

guidelines for **'GREEN'**



PRINT *purchasing*

WHY 'GREEN' PURCHASING?

These 'Green Print Purchasing' guidelines outline how to integrate environmental criteria with traditional purchasing criteria such as the cost, availability and functionality for paper and ink used in printing. The goal is to reduce the environmental impacts associated with print purchasing, ensuring the best environment choice also makes good business sense.

Anyone who purchases printed material has a vital role to play in creating and encouraging environmental improvement.

The printing industry uses hazardous chemicals, requires energy and water, and generates waste. The average small printer is not a major source of pollution but collectively the impact can be substantial. In adopting cleaner production practices, opportunities exist for printers to reduce the environmental, health and safety impacts, increase productivity and reduce costs.

DESIGNING YOUR DOCUMENT

1. Reduce your paper and ink requirements

- Always print on both sides of the paper
- Design with dimensions, and a format that maximises paper use and minimises trim waste (instruct your designer/printer to do this) e.g. reduce borders and large margins
- Have your work edited to reduce the number of pages, dimension and/or size use single space or 1 to 1.5 line spacing
- Reduce the weight of the paper, when possible
- Avoid unnecessary packaging ~ consider leaving the back page for the address and seal with a sticky label!
- Combine mailing of information and notices when possible
- Update mailing lists frequently and target specific markets to reduce unwanted direct mail in the waste stream
- Promote the message of reduction, reuse and recycling on all materials. State "this is printed on recycled paper" or "please recycle..."
- Reduce the number of colours you use - get smart with one colour runs!
- Use recycled, chlorine free TCF (totally chlorine free) or ECF (elemental chlorine free) paper
- Reduce the font size to a slightly smaller size may not compromise design and could save paper

When determining print runs

- Determine and print the exact quantities you require. Weigh up the benefit of bigger print runs against unused surplus. It can be better to reprint!
- Factor in the possibility of future changes - e.g. address/phone number changes that make printed material, like letterheads, redundant

2. Choose the Right Paper ...

- Select recycled paper with a high post-consumer content manufactured in a totally chlorine free or elemental chlorine free process
- Select un-coated (matt) paper over clay-coated (glossy) paper wherever possible. During the recycling process

the clay coating is removed and is generally disposed of as waste, which reduces the amount of useful fibre per ton recovered by approximately one third. (Clay can be recovered and used in products such as cement but this is not done in New Zealand).



3. Finishing ~ Distribution Of Your Finished Product

- Select window envelopes that are manufactured with 'glassine', a wood fibre product, which is recyclable, versus a 'plastic' window, which is not.
- Use reusable, re-sealable envelopes instead of 'reply paid' or extra envelopes
- Reduce the urge to plastic laminate paper, unless this is necessary to prolong the life of a document, a poster, or a display.
- Avoid self-adhesive labels wherever possible. If required, select recycled or totally chlorine-free, self-adhesive labels manufactured with water-soluble glues.
- Avoid hot melt glues used in binding. These can cause problems in the recycling process as glue particles can attach themselves to the machine or become imbedded in the paper/product itself.
- Avoid the use of PVC plastic for bindings, folders and/or packaging. PVC has a number of suspected environmental and health issues associated with its manufacture and disposal - it is therefore better to avoid using it.

Elemental chlorine free (ECF) paper is manufactured without the use of chlorine gas, but does use some chlorine derivatives such as chlorine dioxide and hypochlorite. This process reduces the amount of dioxins and organochlorines produced compared to those produced using chlorine gas, but not completely.

Totally chlorine free (TCF) paper is manufactured without the use of chlorine or chlorine compounds. Oxygen-based bleaches such as hydrogen peroxide, ozone and oxygen itself are used. Oxygen production requires only one eighth the energy used to produce chlorine dioxide, and the residues produced during oxygen bleaching are not corrosive.

SPECIFY 'GREEN' PRINTING

WORKING WITH YOUR PRINTER

For printing of brochures, newsletters, forms and stationery you may require the services of a lithographic printer. By establishing an ongoing relationship with a printer or print broker you are more likely to encourage the adoption of cleaner production practices improving both environmental impacts and the health and safety of staff.

