



May 2010

PRINTtips



Graphics

Printing

Mailing

Under One Roof

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Printing, Paper, and the Environment

Thoughtful use of the earth's resources and protection of the environment may seem like an odd topic for a newsletter written by a printer. After all, printing requires paper, and the paper industry has been criticized for destruction of forests, water pollution, and other anti-environment actions. Printed advertising mail is portrayed as a nuisance to those who receive it and cited for adding to landfills. Even e-mail messages are critical of print – you may have seen this tag line as part of an e-mail signature: *Please consider the environment before printing this e-mail.*

Is printing really the environmental evil its critics assert? Should businesses and individuals adopt a policy of eliminating hard copies of documents and using only e-mail and digital media for sales and marketing outreach? Or are there other considerations that will allow businesses and organizations to continue to use printing and still be good environmental stewards?

Paper

According to the Forest Stewardship Council, the United States is the largest market for paper products in the world. The US produces about 90 million tons of paper annually and consumes about 100 million tons. Approximately 35% of the 100 million tons consumed is satisfied by recycled fiber, and another 25% of recycled fiber is exported.

Of all the timber cut annually in the United States, about 25% is used for paper production as virgin fiber. The trees used for paper largely come from forests owned by paper manufacturers



and are grown specifically for that purpose. That makes paper a renewable resource. In addition, paper manufacturers plant over 4 million new trees every year – more than are harvested.

In fact, the amount of forested land is increasing worldwide, particularly in more economically advanced nations. A report published in the *Proceedings of the National Academy of Sciences* in 2006 assessed the status of forested land in 50 countries around the world from 1990 to 2005. In 18 of the 50 nations, forest area increased and the condition of forests improved. The results of a 2003 study published in the *Quarterly Journal of Economics* demonstrated that demand for wood can actually lead to an increase in forested land so the supply of trees can meet the demand.

Paper manufacturing requires both water and power. Today's modern paper mills offer a closed system where water is recaptured and recycled and power and electricity comes from renewable biomass from sustainably-managed forests.

Printing, Paper and the Environment (continued)

“... going digital raises its own set of environmental concerns.”

“For environmental and economic reasons, don't overlook the importance of ordering the right quantity of printing...”

In its publication *Sustainable Procurement of Wood and Paper Products*, the World Business Council for Sustainable Development and the World Resources Institute offers this thought:

Compared to other materials, wood and paper-based goods produced in a sustainable manner can be a wise choice because

- *They come from a renewable resource:* trees, the product of sunlight, soil, nutrients and water.
- *They capture carbon:* through photosynthesis, trees take carbon dioxide out of the atmosphere and replace it with oxygen, mitigating greenhouse gas emissions. In sustainably managed forests the carbon released through harvesting is offset by that stored through regeneration and regrowth, making these forests carbon-neutral.
- *They store carbon over the long term:* solid wood, panel and other wood and paper-based products can effectively store carbon for decades or even centuries.
- *They are recyclable:* they can be reused, or converted into other products, extending their useful life and adding to the available resource pool of wood fiber.

The same publication discusses recycling wood fiber and points out how well the paper industry uses all parts of a tree. Trees with low market value, small tree sections and wood chips from saw mills are used for wood pulp, while bark and sawdust are used for energy.

Digital media and the environment

Replacing print with digital media initially seems like the best choice for the environment. However, there is growing recognition that going digital raises its own set of environmental concerns. One is the amount of toxic e-waste that results from upgrades to digital devices, including desktop computers.

Another is the amount of energy required to power digital devices and “cloud” computing. According to the U.S. Department of Energy,

the amount of energy used by data centers in the United States doubled from 2000 to 2006 to more than 60 billion kilowatt hours per year, or roughly equivalent to the amount of electricity used by almost 560,000 homes in one year. The EPA estimates that the number could double again by 2011.

