is (the recycled papers referred to in this guide all have a paper life of 100, some 100+ years). However, the National Archives of Australia suggest that specific documents and publications should be archived on actual archival paper and not commonly available virgin or recycled office paper. For more information on archival paper, visit [http://www.naa.gov.au/recordkeeping/rkpubs/advice30.html#archival\\_paper](http://www.naa.gov.au/recordkeeping/rkpubs/advice30.html#archival_paper)

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When recycled paper first came onto the market fifteen to twenty years ago, it was grainy, off-white in colour and had a shorter life. Recycled papers have come a long way since then. Today, recycled papers are just as useable as virgin papers and meet all of the requirements for day to day home and office use. In fact, manufacturers even guarantee recycled paper across a full range of office functions (see *A guide to using recycled paper*).

How much does your company invest in reducing its environmental impacts? Using recycled paper is one way companies can reduce their environmental impacts. Buying recycled paper is a small investment that more and more companies and organisations are choosing to make.

Although recycled paper is more expensive to produce than virgin paper due to the scale of the production of recycled paper and the conversion and manufacture of the paper, using recycled paper in conjunction with other measures can dramatically reduce your paper use and office waste, saving you money. Along with using recycled paper you should avoid printing when unnecessary, double-side when printing and copying, re-use single sided paper and set up an effective paper recycling system.

### How to use the guide

The attached section of this guide consists of two tables. The first table, *A guide to using recycled papers*, provides information about what the manufacturers guarantee the paper for. The second, *Characteristics of recycled paper*, provides paper specifications including country of manufacture, fibre composition, whiteness, type of virgin fibre source, certification of virgin fibre source, bleaching agents, packaging type, paper life and supply availability. Each column in the *Characteristics of recycled papers*

table stands alone. A more detailed spreadsheet including factors such as water discharge and energy use, is also available.

There is no single right answer about which recycled paper is best. There are a range of environmental impacts associated with the sourcing of pulp (recycled or virgin), the manufacture of paper, the transport to the market and within supply chain activities, and the recycling or landfill of the paper once used. This means that the relative importance of the environmental factors are determined by what is important to you and your company. For example, is Australian made an important factor? Is the %-recycled content an important factor? What about the type of packaging? Could it be used for colour printing?

Once you have decided what's important to you, you can start matching the available options with your requirements to select the recycled paper most appropriate for your needs. The following explains the information in the tables to help you in your decision making.

### Country of manufacture

This is the country where the paper is made, not where the fibre is sourced.

### Fibre composition

This category consists of two sections; the first is the percentage of recycled fibres in the paper (eg. 100% or 40%). This is what we talk about when we say, "the paper is 80% recycled". The other 20% is made from virgin fibres. The second (*in italics*) denotes the composition of the recycled content, consisting of pre- or post-consumer fibre sources, or both. Pre-consumer pulp consists of off-cuts, overruns and other production waste and does not generally require de-inking (the process where printing ink is removed from recycled paper in order for it to be re-used in the production of new paper), and is limited in supply. Post-consumer is recycled pulp consisting of paper from offices and homes after use that does generally require de-inking, and in comparison, is abundant in supply.

### Whiteness

Whiteness is a measure of how white the paper is. There is an international standard of paper whiteness (CIE), developed in Europe that measures whiteness. The higher the number, the whiter the paper. It is important to remember however, that whiteness does not affect the overall quality and performance of the paper. For more information on the CIE whiteness standard visit <http://www.cie.co.at/cie/>.

### Type and certification of virgin fibre source

This section is comprised of two parts. The first indicates the tree source used in making the paper (eg. plantation or forest). The second relates to whether or not the source has been certified to meet internationally recognised standards. There are a number of certifications available, and each certification has a different focus. For example:

- The Programme for Endorsement of Forest Certification (PEFC) provides an international framework for national forest certification systems. The Australian Forestry Certification Scheme (AFCS) has mutual recognition with PEFC. The AFCS, which incorporates the Australian Forestry Standard (AFS), is a voluntary, independent certification that has management performance criteria supporting sustainable management of both native and plantation forests.
- The Forest Stewardship Council (FSC) is an international non-governmental organisation based forest management organisation that certifies forests.

### Bleaching process and agents

Bleaching is the process of 'whitening' recycled paper using different chemicals. The use of chlorine in bleaching paper can, depending upon the manufacturing process and site-specific conditions, result in the formation of dioxins. Dioxins are very toxic to certain animals including humans if present in elevated concentrations or through bio-accumulation. Not all paper bleaching requires the use of chlorine. There are three processes that minimise the use of chlorine; Totally Chlorine Free (TCF), Elemental Chlorine Free (ECF) which uses no chlorine gas, and Processed Chlorine Free (PCF) where the pulp is not re-bleached with chlorine but may use other chlorine derivatives.

