Specifying recycled content in tissue paper for your organisation
If you have no further use for this document please pass it on to a colleague or recycle it
Scope and objectives

This guidance document is aimed at any individual who has responsibility for procuring tissue paper products, either:

- Directly, on behalf of their organisation
- Indirectly, via the procurement of Facilities Management Services on behalf of their organisation; or
- Directly, as a Facilities Management Service provider for a range of client organisations.

It provides practical information to help you to:

- Convince others of the importance of specifying recycled content
- Understand the range of recycled tissue paper products on the market
- Know what performance attributes to look for when you are specifying or purchasing recycled tissue paper
- Define contractual requirements/specifications
- Get the best deal when you buy those products
- Highlight what other organisations are doing about recycled tissue paper products in facilities management.

This guide is structured as follows:

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Introduction

A large volume of tissue paper products are consumed in the workplace for sanitary and cleaning purposes, or as part of a catering service. Although some of the products used already contain recycled fibre, there is scope for purchasers to push for higher recycled content.

Recycled tissue papers are fit for purpose and cost competitive in almost every type of application. Specifying recycled tissue papers, either for direct purchases or in contracts with Facilities Management (FM) service providers, helps create end-market demand for the paper that your organisation sends for recycling, thereby reducing landfill and decreasing the costs of recycling.

This guide has been developed for procurers of Facilities Management products and services. It focuses on the range of tissue products used in non-domestic applications, widely referred to as the Away from Home (AfH) market. These products include:

- Toilet tissues
- Facial tissues
- Hand towels
- Napkins/serviettes.

Within your organisation, these products may be used in-house, or by third-party service providers offering cleaning and janitorial services and/or catering services.

**NOTE:** Where your organisation procures cleaning and janitorial services and/or catering services from a third party service provider who sources their own tissue products, you as the procurer still have the capacity to influence the types of products they buy. You can do this by preparing appropriate tender specifications and agreeing performance targets for recycled content.
1. Business case – why buy recycled?

In recent years, many organisations have considered buying recycled-content office and copier paper to support their environmental and sustainability objectives. However, much less attention has been generally given to procuring other types of recycled paper products, such as tissue paper.

Nevertheless, tissue papers account for a significant volume of paper usage in the UK, with around 1.2 million tonnes consumed in 2003. Over 30% of this was consumed in the AfH market (about 300–400,000 tonnes, including specialist medical tissue applications which are not covered in this document).

Despite the low level of attention given by procurers to the recycled content of tissue papers in the AfH sector, changes in the industry mean that recycled fibres are used in many products. This part of the guidance highlights that:

- Tissue paper products with recycled content are widely available for a range of applications
- The quality and performance attributes of recycled tissue papers have improved significantly
- Recycled tissue paper will often cost less
- Using recycled tissue papers helps to divert waste away from landfill sites
- You can contribute towards sustainable development through procuring recycled tissue paper products
- You can help meet your organisation’s policy commitments and demonstrate Corporate Social Responsibility.

Recycled papers are available for almost every application

Improvements to the domestic and commercial paper collection and sorting infrastructure have increased the amount of paper diverted from landfill. Paper manufacturers have also invested in processing plants with de-inking capacity (the equipment used to treat waste papers and remove old ink). Currently, most of the UK tissue manufacturers have the capacity to use recycled fibre.

Consequently, tissue papers with recycled content are available for almost every tissue paper application, ranging from facial tissues to large rolls for kitchen applications. Suppliers have confirmed that recycled products are available in all of the cleaning, sanitary and catering applications covered by this guidance document.

“For the range of catering services we provide, only napkin products intended for food use are not available in recycled”.

Stephen Fox, Purchasing Support Manager, Wilson Storey Halliday

NOTE: Food contact legislation

In the UK, food contact legislation reflects the recent EU Framework Regulation L338/4, of October 2004, which states that materials coming into contact with food shall be safe and should not transfer their components into the food in quantities that could endanger human health, change the composition of the food in an unacceptable way or deteriorate the taste and odour of foodstuffs.

This legislation applies to paper used in packaging or in catering applications, and so is relevant to paper napkins and kitchen towels. Responsibility lies with the manufacturer, retailer or importer to ensure that their products comply with the safety requirement.

(See http://www.food.gov.uk/multimedia/pdfs/foodcontactguidance.pdf)

A study commissioned by the European Tissue Symposium showed that only 27% of kitchen towels and napkins actually contacted food, and that exposure times were short, with most of the contacts lasting less than five minutes. In December 2003, the Council of Europe’s Committee of Experts adopted a set of “Guidelines for Kitchen Paper Towels and Napkins”, setting out “Good Manufacturing Practice”. These guidelines do not prevent the use of recycled fibres in these tissue products.
Quality and performance attributes

Through the use of modern collection, sorting and processing techniques, it is possible to produce high-quality, high-performance tissue products made from 100% recycled fibre for nearly all tissue paper applications. However, there are certain very high grade tissue paper products – notably premium brand facial tissues – which demand specific softness characteristics. These can be difficult to obtain with 100% recycled fibre.

CASE STUDY: Recycled tissue products for the domestic sector are well developed

Many kitchen and toilet tissues you use in your home can be made from recycled fibres. Georgia Pacific’s Nouvelle brand is widely available in supermarkets and made from 100% recycled fibre, and several supermarket own-brand recycled toilet roll and kitchen roll products are available.

Tissue paper made from recycled paper used to suffer from a poor image and negative perceptions. Most concerns focussed on quality, for example softness, and performance, such as absorbency, when compared with the virgin fibre equivalent. However, with the advent of more modern technologies, and improvements in tissue manufacture, many of these perceptions can no longer be substantiated.

NOTE: The fibre used in recycled tissue originates from recovered office/copy paper and printer trimmings – not from used tissue paper! Moreover, used tissue papers are not appropriate for recycling due to hygiene concerns.

Keeping costs down

Improvements in recovered paper collection systems, together with investment in processing facilities at UK paper mills means that the costs for producing high quality tissue papers from recycled fibres have decreased in recent years. In the majority of cases, there is an economic incentive for manufacturers to use recycled fibre in their products. Thus, making tissue paper from recovered paper can be slightly cheaper than using virgin pulp. Since competition in the AfH tissue sector is intense, this cost saving is being passed on to the customer. Consequently, there is often a price premium for virgin pulp products over recycled ones.

However, certain technical attributes for recycled tissue products can lead to higher costs. In particular, the well-sorted, high-grade recovered paper needed to produce high quality recycled tissue products can command a price premium. Indicative prices have been obtained for a range of products across the different product categories. The data outlined opposite for toilet tissues show that recycled papers can be sourced at a similar or lower price than their virgin equivalent (Figure 1), irrespective of the volumes you are buying in. This trend is repeated in other categories of tissue products (not shown).

“Depending on pulp and waste paper prices, recycled fibre is usually cheaper than virgin and is able to meet many of the requirements of AfH products. A few premium products may require some virgin fibre to achieve specific quality requirements such as softness, strength, brightness etc.”

Keith Fitzpatrick, Environment Manager, Kimberly-Clark Europe
Figure 1: Price differentials for recycled toilet tissues (£’s per 100 sheets)
(based on a range of pack size and roll types, 4 – 36 packs and some maxi rolls)

The data presented take into account sheets per roll, but do not take into account variations in tissue grade or ply. Many tissue products on the market could not be included within the survey as they do not indicate recycled content.

CASE STUDY: Lyreco Catalogue 2005

The catalogue demonstrates a consistent cost advantage to buying recycled (at list prices, i.e. excluding discounts), for example:

**Toilet tissue**
- A 6 pack of 2-ply jumbo rolls made from virgin fibre costs £27.98. The equivalent product made from 50% recycled fibre costs £25.15.
- A 12 pack of 2-ply mini jumbo rolls made from virgin fibre costs £34.75. The equivalent product made from 50% recycled fibre costs £28.99 – a 16% cost saving.

**Hand towels**

In the hand towels section, there is also a clear message that buying recycled will save you money:
- White hand towels made from virgin fibre work out at 0.0175 pence per towel.
- Blue hand towels made from 100% recycled fibre work out at 0.0109 pence per towel.
- Natural (uncoloured) hand towels made from 100% recycled fibre work out at 0.0092 pence per towel – almost half the cost of the white towels.
“Doing your bit” for sustainable development

For the environment

Using recycled paper diverts waste paper from entering landfills, and optimises the use of a valuable raw material. Also, recycled tissue takes less energy to manufacture than virgin tissue.