Environmentally responsible printing

Though digital communication and technologies have become increasingly important to business operations, it is unlikely printing will be totally eliminated. Not every work station can be computerized, and not every customer or prospect will be a candidate for digital media. So there will always be a need for some types of functional forms and documents and for image and marketing pieces.

For environmental and economic reasons, don't overlook the importance of ordering the right quantity of printing, especially full color. We recommend a 3-6 month supply as an ideal amount. In the past you may have needed to order a larger amount of full color printing because of the fixed setup costs, but no longer. Our digital equipment allows us to economically print small quantities – as low as 200 pieces, in some cases – so you can keep your inventory small.

As you consider the design and printing of your forms and image pieces, keep in mind the things that will allow the piece to be easily recycled when it has served its purpose.

- *Consider total ink coverage on the sheet.* Printed sheets that are recovered for recycling often have the ink removed before being used again for new paper pulp. The more ink, the more de-inking that will be required when the original sheet is recovered and recycled.
- *Use aqueous-based rather than UV-cured post-press coatings.* If the printed piece requires a coating applied after printing to reduce scuffing, specify one that is aqueous-based rather than UV-cured. Aqueous coatings can be removed from recovered papers without

Printing, Paper and the Environment (continued)

emitting harmful byproducts. Recovered papers with UV coatings often cannot be de-inked which reduces their range of possible uses as recycled paper.

- *Discontinue thermography.* Thermography, sometimes called *raised lettering*, is a heat-sensitive process that was originally developed to mimic engraving. After printing, the wet ink is dusted with a thermoplastic resin powder that swells when exposed to high temperatures. These heat-set resins are not easily recycled and de-inking of thermography reportedly contributes to the formation of toxic sludge.
- *Eliminate foil stamping.* While foil stamping adds a dramatic and unique

visual impact to printing, foil is difficult to remove in the recycling process.

Keep on printing

You don't have to choose between the printed products that your business or organization needs and protecting the environment. Paper is a renewable resource made from pulped wood grown in managed timberland and from waste paper. It is biodegradable and not dangerous- it will decompose harmlessly in a landfill. And paper is recyclable.

So reduce, reuse, recycle, and be responsible. But keep on printing.

"... a heat-sensitive process that was originally developed to mimic engraving."

Recycling Facts...

Recycling paper has become a popular worldwide - over 95 million metric tons of paper are recovered each year and made into recycled paper and paperboard. Recovered paper fiber makes up over one-third of the total fiber used to make the world's paper.

The United States is the world's leading paper recycler, responsible for over one-third of all the paper recovered in the world. Here are some facts:

- More paper and paperboard packaging is recovered for recycling than all glass, plastic, metal, and other materials combined.
- 75% of all corrugated material and containers are recovered for recycling.
- 68% of all newsprint is recovered for recycling. About one-third is recycled back into newsprint. The rest is made into other products including cereal boxes, corrugated boxes, books, insulating materials, tissue, egg cartons, and animal bedding.

- About 66% of the raw material used to make paper in the U.S. comes from recovered paper that is recycled, and the wood debris left from lumber manufacturing.
- More paper is recovered than is sent to landfills.

Here's how post-consumer recovered paper is used: unprinted paper becomes toilet and tissue paper; printed white and colored writing paper becomes recycled copy paper; newspapers and magazines are used again for newspapers and magazines; and packaging material like corrugated boxes are used to make recycled packaging materials. Recovered paper can also be used in related products like egg cartons, wall insulation, roofing, and animal bedding.

*Statistics provided by TAPPI
(Technical Association of the Pulp and Paper Industry)*



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Seminar Leader:



Henry E. Dorfman has successfully started or headed several companies and organizations, but is perhaps best known as the founder of the “Business Courier” newspaper. He has employed seminars in his marketing mixes, generating results that earned him Northern Kentucky Chamber of Commerce Businessperson of the Year, American Marketing Association MAY Cup for Best Marketing, the Spirit of Entrepreneurship award from the National Creativity, Innovation & Entrepreneurship Conference and other recognitions.

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