The grade of consumer waste pulp used in paper production determines the bleaching agent used. For example if low grade paper pulp (such as newspapers) is used, then increased bleaching agents are required to obtain an acceptable level of whiteness as the pulp is quite grey. However if higher grade paper pulp (such as pure office paper) is used, then as the pulp is already considerably white, little to no bleaching of the pulp is required.

The information in the following tables - *A guide to using recycled paper* and the *Characteristics of recycled papers* has been provided by paper manufacturers. If you have a new or unbranded product, the manufacturer should be able to provide you with the same type of information provided in this guide.

# A guide to using recycled paper

## Manufacturers recommended use for recycled papers

| PAPER  | PRINTING OR COPYING |            |        |       |          |        |          | FAXING |
|--|---------------------|------------|--------|-------|----------|--------|----------|--------|
|  | Duplex              | High speed | Colour | LASER |          | INKJET |          |        |
|  |                     |            |        | Text  | Graphics | Text   | Graphics |        |
| <b>Australian 10%</b>  | ✓                   | ✓          | ✓      | ✓     | ✓        | ✓      | ✓        | ✓      |
| <b>Australian 80%</b>  | ✓                   | ✓          | ✓      | ✓     | ✓        | ✓      | ✓        | ✓      |
| <b>Evolve Business</b>   | ✓                   | ✓          | ✓      | ✓     | ✓        | ✓      | ✓        | ✓      |
| <b>Green Wrap</b>  | ✓                   | ✓          | ✓      | ✓     | ✓        | ✓      | ✓        | ✓      |
| <b>IQ TRIOTEC* Unique</b><br>(also known as Officeworks recycled and e-copy; replaces Best of Triotec) | ✓                   | ✓          | ✓      | ✓     | ✓        | ✓      | ✓        | ✓      |
| <b>NAUTILUS Standard/ NAUTILUS SuperWhite</b>  | ✓                   | ✓          | ✓      | ✓     | ✓        | ✓      | ✓        | ✓      |
| <b>Recycled Supreme White &amp; Tints</b>  | ✓                   | ✓          | ✓      | ✓     | ✓        | ✓      | ✓        | ✓      |
| <b>Reflex 50% Recycled</b>   | ✓                   | ✓          | ✓      | ✓     | ✓        | ✓      | ✓        | ✓      |
| <b>Vision Pure White</b>   | ✓                   | ✓          | ✓      | ✓     | ✓        | ✓      | ✓        | ✓      |
| <b>Evolve Office</b>   | ✓                   | ✓          | ✘      | ✓     | ✓        | ✓      | ✓        | ✓      |
| <b>Canon Recycle 100A4</b><br>(replaces Canon100, Canon100 High White)                                 | ✓                   | ✓          | ✘      | ✓     | ✓        | ✓      | ✘        | ✓      |

### Definitions

**Pre-consumer-** Recycled pulp of off-cuts, overruns and other production wastage that does not generally require de-inking.  
**Post-consumer-** Recycled pulp from offices and homes after use which generally requires de-inking.  
**GSM-** Grams per square metre, a measure of the weight of paper.  
**TCF-** Totally Chlorine Free bleaching process.  
**PCF-** Processed Chlorine Free (not re-bleached with chlorine) bleaching process.  
**ECF-** Elemental Chlorine Free (no chlorine gas) bleaching process.  
**ISO 14001-** International Standard specifies the actual requirements for an environmental management system and is able to be certified by an external certification authority.  
**Blue Angel-** The German national ecolabeling program used extensively throughout Europe, introduced in 1977.  
**CIE-** Commission Internationale d'Eclairage (International Commission on Illumination) recognised by ISO as an international standardisation body for whiteness.  
**FSC-** Forest Stewardship Council is an international non-profit forest-management organisation.  
**PEFC-** Programme for Endorsement of Forest Certification provides an international framework for national forest certification systems.  
**AFCS-** Incorporates the Australian Forestry standard, AFS, and is a voluntary independent certification that has management performance criteria supporting sustainable management of both native and plantation forests.  
**RFA-** Regional Forest Agreements are twenty year conservation and sustainable management plans for Australian forests.

### Key

- ✓ Guaranteed
- ✘ Recommended
- ✘ Not Recommended

Disclaimer: This paper guide is not an exhaustive list of recycled papers available on the market, but indicates a number of widely used paper brands. This guide may be of assistance to you but the Office of the Commissioner for Environmental Sustainability does not guarantee that the publication is without flaw of any kind or is wholly appropriate for your particular purposes and therefore disclaims all liability for any error, loss or other consequence which may arise from you relying on any information in this publication.