Moreover, whilst many organisations perceive themselves as acting responsibly by sending their recovered paper for recycling, recycling will only be viable if end markets are created for the products made from recovered paper i.e. closing the recycled paper loop. Whilst the use of recovered fibre as an input to tissue manufacture is fairly high relative to some other applications (Figure 2), scope still exists to increase the volume of recycled tissue papers used by end-clients.

Figure 2: Fibre utilisation in the UK for different types of paper production

![Fibre utilisation in the UK for different types of paper production](chart.png)


And for society...

In addition to the environmental benefits outlined above, there are also demonstrable benefits for local economies within the UK. Buying recycled creates local markets for collection, sorting and processing of recovered paper, which stimulates local employment and allows greater retention of capital within local communities.

CASE STUDY: Co-op close the recycling loop for office waste and tissue paper

Co-op Supermarkets has taken the unique step whereby ‘waste’ produced at Co-operative Group’s own head office is used to make products which are then sold through Co-op stores across the UK. They call this scheme “closing the loop”.

As a result, Co-op Recycled Toilet Tissue and Co-op Recycled Kitchen Towel account for 890 tonnes of post-consumer waste per annum, all of which is supplied from Co-op office waste previously sent to landfill.
Supporting your organisation’s environmental/sustainability policy

Most large organisations in the private sector, and almost all public sector bodies in the UK, have an environmental policy. Being ‘seen to be green’ is a strong driver for many companies to consider procuring recycled-content products. This is especially the case if the products are being used in a public-facing environment, as is likely to be the case in the hospitality industry, for example. Buying recycled tissue papers is a quick and easy way of supporting these policies.

In many cases, FM contractors are obliged to comply with the environmental policies of their client organisation. However research has identified that policies often cover recycled office paper, but are rarely explicit about recycled-content tissue paper. Simple amendments to existing policies on paper use could deliver easy environmental benefits.

CASE STUDY: High Street fast food retailers McDonalds and Starbucks go for recycled napkins

McDonalds have a long-standing policy to purchase 100% recycled content tissue papers for non-food contact applications such as hand towels, napkins and toilet tissues. Their experience is that 100% recycled content products are available at no additional cost to virgin fibre alternatives.

The Starbucks Coffee Company are taking steps to increase the proportion of recycled content used in their consumable products, including tissue paper. In the UK and the US, all of Starbucks’ napkins served to customers are printed with the label “made from 100% recycled paper, including a minimum 30% post-consumer waste, and unbleached”. Napkins used in UK outlets are currently imported from a US manufacturer.

Developing “sustainable” Facilities Management service packages

Many organisations are beginning to go beyond simply managing their own internal environmental impacts. Increasingly, a broad range of organisations are looking to their supply chain/contractors to help support their objectives on the environment. FM service providers can strengthen their competitive positioning by increasing the number of recycled tissue products included in the services they offer.

“We are able to fully meet customer requests for recycled tissues... We do win business on the use of environmentally-friendly products”

Mark Robson, Procurement Manager, Rentokil Initial

“We work specifically with one supplier; part of our accreditation system tests the sustainability of their products... We know the recycled contents of each of the products we use... We have a wide range of sustainability options that our bids for potential business include.”

Aneysha Minocha, Environment Advisor, Carillion Services

“Increasingly we win business by marketing on our sustainability credentials, particularly as buyers of FM services are seeking to add value, and CSR issues are becoming more in vogue.”

Steve Cadell, Supply Chain Manager, Atkins Asset Management
CASE STUDY: Barclays Bank considers sustainability in FM services

Like many clients of FM services, Barclays are enthusiastic about FM contractors who can provide added value through their sustainability credentials:

“The environmental/sustainability credentials of an FM service provider are an important issue for us when we award contracts... it is for the FM service provider to specify products in accordance with Group policies. We expect them to seek the best levels of eco-efficiency and sustainability, providing a compelling business case where cost neutrality cannot be achieved.”

Ray Wilson, Operations Director, Barclays

This guidance document is designed not only to assist procurers of tissue paper products in large organisations, but also to support FM service providers in increasing their use of recycled tissue products.

Public sector drivers

For procurement professionals working in the public sector, there are additional policy drivers that support the buying of recycled tissue papers, including:

- The commitment by Whitehall Departments to buy “Quick Win” products, including tissue papers with 100% recycled content
- The National Procurement Strategy for Local Government in England, which encourages councils to create markets for recycled materials
- The National Waste Strategy for Wales, which states that public bodies should buy recycled products such as paper
- The Local Government in Scotland Act 2003, Chapter 7, which identifies contributing to sustainable development as part of the duty to achieve best value
- The Scottish Executive’s Partnership Commitment to “use the public purchasing rules to enhance the status of recycled goods”
- The Northern Ireland Executive’s public procurement policy (February 2002).

The following example illustrates how a government agency is addressing the procurement of its cleaning services, and beginning to consider recycled tissue paper:

CASE STUDY: Scottish Natural Heritage looks to improve the way in which local administrative staff procure cleaning services

SNH have 38 offices plus 6 staffed Visitor Centres. All have toilets and washroom facilities, for which cleaning services are procured locally using various procurement options, including:

- contracts where cleaners bring their own materials,
- contracts where SNH provide the cleaning materials.

The same applies to janitorial supplies – some are supplied as part of a contract, others are provided by the client to the contractor.

SNH have “Greening Guidance” on buying cleaning products, and the Greening Officer can provide advice to local staff writing specifications for tenders. The Guidance refers local buyers to products carried by “Green/Wholefood” suppliers, on the basis that these organisations will have undertaken a deeper analysis of the environmental credentials of the various products.

We hope you are now more convinced of the importance and viability of buying recycled tissue papers. The remainder of this guidance will provide you with practical advice and tips on what you can do to make this happen within your organisation.
2. Understanding tissue paper

A wide range of different types of tissue paper are sold on the UK market. Recycled-content options are available in most cases.

What are tissue paper products made from?

Tissue paper products are generally made from three main types of raw material (pulp):

- Woodfree (or chemical) pulp
- Wood-containing (or mechanical) pulp
- Recovered paper.

The wood element does not refer to the presence of wood, but rather the way in which the pulp has been treated prior to manufacturing into tissue paper. Woodfree papers are those that are made with chemically treated pulp, the chemicals being used to break down the lignin content of the raw material, usually wood, in a pulp mill. These papers generally have a smooth look and feel. Wood-containing papers are those which contain an element of pulp generated via mechanical mashing of wood.

The type of pulp used has an influence on the final quality attributes of the tissue paper, e.g. softness, strength, absorbency and appearance. Use of recycled fibres does not specifically affect the manufacturers’ capacity to dye tissue paper different colours, although whiteness can be slightly compromised. Recycled grades can be comparable with tissue made from both woodfree and wood-containing pulps.

NOTE: Recycled tissue papers can be made from both woodfree and wood-containing recovered papers. The key advantage of using virgin fibres in tissue manufacture is the level of softness they can provide relative to recycled fibres. However, application of certain machining and converting processes can improve the overall performance of any tissue product, regardless of the fibre used.

What influences the quality and performance of tissue paper products?

Machine format and rewinding

In addition to the type of pulp used, the machine used to produce the tissue paper (machine format) is an important factor in determining the quality and performance attributes. There are three main types of machine format for producing tissue papers:

- Wet creping machines
- Dry creping machines
- Through-air driers (TAD).

Dry creping machines are the most conventional type of tissue machine used. They typically produce a single-ply tissue paper. Wet creping machines are largely reserved for the manufacture of low grade tissue paper – typically with a high content of wood-containing fibre. This is commonly used in the production of economy products, such as hand towels. These typically contain a high proportion of recycled fibres including newsprint etc. TADs are less common than dry creping processes, as they are the most expensive to build and operate. They produce a very high bulk tissue product, which in turn promotes high absorbency and thickness.

