

**LONGRIDGE** *Print*

**Environmentally Considerate**

# Longridge Environmental Mission Statement

Through continuous monitoring of the impact of its own activities the company seeks to minimise the production of pollution and waste released by the process of printing into the environment.

The company evaluates then selects suppliers and subcontractors on the basis of compatibility with its own environmental policy and their adherence to high environmental standards (ideally ISO 14001 certification).

The company recognises that all print processes have the potential for causing environmental damage and given the world's resources are limited, emphasis is given to renewable and recycled materials where possible.

It therefore accepts that it has a social and moral responsibility for putting into place environmentally friendly measures that not only fulfil but also go beyond the legislative requirements.

It is a fact that financial and manpower resources have to be allocated to ensure that good environmental practice is carried out in all areas of the company's operations. It is also true that good environmental practice in the form of considerate use of raw materials and power can also return cumulative savings.

The corporate aim is a sustainable programme of action:

Taking a proactive role is applying the constantly evolving and improving environmental legislation specifically as it applies to the printing industry.

Applying the strategy of **materials sourcing, workflow management** and **waste disposal**, which actively discriminates in favour of the environment.

Taking advantage of new and emerging technologies to maximise utilisation of power and raw materials whilst minimising the negative environmental impact of the print process.

- People at all levels throughout the company are committed to ensuring that environmental issues are considered carefully when making decisions concerning new developments or when planning and controlling work.
- Dedicated Production and Health & Safety staff ensure plans and systems of work are designed and maintained to the highest possible standards to minimise incidents and accidents.
- We endeavour to select environmentally compatible and recyclable material in connection with the process of print production.
- A priority of the company is the elimination of minimisation of waste at source and the recycling or re-use of materials.
- The transport of our product and the transport and disposal of waste is carried out with due regard to all environmental considerations.
- The areas of company activity mentions above have been specifically targeted by the company as being the most important in the efforts to continual improvement of overall environmental performance.
- The programme of improvements outlined in this statement is overseen by the Managing Director who ensures that it is communicated, implemented and maintained at all levels of the organisation.

Neil Long  
Managing Director

July 2005

# Impacting the Environment

Print is the UK's sixth largest manufacturing industry with great potential for harming the environment. It consumes vast amounts of raw materials and uses many polluting chemicals and yet it has the least enthusiastic adoption of environmental policies of any major industry.

The industry's main negative environmental impacts arise from-

## **Solvent and chemical use**

Extensive use is made of chemicals throughout the printing process. They are used in many essential processes such as film and plate processing, press and plate cleaning, and are a component in inks, fount solutions, glues and laminations.

Annually, a six-colour lithographic printing press, on a 24-hour shift, typically uses 4,500 litres of cleaning solvent and 7,200 litres of industrial alcohol. Thousands of litres of film and plate chemicals and tonnes of volatile printing inks will also be added to this toxic mix of potential pollutants.

With the average printing company releasing up to 14 tonnes of VOCs a year, it is not surprising that printworks continue to make a significant contribution to UK industry's overall VOC emissions.

## **Heavy energy consumption**

The huge rise in world energy consumption, the majority met by the use of fossil fuels such as coal and oil, is recognised as one of the biggest sources of carbon dioxide, CO<sub>2</sub>, emissions leading to the threat of global warming.

## Paper and Water Waste

it still from unsustainable sources – is probably the industry's chief source of waste especially during the 'make ready' stage of printing when presses are adjusted to achieve maximum quality.

While the amount of paper we recycle as a nation is increasing, we still dump around five million tonnes of it in landfill sites or incinerators every year. The printing industry is a huge consumer of electrical power, with the average sized printing press using 140kw of electricity every hour it is operating.

PAPER – some of Even more of this could be recycled were it not for the extensive use of environmentally-inappropriate adhesives, laminates and varnishes in the printing industry which makes the paper unsuitable for reprocessing.

It has been estimated that world demand for WATER is doubling every 20 years. Population growth projections indicate that we could use more than 70 per cent of accessible freshwater by 2025. Not surprisingly, therefore, water is being increasingly viewed as a precious resource as much in need of conservation as any other human staple.

Conventional litho printing (still the most common print production process) is heavily dependent on water to dampen the printing plate during the printing process. Around 600 litres will be consumed during an average print run – much of it ending up as a complex chemical cocktail which has to be disposed of as hazardous waste. Water consumption is also increased, of course, by staff-related us in commercial premises.

# Greening The Print Room

Printing is a process that uses paper, chemicals, water and energy. Measures to minimise the environmental impact are often driven by Health and Safety legislation. Increasingly, however, Longridge is demanding more pro-active environmental action. Measures are taken to reduce the environmental impact in the following areas:

## 1. *Paper*

Recycled paper remains the preferred environmental choice because:

- It results in every and resource savings.
- It diverts waste paper away from landfill or incineration.
- It reduces the pressure on increased commercialisation resources.