# Characteristics of recycled papers

| PAPER  | Country of Manufacture        | PROPERTIES   |                  | Type Certification of Virgin Fibre Source   | Bleaching Process*                         | Type of Packaging   | Paper Life | Supply Availability           |
|--|-------------------------------|--|------------------|---|--|---|------------|-------------------------------|
|  |                               | Fibre Composition (% recycled)   | Whiteness (CIE)* |   |  |   |            |                               |
| <i>Typical virgin paper</i>  | -                             | 0%   | 98- 140          | <i>Virgin forest or plantation</i>  | <i>Chlorine</i>                            | -   | 100        | <i>A4 80gsm*<br/>A3 80gsm</i> |
| <b>Australian 10%</b>  | Australia, Maryvale, Victoria | 10% recycled<br>3.5% pre-consumer*<br>6.5% post-consumer*  | 145              | <i>Forest &amp; plantation</i><br>New Zealand & South America 100% plantation, part FSC certified<br>Australia, RFA* Forest & plantation, part FSC certified        | Virgin- ECF or equivalent<br>Recycled- PCF | Ream wrapper 100% virgin & poly barrier layer, box 100% recycled  | 100+       | A4 80gsm<br>A3 80gsm          |
| <b>Australian 80%</b>  | Australia, Maryvale, Victoria | 80% recycled<br>30% pre-consumer<br>50% post-consumer  | 145              | <i>Plantation</i><br>New Zealand part FSC certified   | Virgin- ECF or equivalent<br>Recycled- PCF | Ream wrapper 100% virgin & poly barrier layer, box 100% recycled  | 100+       | A4 80gsm                      |
| <b>Evolve Business</b>   | UK                            | 100% recycled<br>Pre- & post-consumer waste % not distinguished  | 160              | Not applicable  | TCF  | Ream wrapper up to 50% recycled, box 100% recycled                | 100+       | A4 80gsm<br>A3 80gsm          |
| <b>Green Wrap</b>  | Australia, Maryvale, Victoria | 60% recycled<br>20% pre-consumer<br>40% post-consumer  | 140              | <i>Forest and plantation</i><br>New Zealand & South America 100% plantation, part FSC certified<br>Australia RFA Forest & plantation, part FSC certified            | PCF  | Ream wrapper 100% virgin & poly barrier layer, box 100% recycled  | 100+       | A4 80gsm<br>A3 80gsm          |
| <b>IQ TRIOTEC* Unique</b><br>(also known as Officeworks recycled and e-copy; replaces Best of Triotec) | Austria                       | Up to 50% recycled<br>~20% pre-consumer<br>~30% post-consumer  | 160              | <i>Eucalyptus plantations, pine and spruce silviculture</i><br>Iberian Peninsula, South America, Sweden, Baltic countries, Russia<br>21.3% fibre is PEFC* certified | Virgin- TCF<br>Recycled- PCF               | Available in biodegradable packaging                              | 100        | A4/ A3<br>80gsm &<br>90gsm    |
| <b>NAUTILUS Standard/<br/>NAUTILUS SuperWhite</b>  | Austria                       | 100% recycled<br>Sorted according to Blue Angel*   | 94/134           | Not applicable  | PCF  | Available in biodegradable packaging                              | 100        | A4 80gsm<br>A3 80gsm          |
| <b>Recycled Supreme White &amp; Tints</b>  | Sweden                        | 100% recycled<br>100% post-consumer  | 145              | Not applicable  | TCF  | 60% recycled carton   | 100+       | A4 80gsm<br>A3 80gsm          |
| <b>Reflex 50% Recycled</b>   | Australia, Maryvale, Victoria | 50% recycled<br>17% pre-consumer<br>33% post-consumer  | 150              | <i>Forest &amp; plantation</i><br>Australia, New Zealand & South America, FSC   | Virgin- ECF or equivalent<br>Recycled- PCF | Ream wrapper 100% virgin, & poly barrier layer, box >50% recycled | 100+       | A4 80gsm<br>A3 80gsm          |
| <b>Vision Pure White</b>   | Germany                       | 100% recycled<br>Post-consumer as per Blue Angel   | 110              | Not applicable  | TCF, no halogenated bleaching              | Ream wrapper 100% recycled & box 100% recycled                    | 100+       | A4 80gsm<br>A3 80gsm          |
| <b>Evolve Office</b>   | UK                            | 100% recycled<br>Pre- & post-consumer waste not distinguished  | 150              | Not applicable  | TCF  | Box 100% recycled, ream wrapper up to 50% recycled                | 100+       | A4 80gsm<br>A3 80gsm          |
| <b>Canon Recycle 100A4</b><br>(replaces Canon100, Canon100 High White)                                 | Austria                       | 100% recycled<br>(5% tolerance for virgin fibres)<br>A combination of pre- & post-consumer as per Blue Angel | 134              | Not applicable  | PCF  | Polyethylene coated wrapper (100% recyclable)                     | 100+       | A4 80gsm<br>A3 80gsm          |

\*Please see overleaf for definitions

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Living well within our environment