NOTE: All of these types of machine can be run using recycled fibres, although TAD processes usually use virgin fibres because they tend to be reserved for products for the premium end of the market where tissue softness is an issue.
Single-ply tissues exiting the machine are subject to different types of rewinding. Rewinding is the process whereby single-ply tissue papers are made into tissue papers with different plies (2-ply, 3-ply etc.). Tissue ply serves to enhance the absorbency and strength characteristics of the tissue product. Rewinding is generally the final step in the mill, where the tissue is wound onto parent reels for subsequent converting into different final tissue products.

**Converting**

The converting process has a very strong influence on the final qualities and attributes of tissue products. During converting, four major processes are carried out on the parent reels:

- **Embossing**
- **Printing**
- **Cutting**
- **Folding or reeling.**

Cutting and folding/reeling is the process used to determine the format of the final tissue products, e.g. sheets per roll, roll length, roll dimensions, cut size, number of sheets per cartridge, folding type (Z-fold, C-fold) etc.

Embossing is the most important element of the converting process in terms of altering tissue attributes. Embossing is the process whereby a final pattern (e.g. dimpling, additional creping) is applied to the tissue. Embossing can improve absorbency, strength and appearance of the final tissue product, and is often used to confer these properties in products like kitchen roll.

Many paper mills have integrated converting processes at the end of their production lines. Converting is also carried out by a number of specialist third-party converting companies.

**What range of final products leaves the converting process?**

The broad range of final products produced from the converting process is outlined below (Table 1):

**Table 1: Typical tissue products used in the AfH sector**

<table>
<thead>
<tr>
<th>Sector</th>
<th>Product type</th>
<th>Formats</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hygiene products</td>
<td>Washroom toilet tissue</td>
<td>Bulk pack cut and folded toilet tissue &lt;br&gt; Maxi rolls (large rolls) &lt;br&gt; Standard size toilet tissue rolls</td>
</tr>
<tr>
<td></td>
<td>Hand towels</td>
<td>Paper hand towel rolls &lt;br&gt; Folded paper hand towels (C-fold, Z-fold)</td>
</tr>
<tr>
<td></td>
<td>Facial tissues</td>
<td>Boxed cut and folded facial tissues</td>
</tr>
<tr>
<td>Catering products</td>
<td>Napkins/Serviettes</td>
<td>Cut and folded napkins</td>
</tr>
</tbody>
</table>

**NOTE:** In the AfH market, many tissue producers make dispensing equipment for their products. These developments have largely been in response to customer demands for ways to extend refill intervals, and reduce wastage, spillage and/or theft of tissue products (e.g. the development of cartridge and single folded-sheet dispensers in some toilet tissue and hand towel applications). Problematically, dispensers may lead to difficulties when it comes to swapping suppliers, as the dispenser size, shape and/or operation may be unique to a single tissue supplier/product. Nevertheless, most tissue suppliers are likely to be happy to provide new dispensers when you are considering swapping suppliers.
Are all these products available in recycled?

Whilst a large proportion of tissue products on the market in the AfH sector are made wholly or in part from recycled fibres, not all are labelled as such. In part, this is due to an adverse perception of recycled tissue products, particularly in the domestic market – but not seen as a major issue in the AfH sector. Many manufacturers’ web sites contain information on the fibres used in making a certain brand of tissue paper. Check with your supplier or manufacturer if you are unsure whether your tissue papers have a recycled content.

It is noteworthy that the level of recycled fibre use in the AfH sector has started to fall over recent years as manufacturers have looked to build market share based around tissue quality attributes. This has led to greater numbers of TAD machines, and consequently less use of recycled fibres. In addition, the increased disposal costs of waste products from the processing of recycled paper have diminished some of the cost advantage previously enjoyed through using cheaper recycled fibre inputs.
3. Understanding claims and labels on tissue paper

What do the different environmental claims and labels on tissue paper all mean?

A plethora of technical terms, labels and standards are often used to describe or characterise the environmental impact of paper, including tissue paper. This section of the guidance will help you to understand the relevance of these to your purchasing decision, and what they tell you (or don’t tell you) about the environmental impact of the tissue paper you are buying.

If you would like to find out more information about technical paper terms, a glossary covering many of these issues is provided in Annex D.

Environmental claims, labels and marks

The following table summarises the information available on different environmental claims and labels in relation to tissue paper. Further detail is provided in Annex B.

Table 2: Summary of tissue paper claims and labels

<table>
<thead>
<tr>
<th>Type</th>
<th>Name</th>
<th>Application</th>
<th>Quantitative recycled content target</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eco-label</td>
<td>The EU eco-label</td>
<td>Toilet paper, kitchen rolls, paper handkerchiefs, paper tableware (serviettes, paper tablecloths) etc.</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td>German Blue Angel (Tissue Paper)</td>
<td>Sanitary paper products made of waste paper</td>
<td>Yes – 100% waste paper content (pre – and post-consumer)</td>
</tr>
<tr>
<td></td>
<td>Nordic Swan (Tissue Paper)</td>
<td>Toilet paper, kitchen towels, paper towels, handkerchiefs, napkins and paper tablecloths</td>
<td>No</td>
</tr>
<tr>
<td>Environmental Product Declarations (EPD)</td>
<td>Tissue paper manufactured from recovered paper</td>
<td>Parent reels, sheets or rolls of tissue paper fit for use for personal hygiene, liquid absorption and/or the cleaning of soiled surfaces</td>
<td>Yes, must contain at least 90% fibres derived from recovered paper</td>
</tr>
<tr>
<td></td>
<td>Tissue paper manufactured from virgin fibres</td>
<td>Parent reels, sheets or rolls of tissue paper fit for use for personal hygiene, liquid absorption and/or the cleaning of soiled surfaces.</td>
<td>No</td>
</tr>
<tr>
<td>Recycling Mark or Symbol</td>
<td>Mobius Loop</td>
<td>All paper</td>
<td>Only one of two versions of the mark indicates percentage of recycled content (see Annex B)</td>
</tr>
<tr>
<td>Forest Certification Scheme</td>
<td>FSC</td>
<td>Wood component in paper</td>
<td>Under development. Paper with FSC logo may or may not contain recycled fibre.</td>
</tr>
<tr>
<td></td>
<td>PEFC</td>
<td>Wood component in paper</td>
<td>Not relevant</td>
</tr>
<tr>
<td>EMS</td>
<td>ISO14001/EMAS</td>
<td>Paper manufacturer’s production process</td>
<td>Not relevant</td>
</tr>
</tbody>
</table>

NOTE: Many suppliers’ catalogues flag up environmentally beneficial products in their range, such as products made from recycled content. Suppliers may state that certain products are ‘recycled’, but will not always have a consistently-applied standard or definition. A general environmental flag will not necessarily imply that a tissue product has recycled content.
4. Procuring recycled tissue paper

Introduction

This section sets out guidance on the availability of recycled versions of tissue paper products, and offers some advice on how to procure products with greater recycled content without compromising on cost or quality. Although the exact purchasing arrangements will vary greatly between organisations, there are fundamentally two procurement channels: either direct procurement of a product; or indirect procurement when the products are bundled as part of an FM service.

This guidance is designed to assist people in any one of the following situations:

- You buy tissue papers for use by in-house or contract cleaners within your organisation, or you buy tissue papers as a service provider to an end-client; (i.e. you are procuring a product); or
- You are an end-client buying a total cleaning or catering service – which includes tissue products (i.e. you are procuring a service); or
- You are an FM service provider wishing to develop sustainability credentials for your cleaning or catering service.

Types of tissue products available

Toilet tissues

Toilet tissues are usually converted into either toilet tissue rolls (as are available domestically), bulk pack toilet tissue (folded and cut sheets designed for dispensers), or jumbo rolls of toilet tissue. The fundamental manufacturing process remains the same for all of these types, and the properties of the tissue used are similar or identical.

Toilet tissue rolls are similar to the products sold in a retail environment, although, in the AfH market, small toilet tissue rolls may be more densely wound to minimise the replacement frequency, or wound without cores.

Bulk pack toilet tissue packs are pre-cut, folded toilet tissues available in various dimensions, to suit particular types (and brands) of dispenser.

Larger sized rolls of toilet tissue are sold in various sizes, sometimes referred to as Midi or Maxi sizes, to fit particular dispensers. They usually, but not always, contain perforated sheets.

All toilet tissues on the market are produced using a dry-creping process using either virgin or recycled fibres.
Hand towels

Hand towels are most commonly available in folded form from a dispenser, or in rolls, as shown below:

Folded hand towels are produced to a standard size, to fit various types of dispensers, although the types of fold used do vary. The majority of folded hand towels are by default made from recycled fibre (although may not always be labelled as such).