1. Specify Recycled Paper with A High Post-Consumer Content.

This significantly reduces the release of numerous air and water pollutants to the environment, reduces solid waste, and conserves water, energy and forest resources.

2. Ask for Mineral Oil Free Inks (100% Vegetable Based Ink)

The composition of printing inks varies widely. Some inks contain hazardous substances such as petroleum hydrocarbons (which release volatile organic compounds resulting in air pollution), cadmium, mercury, chromium (which are hazardous heavy metals used in pigments for colouring), or solvents used as a carrier or to aid in drying.

A range of mineral oil-free inks (i.e. 100% vegetable based for lithographic printing) is now available. Quality, cost and colour selection is not compromised.

The environmental benefits of mineral oil-free inks include the following:

- The reduction and/or elimination of volatile organic compounds (VOC's) released into the atmosphere. Mineral oil-free inks are classified as 'containing less than 1% VOC's. VOC's are unhealthy to breathe over long periods of time. They also harm the environment by helping to produce smog, which effects human health by injuring the lungs;
- They do not contain the following metals or salts:
 - antimony
 - selenium
 - mercury
 - cadmium
 - lead
 - chromium
 - arsenic
 - cobalt
 - manganese
- They are manufactured from a renewable resource;
- They have improved degradability.



3. Use 100% Recycled Black Ink

Most inks can be recycled to make a standard black ink. Recycled black ink significantly reduces the amount of ink waste going to landfill, reuses a valuable commodity and is slightly less expensive than standard black inks. (Recycled black ink maybe used as a substitute for standard black ink.)



Develop Green Print Purchasing Guidelines for your Company

Your company has a vital role to play in creating and encouraging environmental improvement. It can use its purchasing power as a vehicle for developing and implementing Cleaner Production in Lithographic Printing. This can result in cost effective, market-based solutions to improve environmental performance.

Developing Green Print Purchasing Guidelines for your company can integrate environmental criteria with traditional purchasing criteria such as cost; availability and functionality of paper and ink. This will assist in reducing the environmental impacts associated with print purchasing, ensuring that the best environmental choice also makes good business sense.

4. Ask about Safe Cleaners ~ Vegetable Cleaning Agents (VCA's)

Why VCAs? A note about Organic Solvents...

- Organic solvents are commonly used throughout the printing process. They are found in cleaners, washes, lubricants, diluters, developers and degreasers.

Environmental impacts of organic solvents include:

- Air pollution through the release of volatile organic compounds
- The reduction of non-renewable resources
- Disposal of solvents to landfill or to air through incineration
- Pollution of land, air and water from spills, or incorrect disposal

Health and safety hazards of organic solvents include:

- The release of poisonous gases in the case of fire
- Risk of fire and, or explosion
- The requirement for safe storage
- Acute poisoning (which may lead to light-headedness, slower reaction time, poorer co-ordination, nausea and loss of consciousness)
- Chronic poisoning (which may lead to mood changes, tiredness, weakness, persistent dermatitis, effects on the liver and kidney, effects on the peripheral nerves, brain and spinal cord)

SO... Ask about the use of Vegetable Cleaning Agents (VCAs)

Vegetable-based cleaners reduce the demand and use of solvent-based products, reduce the release of volatile organic compounds and improve the health and safety of printers. Currently there are a number of technical issues associated with VCAs but it is important to encourage your printer to support and use vegetable-based cleaning agents wherever possible throughout the printing process.

for more information...

- Contact OSH them for any information relating to Health and Safety issues in your workplace.
- New Zealand Engineering, Printing and manufacturing Union (NZEPMU) aim to educate and promote safe working practices amongst their print members.
- Printing Industry of Auckland (PIA) aim to foster and encourage the development of the industry on sound lines and generally to promote, protect and safeguard the interest of members in trade matters. Contact them for information on new products and services available.
- Print Product Suppliers and Manufacturers - contact your supplier and enquire about the benefits of their new product range and services.
- For information on the reduction of waste and water, hazardous waste, environmental legislation and other related issues contact your local or regional council.
- Waitakere City Council has 'Cleaner Production Strategies for Lithographic Printers'. Contact the Cleaner Production Project Manager on (09) 839 0400 for a copy.