If non-recycled paper is used, we can specify papers containing FSC pulp and those that minimise environmental impact in manufacture (e.g. TCF ( total chlorine free) paper). We can also check environmental labels, such as Nordic Swan, Blue Angel and NAPM accreditation.

## 2. *Inks*

Where appropriate we:

- Select paste inks with a higher proportion of vegetable-based oils (e.g. soya, linseed or rapeseed oil).
- Use water based inks where liquid inks are used.
- Ensure that pigments are free of heavy metals.
- Use inks with the lowest percentage VOC (volatile organic compounds) possible
- UV (ultraviolet) inks reduce solvent use but are more difficult to recycle.

### 3., **Adhesives**

The use of adhesives in print finishing will often make the product less recyclable. There are three groups of adhesives:

- Aqueous adhesives or emulsions (e.g. polyvinyl acetate, starch, latex)
- Animal glue (less used nowadays; disapproved of by the animal welfare lobby).
- Hot melts (based on synthetic polymers)

The first two cause fewer problems, the last constitute a significant contaminant. We can reduce the impact of these by adhering to the following guidelines:

- Check whether the adhesive is water soluble
- Check with the supplier on whether hot melts are dispersible.
- So called reactive hot melt adhesives can easily be filtered out in the recycling process.
- Use non-adhesive binding where commercially and technically acceptable.

### 4. **Organic solvents**

Volatile Organic Compound are a major source of pollution in the lower atmosphere and especially in built-up areas where respiratory problems can be caused. Wherever practical Longridge:

- Uses inks low in VOCs.
- Uses alternative press washes, based on citrus by-products or vegetable oils.
- Reduces – where possible – alcohol in fount solution. We have reduced the use of IPA by 100%
- We have reduced the VOCs by the use of a pre mixed fount solution

VOCs can be a more persistent problem in heat set web offset, flexographic and screen-printing. In the interest of not just environmental improvement, but also health and safety, it is important to look for substitutes (e.g. Water-based inks for screen –printing) or at the least solvent recovery (e.g. by condensing filtration, thermal or catalytic incineration).

## 5. *Waste Minimisation*

Reducing the amount of waste generated can not only save money, but will also cut air, waste and ground pollution. As we saw above tighter controls over the use of chemicals will also have health and safety benefits. We have adopted the following measures:

- We have assessed the feasibility of fixer and water recycling as well as silver recovery.
- Re-examined working practices in the print room to get maximum mileage out of printing chemicals (e.g. process solutions)
- Reduced or in some cases eliminated the amount of packaging.
- Researched and implemented the collection and disposal system to maximise the recycling options.
- Use a smaller size paper, if available, to reduce paper waste.
- We use an ISO 14001 environmentally accredited waste disposal company. All our waste is sorted by type for its appropriate disposal.
- We avoid lamination and varnishing where unnecessary – if their application is unavoidable, use materials that are water soluble.
- We separate out waste at various points for recycling, ie aluminium drink cans, printing plates, cd's
- We have eliminated 50% of the chemicals used in film and plate production by the installation of CTP, and 100% of the film previously used
- We have stopped using RO units so that 100% of the water we bring to the press is used. In an RO unit only 50% of the water goes to the press the other 50% goes down the drain

# What Are Environmental Papers?

How can you tell if a paper is 'environment friendly'? Unfortunately, many of the environmental strap-lines that designers and publishers slap onto their publications do not stand up to scrutiny. The vaguer the claim, the more doubtful the credentials. Two of the worst are '*printed on environmentally friendly paper*' and '*printed on paper from sustainable forests*'.

More precise claims can easily be checked and are more often than not genuine. For **non recycled** papers these include:

- ECF paper (Elemental Chlorine Free Paper) – [paper produced without the use of Elemental Chlorine in the bleaching process. This fact now applies to the majority of European papers!
- TCF paper (Total Chlorine Free paper) – where chlorine has been totally eliminated as a bleaching agent. This applies to fewer papers.
- FSC (and PEFC) papers. Forest Stewardship Council certified (FSC) paper is made from timber from genuine sustainably managed forest.
- Nordic Swan accredited paper – paper manufactured in a way that minimises the environmental impact of the production process.

Most of the above can also be applied to **recycled paper**. But the specifiers of paper may need some reassurance on the genuine recycled content of the product. Some of the following classifications are designed for this purpose:

- **NAPM** accreditation – the National Association of Paper Merchants maintains a register of recycled branded papers that contain at least 75% genuine waste fibre (excluding waste generated inside the mill itself).
- **ABCD** classification – each letter denominates a type of waste (expressed in a percentage), allowing the specifier to 'decode' the recycled content.

**A** = mill waste

**B** = unprinted off-cuts (from printers and converters)

**C** = Printed (woodfree) office waste, magazines and brochures

**D** = mechanical waste (e.g. newsprint)

- Blue Angel accreditation – awarded to products that contain at least 51% genuine waste paper, and are also produced in a way that minimises environmental impact.

Other issues can also be relevant, e.g. laminated paper is less recyclable; uncoated papers have less environmental impact than coated papers; heavy ink coverage requires more chemicals and energy for the de-inking process.