Rolled hand towels are sold in various dimensions to fit dispensers such as the one pictured. Hand towels of this variety are usually designed to be unwound from the centre (Centre pull).

Hand towels can be made using the full range of tissue machining processes. The majority of the folded products consist of wet creped towels made using recycled fibres. Some hand towels are made using the dry creping technique and have an appearance and feel similar to kitchen towels. At the premium end of the market, TAD machines may be used to produce a towel with a cloth-like feel and finish.

“There are other considerations, for example waste in usage; in making a move from a ‘c’ fold towel to a ‘z’ fold towel, consumption can be shown to reduce by 30%, due to more efficient product use and less tendency to pull more product than necessary, due to the interfolding.”

Paul Straw, Head of Marketing, Away-from-Home Business Unit, Georgia-Pacific GB Limited

Facial tissues are used to a lesser extent in the Away-from-Home market, predominantly in the hotel industry and for front-of-house purposes. Because of the need for softness, many facial tissues are made from virgin fibre – however good performing products with 100% recycled content are available.

Napkins and serviettes have possibly the widest range in feel, absorbency and quality. The products typically range from the waxy-feel low grade napkins used in some fast food applications, through to more tissue-like products with a cloth-like finish.

Facial tissues are largely made using the dry creping process and employ virgin fibres to ensure a very high level of softness. Napkins and serviettes are produced using the full range of tissue manufacturing techniques, although the overwhelming majority are made through the dry creping process employing recycled or virgin fibres.
Is there a suitable product available in recycled?

The matrix below will help you identify whether it is feasible to specify recycled content (or increased recycled content) in the tissue paper products you buy or specify. It is designed as a starting point to facilitate discussions with your product suppliers or service providers, and should give you an idea of the products with recycled content that are available on the market.

Table 3: Matrix of indicative paper types used for a range of tissue paper applications

<table>
<thead>
<tr>
<th>Likely recycled content</th>
<th>Possible recycled content</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Toilet tissue</strong></td>
<td></td>
</tr>
<tr>
<td>(rolls and bulk packs)</td>
<td></td>
</tr>
<tr>
<td>100%</td>
<td>50 – 100%</td>
</tr>
<tr>
<td>50 – 100%</td>
<td>40 – 80%</td>
</tr>
<tr>
<td>&lt; 20%</td>
<td></td>
</tr>
<tr>
<td><strong>Hand towels</strong></td>
<td></td>
</tr>
<tr>
<td>(folded and rolled)</td>
<td></td>
</tr>
<tr>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>50 – 70%</td>
<td></td>
</tr>
<tr>
<td><strong>Facial tissues</strong></td>
<td></td>
</tr>
<tr>
<td>40 – 100%</td>
<td></td>
</tr>
<tr>
<td>&lt;60%</td>
<td></td>
</tr>
<tr>
<td>Max 60% recycled, often 0%</td>
<td></td>
</tr>
<tr>
<td><strong>Napkins and serviettes</strong></td>
<td></td>
</tr>
<tr>
<td>80 – 100% as found in fast food retail</td>
<td></td>
</tr>
<tr>
<td>0 – 80%</td>
<td></td>
</tr>
</tbody>
</table>

**Machine format**

- **Wet crepe**

<table>
<thead>
<tr>
<th>Economy</th>
<th>Premium</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fibre quality, Absorbency, Softness, Whiteness</strong></td>
<td></td>
</tr>
<tr>
<td>Economy</td>
<td>Premium</td>
</tr>
<tr>
<td>TAD</td>
<td>Value</td>
</tr>
</tbody>
</table>
The matrix indicates the range of possible and likely recycled fibre content for each product across different product categories as follows:

**Manufacture type**
The columns represent the different techniques used to make the products listed down the side of the table. These techniques range from wet-creped tissue, through three quality grades of dry creping, to premium tissue made on through-air-dried (TAD) tissue machines. For further information on the production processes, please refer to Annex A.

**‘Likely’ and ‘possible’ recycled content**
The first row details the ‘likely recycled content’ of a typical product for each of the manufacturing techniques. The following row provides the ‘possible recycled content’ (in other words, the maximum recycled content that can be achieved on average in that production process). These figures offer you a benchmark against which to compare the products that you are currently using, and will give you an idea of the potential improvement in recycled content that you could achieve.

**Spread of recycled product availability**
The shaded horizontal bars represent the spread of availability of recycled product across the product types. By referring to these bars, you should be able to identify the potential to move towards higher recycled content alternatives – depending on what your organisation already uses.

The use of recycled fibres does not affect the ability of tissue manufacturers to dye the tissue paper. However, it can slightly impair the ability to achieve a high level of whiteness.

**What is the potential for specifying recycled?**

**Toilet tissues**
A large number of AfH tissue manufacturers are using recycled fibres for making toilet tissues. The vast majority of economy and unbranded toilet rolls are generally made from 100% recycled fibre. It is a little more difficult to find supplies of premium quality toilet roll with recycled content; however, products do exist. For the majority of FM applications, it should not be a problem to find 100% recycled product that meets your quality requirements.

**Hand towels**
Because of the low requirement for softness, the majority of folded hand towels on the market are already made from 100% recycled fibre – in fact in many cases the pulp may not be de-inked, and the product dyed blue or green instead. Products may not always state on the labelling whether they are made from recycled fibre – so finding out if they are could mean an ‘easy-win’ for your organisation.

The premium end of the rolled hand towels sector is unlikely to have any 100% recycled offering, and the majority will be less than 75% recycled, with some 100% virgin rolled hand towels on the market.

**Facial tissues**
Manufacturers’ ability to utilise high levels of recycled fibre in the facial tissue market is restricted by customer demands for softness. Consequently, it can be difficult to find good quality, high recycled content facial tissues. Nevertheless, some products do exist, as indicated in the matrix.

**Napkins and serviettes**
There are numerous napkins on the market made from virgin fibre, and there are also plenty of equivalent products available, made from recycled paper. Recycled content is often not stated on packaging, but it should be easy to investigate the credentials of the current supply, and if they are virgin products, a switch to recycled napkin products should be easy to achieve.
Strategies for increasing recycled content

It may be helpful to segment your organisation’s consumption of tissue paper into different categories – especially by highlighting those applications where softness is at a premium. This will allow you to locate the ‘quick-win’ opportunities for changing to recycled content products, and identify which products might be appropriate in the different areas of your organisation. This can be done as follows:

Segment your tissue use by situation

Large organisations may ask their facilities management contractor to deliver different levels or qualities of service according to the situation. For example, in public- or client-facing areas of a bank or hotel, premium tissue products may be used as part of the organisation’s market positioning, under a ‘Gold’ FM service. Back office (staff) washrooms or canteens may be supplied with economy versions of products for equivalent applications (‘Silver’ or ‘Bronze’ service).

CASE STUDY: Leading manufacturers offer different levels of product performance within product groups

Some suppliers, such as Georgia-Pacific, Kimberly Clark and SCA, reflect different service level requirements in their AfH product ranges. As an example, Kimberly Clark’s web site advises customers about their range of tissue brands as follows: “choose Kleenex for quality, Scott’s for value and Hostess for economy”. Recycled content products are found across this differentiation, although in general higher recycled fibre can be found in the value and economy ranges.

Grade switching

Alternatively, you might decide to switch the grades, type or delivery format of your tissue products in order to maximise the recycled content. As shown in the matrix, some grades are inherently more accommodating towards higher recycled content than others.

Source switching

Using the matrix above, you can determine the realistic potential recycled content for a target product. Once this has been decided, ask your FM supplier or wholesaler to find and offer a tissue paper supply that meets these requirements.

Specifying your needs

When inviting tenders either for tissue products or for FM services, you can explicitly set requirements in the tender specification document, and subsequently in the contract that is agreed. A few tips to remember when specifying your requirements include:

● Use a preamble that specifies your policy, for example:

State your policy in the preamble:

It is the policy of __________ to use recycled materials wherever practicable. Bidders able to supply products containing recycled materials which meet or exceed performance requirements are encouraged to offer them in bids and proposals.
Look at setting a minimum level of recycled content with which all tenders must comply. The level could be set per product type (as in the example below), or as a weighted average across the range of products used (e.g. 75% of the total value of tissue paper products used should derive from recycled content).

Try to avoid specifying a particular product or a particular supplier’s product – this can be too inflexible, and may contravene procurement rules in the public sector.

An example of a specification that could be included in your contract/tender document is given below.

**Example specification:**

The tenderer should offer recycled items in respect of the following schedule wherever possible:

**In hygiene applications**

- Toilet tissue ___% minimum recycled fibre content
- Hand towels ___% minimum recycled fibre content
- Facial tissues ___% minimum recycled fibre content

**In catering applications**

- Napkins / Serviettes ___% minimum recycled fibre content

Even if you have a current long-running contract, you can ask your supplier or service provider to help meet your objectives. Such continual improvement is often a standard feature of environmental management systems and partnership-type contracts. The percentage recycled content can readily form the basis of a key performance indicator and target for improvement, allowing sustainability to be demonstrated typically at no extra cost or even with a cost saving.

**Compliance with your corporate policies**

Alternatively, rather than stating specific requirements in the tender invitation, a common way of ensuring contractor compliance is simply to state in the tender document that contractors must comply with your corporate policies. Providing you ensure that your environmental policies are specific about tissue paper (see note below), this may be a simple way of delivering this commitment.

**NOTE:** Many public and private sector organisations already have strong corporate policies to support the use of recycled office and copy paper. However, research has identified that few of these ‘recycled paper’ policies explicitly cover tissue paper. Check your policy – it might be easy to make a small amendment to the existing text to broaden the policy, so that it includes all types of paper.

**Who can you buy from?**

**Selecting a brand**

Using the matrix and the guide set out previously, you can see that there is a broad range in the use of recycled fibres within each tissue paper product group. Through dialogue with your current provider you should be able to find out what is available – and remember, you also have the option to switch supplier.

In all cases, because of the wide variation in the quality and types of tissue paper products on the market, buyers are advised to sample a variety of products for each of their specific needs prior to committing to a particular brand. Suppliers and retailers should be able to provide you with samples on request. Opposite are listed a selection of manufacturers and suppliers of AfH tissue products by way of illustration.
Producers and their sales organisations

In the UK, four manufacturing companies dominate the AfH tissue market, with Kimberly Clark and Georgia-Pacific probably being the largest. Several smaller suppliers share the remainder of the market, probably equating to around 20 to 25%.

- **Georgia-Pacific**: Own 3 mills in the UK making AfH products, both of which have de-inking capacity. Over 95% of the AfH hygiene products are recycled. See [www.lotusprofessional.co.uk](http://www.lotusprofessional.co.uk)

- **Kimberly Clark**: A large manufacturer, owning three mills in the UK that make AfH products, two of which have de-inking capacity. Their AfH sales organisation can be found at [www.kcprofessional.com/uk](http://www.kcprofessional.com/uk)

- **SCA/Tork**: A high proportion of Tork’s AfH tissue products are 100% recycled. SCA own four mills in the UK, two of which make AfH products. See [www.tork.co.uk](http://www.tork.co.uk) (SCA do not sell their own products directly)

- **Kruger Industrial Tissues**: Manufacturers of workplace and washroom AfH tissue products and industrial tissue wipes. Kruger have two mills in the UK, both with de-inking capacity. See [www.krugertissueindustrial.co.uk](http://www.krugertissueindustrial.co.uk)

- **LPC**: Have one AfH tissue mill in the UK, and another planned. See [www.lpcgroup.co.uk/afh.asp](http://www.lpcgroup.co.uk/afh.asp)

- **Peter Grant Papers**: Peter Grant have one AfH mill in the UK with de-inking capacity, and manufactures specialised recycled tissue. See [www.cleanpoint.com/petergrant/](http://www.cleanpoint.com/petergrant/)

A number of companies will buy paper from producers and re-brand with their own brand.

Distributors/Retailers

There are a number of distribution routes for tissue paper products. Some of the manufacturers listed above have sales arms, from whom you may be able to procure directly, especially if you are consuming large volumes. In many cases, however, the manufacturer’s products are available from one of the large number of distributors and retailers. You probably already have a preferred supplier of cleaning and catering products – perhaps you use an office supplies catalogue, or you may have an established relationship with a purchasing consortium, (especially for public sector organisations).

Some examples of distributors/retailers are:

- **Greenhams Cleaning supplies** – [www.greenham.com](http://www.greenham.com)
- **Viking Direct** – [www.vikingdirect.com](http://www.vikingdirect.com)
- **Euroffice** – [www.euroffice.co.uk](http://www.euroffice.co.uk)
- **LA Office** – [www.laoffice.co.uk](http://www.laoffice.co.uk)
- **Lyreco** – [www.lyreco.com](http://www.lyreco.com)
- **Brakes** – [www.brake.co.uk](http://www.brake.co.uk)
Strategies for switching to recycled and getting the best deal

There are a number of ways you can go about switching to recycled content products without having to compromise on price or quality:

Shop around
During the preparation of this guide we have identified many brands and variants of tissue paper products. Recycled content products are available (and suitable) for nearly every facilities management application. Ask your current suppliers what they have available and if necessary be prepared to look around for a better deal. It may be possible to get a better deal (e.g. on large volumes) by buying tissue direct from the distributor or direct sales organisation than through a cleaning materials or stationery supplier.

Buy in larger volumes
There is rarely a price differential between recycled and virgin tissue, but if there appears to be one, it should be significantly reduced if larger volumes are purchased. Suppliers often offer substantial discounts for bulk purchases, which, if you can arrange storage, will significantly reduce cost.

Buy through a consortium
A consortium can be broadly defined as a mutual agreement between different procuring organisations to collaborate together to achieve joint benefits, generally taken to mean cost advantages. Setting up a consortium allows the purchasing power of the participating companies/departments to be combined in order to create economies of scale through larger orders.

Many consortia in the UK can supply recycled tissue papers at the same price as, or in some cases cheaper than, virgin alternatives. Check with your approved consortium whether they stock recycled tissue products for cleaning and catering applications.

CASE STUDY: ESPO Consortium

The Eastern Shires Purchasing Consortium (ESPO) have a policy to buy recycled content products for their members wherever possible. Many of their local authority members demand recycled content, so their product catalogue uses a recycled label to highlight all relevant products. The Cleaning and Hygiene section of the catalogue offers 32 tissue paper products, of which all but five are 100% recycled – including two types of facial tissue.

Note: For a current list of all UK local authority consortia, please visit the Society of Purchasing officers (SOPO) website at www.sopo.org

NOTE: Procurement in the public sector
If you are procuring from within a public sector organization, you are still able to specify recycled:

Extract from the European Commission handbook on environmental public procurement:
“As a contracting authority, you have the right... to demand a minimum percentage of recycled or reused content where possible.”
(Section 3.4.1)

OGC-DEFRA Joint Note on Environmental Issues in Purchasing:
Extract from Section 4 on Contract Specification
“This is a key stage at which to consider environmental issues... Contracting authorities are free to specify in terms of performance or functional requirements, which can include environmental aspects... Contracting authorities can specify the primary materials used, for example, requiring that recycled or recyclable materials are used.”
5. Points to remember

Why buy recycled?
- Recycled tissue paper products are widely available for all cleaning and catering applications.
- Recycled tissue papers generally perform as well as their virgin counterparts across many applications.
- The environmental case for purchasing recycled paper is strong: it helps to close the recycling loop by creating end-market demand for waste paper that your organisation may be sending for recycling, thus diverting waste paper from landfill sites.
- You should not have to pay a price premium for recycled tissue paper products, as manufacturers already use recovered fibre extensively for economic reasons.

What to buy?
- Some types and grades of tissue paper are more readily available with a high recycled content.
  By selecting appropriate papers for each application – such as economy-grade for “back-office” use – you could increase recycled content and cut costs at the same time.

How to buy?
- Clearly state upfront your policy objective to maximise the use of recycled content, and set contract specifications for recycled content.
- Ask your tissue product suppliers and FM service providers to offer products meeting your requirements – and don’t accept out-dated misperceptions.
- Be prepared to shop around, buy in bulk, or use a purchasing consortium.

Already buying recycled?
- Look to “lock” that requirement into your tender specifications with your FM service provider.
- Claim it on your environmental performance measures.
- Send a signal to producers that recycling counts and matters to you.
Annex A. Understanding a little more about tissue paper

Introduction

Tissue paper production is one of the most challenging technological processes in the paper industry, with very low basis weight paper (as low as 12gsm) being produced at speeds as high as 2000m/min; being dried in less than a second at temperatures up to 625 degrees C; and going through a series of creping, rewinding and converting steps to produce a finished packaged product.

A tissue machine is generally more compact than for other grades of paper because the weight per square meter (basis weight) is much lower than with other grades. Another important difference is that, unlike other grades of paper, water removal by mechanical pressing of the web is not maximised. Although water can be removed by mechanical pressing (and hence drying costs reduced), the property of bulk (related to thickness) is reduced. Bulk is important in the development of some critical tissue properties, such as absorbency and softness. Mechanical pressing is therefore limited, and water removal by the use of vacuum systems is very important. Typically, a tissue web contains about 64% moisture when it reaches the dryer, whereas other grades of paper typically are at 50% or even less.

Drying

Most tissue machines have only one drying cylinder, the Yankee, and the sheet must be dried from less than 40% solids to about 94% solids in less than a second whilst in contact with the dryer. Yankee dryers are heated by pressurised steam and are usually 4 – 5 metres in diameter. Drying rates are increased by the use of a hood above and around the Yankee, which blows hot air onto the surface of the web.

NOTE: High temperature gas-fired dryers are being developed with temperatures in excess of 625°C; this is a highly sophisticated technology.

Some tissue machines have more than one dryer and the most common of these is the TAD (Through Air Drying) format. In this, two dryers are used, but instead of the Yankee dryer providing most of the drying capability, the sheet is first dried on the TAD. Hot air is blown through the dryer and the sheet, which is supported on the “through air dryer” by a fabric, so that the pattern of the fabric can be imparted to the sheet, particularly important in kitchen towel grades. In this format, minimal mechanical pressing is used for water removal, and the objective is to maximise the thickness (related to the bulk) of the sheet.
Patents as well as higher energy costs for drying have limited the spread of this technology, but there are several TAD machines in the UK – for example, SCA have two, and Kimberly Clark and Proctor & Gamble each have one machine. Although the web could be completely dried on a through air dryer, it is not usually completely dried, so that the web can be stuck to a conventional dryer and creped in the normal way.

This creping is very important in developing tissue properties for almost all tissue grades. However, in general terms, the higher drying costs of TAD are compensated by improved quality attributes such as greater absorbency and softness. Many premium quality products are produced on TAD machines, and these usually use virgin fibres almost exclusively. The capital costs for this type of machine are also higher than the costs of a conventional Yankee machine.

**Creping**

When the sheet is transferred to the Yankee cylinder, irrespective of the type of machine, it is “stuck” to the Yankee through the use of a chemical coating (that includes an adhesive) sprayed onto the surface of the dryer. After the sheet has been dried by a combination of the steam heated Yankee and the high temperature hood, it has to be removed from the Yankee and this is achieved by the use of a creping blade. This cuts into the coating on the Yankee, and causes the sheet to contract through the introduction of a pattern of wrinkles (repetitive troughs and peaks) in the sheet – referred to as creping.

**Reel up**

After creping, the *reel up* process winds the sheet, and this runs slower than the Yankee – the difference in speed is known as the crepe ratio, and it is this that radically affects sheet properties. Typically, the reel that is wound at the reel up is the full width of the machine (minus a few centimetres of trim) and can be several metres in diameter. It is usually referred to as the parent roll.

**Rewinding**

After the reel up, the next step is most frequently the rewinder. At the rewinder, several (2 to 4) parent rolls can be unwound and rewound simultaneously, to provide a reel with several plies. A rewinder will typically have up to 4 unwind stations, each capable of taking a parent reel. As the reel is being wound up in the rewinder, the tissue web is cut to the specific face width needed for individual converting lines, whether this is to produce a roll or a folded product. After being rewound – usually into a two-ply product in the UK – the cut reels (generally called jumbo reels) are converted in a line that is specific for that product, i.e. hand towels are not produced on a toilet tissue converting line. The jumbo reels are also traded internationally, with different qualities attracting different prices.

**Converting**

Converting is a more capital-intensive business, but one that adds value to the product, so most manufacturers also have converting operations. Final products are either smaller rolls or cut and folded sheets (facial tissues are folded products whilst toilet tissue is usually a roll product). In addition to cutting to size and packaging, converting lines can include embossing and printing stages, or the application of various lotions. Different embossing rolls are used to impart a variety of patterns to the sheet, and in some cases the pressure points can be inked. Thus converting contributes a great deal to the appearance and feel of the tissue product, as well as adding to its value.

Converting machine speeds have increased very sharply over the last decade, as has their width. Toilet tissue converting lines are available that are close to those of the tissue machine itself, so the rewinder step may be bypassed, with jumbo rolls being used directly in the converting line. In mills seeking maximum production efficiency this is possible, provided the tissue machine is more or less dedicated to toilet tissue production. In others where a wide range of products are produced, jumbo rolls are stored prior to converting, as the converting line capacity will be much lower than the production of the tissue machine. This introduces several inefficiencies at different steps, so most major companies have tried to rationalise their production facilities, with machines dedicated to specific product lines.
Technical properties

Tissue paper products have a number of important properties, touched on above, that are important to their end-use. Thus, at the production stage each type of tissue is made specifically to suit a particular application.

Kitchen towelling, for example, has a wet strength agent added, and there is much less focus on softness, but more on strength and absorbency. In toilet tissue, surface feel and softness are more important quality attributes, and if wet strength additives are used, then these are only at low levels.

NOTE: The use of recycled grade tissue papers will impact on the capacity of these factors to be incorporated in the final product, and thus affect the possibility of using certain grades for certain applications.

Table A1: Summary of important product attributes

<table>
<thead>
<tr>
<th></th>
<th>Strength</th>
<th>Wet strength</th>
<th>Softness/feel</th>
<th>Absorbency</th>
<th>Brightness/Colour</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toilet tissue</td>
<td></td>
<td></td>
<td>✓</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Facial tissue</td>
<td></td>
<td></td>
<td>✓✓</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Hand towels</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td>✓✓</td>
<td></td>
</tr>
<tr>
<td>Napkins/Serviettes</td>
<td></td>
<td></td>
<td>✓</td>
<td>✓✓</td>
<td></td>
</tr>
</tbody>
</table>

Attribute details:

- **Strength/Wet Tensile Strength** – Fibre length and pre-treatment with strengthening agents will have an impact on the strength of the final tissue product, which may be a critical property in some applications.

- **Softness/Feel** – Fibre length and uniformity, as well as the production and drying method are important to achieve the softness required for facial tissues in particular, as well as for premium toilet tissue.

- **Absorbency** – High levels of creping, thicker tissue and other production processes are required to make hand towels highly absorbent, whilst the grade, uniformity and appearance may be less important – hand towel tissue may not even be de-inked.

- **Appearance** – Colour and feel may be critical factors. White is the most popular colour.

Current use of recycled fibres in tissue mills

Around 50% of UK tissue mills have de-inking capacity i.e. are able to process recycled fibre. At any given point in time, however, the exact ratio of recycled to virgin fibre is not necessarily 50%, and will fluctuate according to the requirements of the specific product being made, and variations in the relative price of virgin pulp and recovered paper. There is also some active trade of de-inked pulp between mills.

In addition, the UK imports and exports tissue paper, which influences the amount of recycled paper on the market at any one time. For example, most of the tissue made in Italy is made from virgin pulp, and so imports of tissue from Italy would tend to reduce the proportion of recycled fibre in tissue consumed within the UK.

However, in general terms, the average recycled fibre use in the UK has fluctuated around the 50% mark over recent years.

NOTE: Used tissue paper does not get recycled for hygiene reasons.
Annex B. Environmental claims, labels and marks

Eco-labels

Third party eco-labels such as the EU Eco-label, Nordic Swan (Scandinavia) and German Blue Angel are voluntary, independent labels which aim to identify the top 10-25% of products in terms of overall environmental performance across the life-cycle of the product. To do this, they set pass/fail criteria per product group covering key environmental impacts. Eco-labels can be given to a wide range of products, not just paper, whilst some apply to different types of paper. For tissue paper, the criteria for recycled content vary as follows:

To qualify for the EU Eco-label for tissue paper, products must be produced in a manner that reduces air and water emissions, however the fibre type is not mandated, so it may be virgin or recycled.

If it is sourced from virgin fibre, the operators of the forest must “implement principles and measures aimed at ensuring sustainable forest management”. Recycled fibre must also meet hygiene requirements relating to levels of contaminant such as formaldehyde and PCBs.

Products are encouraged to specify their recycled content (if any), but this is not mandatory.

For the e-catalogue of eco-label products:
www.eco-label.com

For general information on the European eco-label for tissue paper:
www.europa.eu.int/comm/environment/ecolabel/product/pg_tissuepaper_en.htm

Administered by the German Federal Environmental Agency and RAL German Institute for Quality Assurance and certification since 1978. Hand towels, toilet tissue, kitchen towels and serviettes bearing the Blue Angel mark must contain 100% recycled content. Recycled fibre is defined as papers and boards obtained as a result of consumer use or processing. Paper mill broke is not considered as waste paper, except for the broke obtained as a result of the manufacture of paper from 100% waste paper material – related to the amount of fibre use.

RAL will be publishing new criteria in February 2005. The previously published criteria will be valid until December 2005.

www.blauer-engel.de/englisch/navigation/body_blauer_engel.htm
This label was introduced by the Nordic Council of Ministers in 1989. Nordic Swan covers a variety of products, including other paper products and printed matter. There are specific Nordic Swan criteria for tissue paper, based mainly on the environmental effects of the manufacturing process rather than the selection of raw material. To meet the tissue paper criteria, tissue products must include at least 15% fibre from sustainably managed forests, as well as meeting detailed standards on all aspects of processing and production, including chemicals, energy usage, inks, packaging etc. There are also restrictions on the use of chemicals in de-inking processes, and recycled fibre must meet hygiene requirements.

The Nordic Swan label does not necessarily imply that the product contains any recycled fibre. However products that contain 100% recycled fibre are exempt from the above requirement concerning content from sustainably managed forests.

www.svanen.nu/Eng/criteria/kriterie.asp?pgn=5

NOTE: 1. Only the Blue Angel Eco-label requires recycled content.
2. All of these labels have a limited presence on the UK market.
3. Other papers, including some with high recycled content may meet eco-label criteria but have not applied for a label itself.

Environmental declarations

Paper Profile

Paper Profile is a voluntary environmental product declaration, i.e. it provides standardised categories for companies to provide environmental information across the product’s lifecycle, which therefore enables customers to compare the information provided. The categories cover environmental management systems, raw materials, emissions to water and air, solid waste, electricity consumption and product composition. Independent verification of the data is optional but is highly recommended on an annual basis. If undertaken, details of the verifying body will be included in the declaration. It is primarily suited to business procurers (commercial or public sector).

www.paperprofile.com

Environmental Choice Program: Sanitary Paper Products

Under this programme, all sanitary paper products must meet strict requirements for minimising resource and energy consumption, COD, Toxic Equivalency Factors, and net solid waste. Papers must be manufactured such that any effluent from the manufacturing mill, or from any mill that provides component pulp for the product and uses a chlorine bleaching plan, does not contain a measurable concentration of 2,3,7,8-TCDD or 2,3,7,8-TCDF (chlorinated dioxins and furans).

If manufactured from pulp made from primary wood fibre, paper must use only pulp derived from forests that may be demonstrated to be managed under a corporate code of sustainable forest practices.

www.environmentalchoice.ca

NOTE: A company which uses an environmental declaration will not necessarily be producing papers with recycled fibre content.
Recycling marks/symbols

Mobius Loop

The Mobius Loop is an internationally-recognised recycling symbol with each arrow representing an aspect of a successful recycling programme: collection, remanufacturing/reprocessing into a new product, and finally purchase by the consumer. The symbol is only to be used on goods that are ‘recyclable’ or include ‘recycled content’, in which case the percentage of recycled content should be stated together with the symbol.

Most people will be familiar with the Mobius loop but may be unaware exactly what it means.

Where the symbol appears without a number, it indicates that the product is ‘recyclable’ and therefore, does not necessarily means that there is any recycled content.

Where the symbol appears with a number, it indicates that the product contains XX% recycled content – in this case 90% recycled content.

Recycle Now

This new icon is part of the RecycleNow campaign organised by WRAP on behalf of the Government to encourage people to recycle more materials, more often.

www.recyclenow.org.uk

The Green Dot® or Der Grüne Punkt® is a registered trademark indicating that a financial contribution has been paid to an authorised packaging scheme. The Green Dot® is not a recycling symbol although is often misinterpreted as such. It should not be used to denote general recyclability or recycled content. The Mobius Loop is the correct symbol to use for claims in this context. The UK is not a participant in the scheme.

The Green Dot is a symbol for producer responsibility: it indicates that participating companies are fulfilling their responsibility for their products, i.e. packaging, according to European & National packaging law. Further information about Green Dot schemes can be found on www.pro-europe.info, PRD EUROPE is a European umbrella organisation of all Green Dot schemes.

NOTE: Whilst in some instances the Green Dot symbol may appear on paper packaging, the symbol actually refers to the packaging and not the paper inside, which may not necessarily be recycled.
Forest certification schemes

Third party forest certification schemes are essentially communication tools that enable forest owners and forest product companies to provide assurance to traders and consumers that the products they are purchasing have been grown in well-managed forests. The schemes set detailed criteria for the source forest, covering issues such as biodiversity, consultation with local stakeholders, legal rights to log the forest, rights of forest-dependent peoples and so on. They also set ‘chain of custody’ (CoC) requirements, which involve an audit process to track the raw material from source forest to final product.

The two most prominent existing schemes are the Forest Stewardship Council (FSC) and the Programme for the Endorsement of Forest Certification schemes (PEFC) international initiatives. Some national schemes exist, such as the Canadian Standards Association Sustainable Forest Management System, the Finnish Forest Certification Scheme and the American Forest and Paper Association Sustainable Forestry Initiative (SFI).

The global benchmark for responsible forest management, the FSC logo identifies products which contain wood from well managed forests, certified in accordance with the rules of the Forest Stewardship Council. For paper, the FSC trademark can be displayed on products containing a mix of uncertified and certified virgin fibre so long as the total virgin fibre contains minimum 30% FSC-certified. An FSC-certified paper currently does not specifically indicate that it contains recycled fibre.

For paper products containing a mix of recycled or other ‘neutral’ and certified materials, the FSC trademark can be applied so long as the minimum amount of FSC pulp is 17.5% of the weight or volume of the whole product. This allows up to 82.5% recycled fibre to be included in a paper carrying the FSC trademark. A limited number of tissue paper products carry FSC accreditation, an example being J Sainsbury kitchen towels.

In addition to forest certification, the FSC system includes a certified chain of custody (CoC) that tracks the timber through every stage in the supply chain from the forest to the final user. As one of several new standards launched in September 2004, the FSC-STD 40-004 introduced two new categories – “controlled wood” and “post-consumer reclaimed wood” which covers the control of non-FSC accredited components, including verified post-consumer waste fibre. Products with up to 100% verified post-consumer waste fibre are able to gain FSC Recycled accreditation. Further information is available from www.fsc-uk.org

The PEFC Council is an independent, non-profit, non-governmental organisation, founded in 1999, which promotes sustainably managed forests through independent third party certification. The PEFC provides an assurance mechanism to purchasers of wood and paper products that they are promoting sustainable forest management. For more information: www.pefc.org.

PEFC was previously known as the Pan-European Forest Certification scheme.
Environmental Management Systems

ISO 14001 and EMAS

Paper manufacturers are increasingly providing information to their customers about their Environmental Management Systems (EMS), typically certified under the ISO 14001 standard and/or the EMAS scheme. Such systems are increasingly being adopted by Western pulp mills and paper producers.

There are crucial differences between EMS and Eco-labels; the former confirms that the company has a structured system in place for identifying and managing its environmental impacts, thus focusing on process not performance, whereas the latter sets prescriptive performance criteria. As a result, the two should not be seen as interchangeable or equivalent when assessing suppliers.

NOTE: A company which has ISO 14001 or EMAS certification for the mill at which the paper is made will not necessarily be producing papers with recycled fibre content.

Bleaching issues in tissue paper

The environmental impact of bleaching fibres (recycled or virgin) also needs to be considered when procuring tissue papers. Bleaching agents can be very polluting, particularly those based on chlorine, which are a source of dioxins. Most paper mills no longer use elemental chlorine to bleach fibres. There are three labels which may be used to indicate the alternative types of bleaching used:

- **Elemental Chlorine-Free** (ECF) uses chlorine derivatives, such as chlorine dioxide, which reduces but doesn’t eliminate the presence of dioxins in mill effluent. ECF paper may contain either virgin or recycled fibres.

- ** Totally Chlorine-Free** (TCF) uses a combination of oxygen delignification with hydrogen peroxide or ozone as the bleaching agent. Paper that is made from TCF pulp is made with 100% virgin fibres, including wood and alternative fibres such as kenaf. The TCF label should not be used on recycled paper because the content of the original paper is unknown.

- **Processed Chlorine-Free** (PCF) contains up to 100% recycled content which has been re-bleached with a process that does not use chlorine compounds. Since it is impossible to tell whether their recycled content has been bleached with chlorine in the past, PCF papers cannot be labelled totally chlorine-free.

The best solution is to look for unbleached recycled towels, napkins and toilet tissue products, which are widely available. Hand towels in particular are often not bleached, and may be light brown or grey in colour - or are dyed blue/green.
Annex C. Sources of further information

The following range of organisations can provide more information on procurement and on procuring paper and recycled products in general, including tissue paper:

Recycled products

WRAP (the Waste & Resources Action Programme)

www.wrap.org.uk/procurement

Information on “Why, what and how” for specifying recycled in the procurement of goods, works and services.

Information on direct assistance from the Recycled Paper Advocacy Team, freephone helpline 0808 100 20 40 (quote: Paper Advocacy)

Link to WRAP’s recycled products directory www.recycledproducts.org.uk

Members of ReMaDe network UK

www.remadenetwork.org.uk/

Information on organisations working to develop efficient markets for recycled materials and products around the UK:

OGCbuying.solutions

www.sustainablesolutions.gov.uk

Green product database, designed especially for the UK public sector.

Procurement

Department of Environment, Food and Rural Affairs (Defra)

www.sustainable-development.gov.uk

Includes guidance on sustainable procurement and estates management for the Government Estate.

Office of Government Commerce (OGC)

www.ogc.gov.uk

Advice on procurement practice for the UK public sector. Web site includes the OGC/Defra Joint Note on Environmental Issues in Purchasing. OGCbuying.solutions provides a procurement service for government, including framework contracts for a range of products.

Improvement and Development Agency for local government (IDEA)

www.idea.gov.uk

Guidance on good practice in local government procurement, including sustainable procurement.

Chartered Institute of Purchasing and Supply (CIPS)

www.cips.org

Professional body.

Society of Procurement Officers in Local Government (SOPO)

www.sopo.org.uk

Help and advice for procurement professionals in local government.

International Council for Local Environmental Initiatives (ICLEI)

www.iclei.org/

European Eco-Procurement initiative and Green Purchasing Good Practice Guide.
Annex D. Glossary of terms

**Tissue terms**

**AfH – Away from Home market:** products designed and sold for non-domestic consumption, for example in the workplace, catering and leisure facilities.

**Air-laid:** In normal paper making, water is used as the transport medium, to deliver millions of individual fibres to the sheet forming section on the paper machine, so the sheet produced is “wet laid”. Similarly, an air laid sheet uses air as a transport medium – fibres are separated from each other in a dry process and individual fibres are transported to the sheet forming section using air, so sheet formation is a dry process, using glue to bond fibres to each other. This produces a weaker sheet, but one with high bulk (thickness) and a feel more closely resembling fabric than paper.

**Creping:** crinkling of paper during drying to produce a soft, elastic sheet – giving the tissue added thickness and absorbency.

**De-inking:** a process in which most of the ink, filler and other extraneous material is removed from printed and/or unprinted recovered paper. The result is a pulp which can be used in the manufacture of new paper (such as tissue paper).

**Dry creping:** creping of a dry paper web.

**Jumbo roll:** large roll of paper coming off the paper machine before cutting to customer rolls.

**Recovered paper:** that portion of all waste paper that can be collected and re-used. Does not include paper recycled internally by the paper industry.

**Recycled fibre:** fibre obtained from recovered paper.

**TAD – Through Air Drying:** a process for tissue drying with the paper web running over a perforated drum where hot air is blown through the web.

Some TAD tissue papers are made without creping (un-creped through air drying; UCTAD), instead layers of tissue are built up to produce a superior quality product. In addition, some machines incorporate a transfer from high speed to low speed rolls, which can have a similar affect to creping.

Some TAD tissue papers are crepe finished using TAD machines which include a Yankee dryer

**Wet creping:** After the maximum amount of water has been removed by mechanical means, the remaining water is evaporated. To do this, the sheet is stuck to a dryer (the Yankee dryer) and after water has been evaporated the sheet is removed from the dryer by a sharp doctor blade. This process, called creping, introduces microcompressions into the fibre web, providing the properties of stretch and high bulk. Creping can be either wet or dry – normally tissue is produced by dry creping, that is the sheet is doctored from the Yankee dryer when almost completely dry. This provides a fine crepe pattern. However, the sheet can be doctored from the Yankee when its moisture content is about 20 to 25%, and this is referred to as wet creping. Additional drying cylinders are necessary to dry the sheet. This provides a coarse crepe and so is suitable only for some hand towel tissue grades.

**Virgin fibre/paper:** Wood fibre never before used to make pulp, paper or board.

**Yankee cylinder:** a large diameter, heated drying cylinder used in tissue paper production. Creping is achieved when the tissue paper is scraped off the cylinder after drying, using a blade.

**Winder:** machine for cutting the paper web longitudinally into narrower webs, which are then wound to reels; also slitter-winder.
**Other technical paper descriptors**

**Basis weight:** sometimes called the grammage or substance, this is the weight (mass) per unit area. In Europe this is normally expressed as grams per square metre, or gsm, or g/m$^2$.

**Brightness:** is a measure of the reflectance of light of a specific wavelength, under closely defined conditions, from white or near white papers. A numerical value is derived from a comparison of the reflectance of a specimen under test with a standard. Several instruments are in common use, and as they may use light of slightly different wavelengths, or geometry, they give different results, so brightness values should only be compared when it is clear which test method or instrument has been used.

**DIP:** de-inked pulp, i.e. pulp made from recovered paper that has had the original ink removed.

**Dusting:** loosely refers to the surface strength of a coating or paper, and its resistance to particles being removed from the surface during printing. It is also known as picking. Tests have been developed to determine the resistance of paper surfaces to picking or dusting, an important property in printing.

**Fibre:** Wood is composed of two components – cellulose and lignin. Fibres are narrow hollow tubes made of cellulose, and their length, thickness and wall thickness vary according to wood species and climate. Soft woods provide fibres with a greater length and diameter than hardwoods and so confer greater strength than hardwoods to paper. However, hardwood pulps produce paper that is smoother, so in general a blend of fibres is used with the mix being varied to confer the exact properties required in a specific paper. Fibres can also be derived from annual plants such as straw, bagasse, cotton, flax, etc.

**Gsm:** see basis weight.

**Laid paper:** is made using a forming fabric that imprints its surface contours to the sheet of paper. The dilute mixture of water and fibre drains through the forming fabric so that the wet paper sheet assumes the pattern of its surface.

**Longevity:** refers to the life of a paper or paper product.

**Opacity:** is a measure of the degree of transmission of light through the paper – low transmission means high opacity.

**Pulp:** Pulp (includes virgin, DIP and their sources such as rags etc) is a generic term referring to the product following processing of the raw material (usually wood) used to produce an intermediate between wood and paper. In integrated mills, pulp is almost immediately made into paper, but in other mills a heavy board is made, dried and cut into sheets, with a number of sheets being baled. This is usually traded or sold in the market and is the generally accepted “pulp”.

**Stiffness:** refers to the resistance to bending of paper, in either the machine direction (MD) or the cross-machine direction (CD). It is an important property, and affects how well paper feeds through various types of printing process. It is proportional to the thickness of the paper.

**Weight:** weight is an abbreviation of basis weight.