

Green: Printing

12 things you need to know

by Cassie Hart

Essential tactics to assure environmental responsibility in printing practices

Many of us make a conscious effort to practice environmental responsibility. We haul old newspapers to local recycling centers. We use ink refill kits instead of buying new cartridges for our printers. And who doesn't have at least one blue recycling bin wedged underneath their desk?

But is this enough? Noah Scalin, founder of ALR Design (www.alrdesign.com) doesn't think so. "Social consciousness isn't just about making good paper and ink choices," he says. "A lot more of it has to do with how work is produced." For designers, this means keeping the environment in mind when planning projects. The following guide to "more green" offers 12 ways to help incorporate environmental awareness into your work.

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1. Learn the lingo.

You'll need to be familiar with industry jargon to appropriately select environmentally friendly papers. Here are a few terms you'll see often:

- Virgin fiber—100 percent "pure" fiber from an original source
- Post-consumer content—Waste recovered from consumers and recycled
- VOC—Volatile organic compounds (such as occur in petroleum-based printing ink)
- PCF—Processed chlorine-free
- TCF—Totally chlorine-free
- ECF—Elemental chlorine-free

2. Preserve and conserve.

The Recycled Products Cooperative estimates that over 100 million trees are cut each year to supply fiber for writing and printing papers in the United States. This is not only detrimental to forests, but to air quality and water reserves as well.

One way to preserve resources is to purchase recycled paper with high levels of post-consumer content. Using recycled paper saves landfill space and minimizes water and energy consumption. Check recycling symbols to see what percentage of recycled fiber was used during the manufacturing process.

3. Think about ink.

Do you know how your printer disposes of unused ink? If you're unsure, ask. Petroleum-based inks leach VOCs—which cause cancer and birth defects—into the soil when printed papers end up in landfills. These toxins can also be released into the air as fresh inks dry.

Soy ink is an excellent alternative to petroleum-based inks. Soy ink uses soybean oil that's naturally low in VOCs. This smart substitute is sustainable, efficient, and cost-competitive. Many newspapers, magazines (including this one), and other materials are now printed with soy ink.

4. Do it digitally.

Digital printing is a responsible choice because an exact number of copies can be produced, eliminating excess paper and ink usage. Greg Barber (www.gregbarberco.com), an environmentally oriented paper and printing specialist, also recommends digital printing for economic reasons: Digital is ideal for short run four-color work for business cards, postcards, greeting cards, flyers, brochures, and most print work that is less than 1,000 sheets of 14 x 20 inches.

This printing method even has advantages over soy inks. While soy is comprised of 86 percent oil—which isn't biodegradable—digital printing uses



Compostmodern

In 2004 the San Francisco AIGA chapters, the Industrial Designers Society of America (IDSA), and the California College of the Arts industrial design program hosted the first-ever Compostmodern conference. Over 300 graphic and industrial designers attended, and speakers discussed the practice of environmentally responsible production.

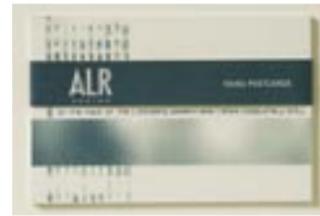
Smart move

Trim waste was converted into notepads and distributed to conference attendees.

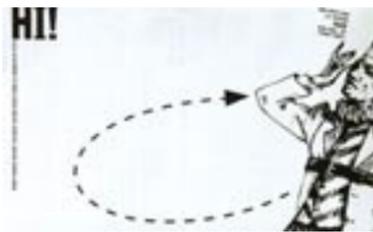
The conference's self-mailer program (above) by Anderson Lithograph was produced on an eight-color UV press and printed on single

press form. The programs were printed on New Leaf Opaque #50 smooth text paper produced with 80% post-consumer waste (PCF).





Banding together
This postcard package functions as a promotion for ALR Design. Nine cards were printed on a single sheet of paper, cut, and assembled by hand. A simple paper band holds them together. This project highlights the effectiveness of low-budget, environmentally conscious design and printing practices. Paper is Cascades Evolution 100% post-consumer waste (PCF).



Double duty
Multi-use pieces are an ideal way to conserve paper and ink. This poster/flyer combo for the Target Margin Theater folds into quarters and doubles as a postcard-sized self-mailer. It was created by ALR Design and printed with soy-based inks on Cascades Evolution 100% post-consumer recycled waste paper.



ELEMENTAL CHLORINE WAS ONCE EXTENSIVELY USED TO BRIGHTEN PAPER PRODUCTS, BUT NOW CHLORINE DIOXIDE IS A



100 percent nontoxic toner. Toner-based inks also produce less chemical waste.

5. Consider alternative papers.

Move over, pulp-based paper. A number of alternatives to traditional papers are now available, and Barber highly recommends several “tree-free” varieties. “We used denim blues [100 percent reclaimed blue jean cotton] to make business cards for Leonardo DiCaprio,” he says. He has also used synthetic papers by Yupo to print brochures because of their environmental attributes and durability.

For certain projects, Barber suggests papers made from kenaf, hemp, and TerraSkin, a newer paper made from ground stone. “TerraSkin is almost as strong as [synthetic] FedEx envelopes and it prints like a coated sheet,” he says. It also uses less ink during the printing process, and it’s nontoxic and waterproof.

6. Choose better bleaching solutions.

Brighter, whiter papers are created by various bleaching processes. It’s a good idea to have a basic understanding of how manufacturers process their products so that you can select the best, most environmentally friendly papers for your projects.

Go glueless

Another promo piece for Target Margin Theater, a CD package, folds together neatly, eliminating the need for glue products. The sturdy packaging is made from recycled chipboard.

Elemental chlorine was once extensively used to brighten paper products, but now chlorine dioxide (the same chemical used in swimming pools) is a common substitute. This process yields ECF papers. Although chlorine compounds are safer than pure chlorine, some pollution still results. Better choices include PCF and TCF bleaching, which substitute oxygen-based compounds for chlorine compounds. Only the recycled portion of a recycled sheet has been bleached with PCF. Fewer TCF papers are available today because most papers contain some recycled content —TCF relates only to 100 percent virgin papers.

Only products deemed acceptable by the Chlorine Free Products Association are granted PCF and TCF emblems. Look for the symbols when purchasing recycled paper.

7. Educate your clients.

Many companies today are concerned with producing print materials and packaging made with sustainable resources. IBM, Coca-Cola, and McDonald’s are just a few major businesses making an effort to publish shareholder reports on 100 percent recycled post-consumer content.

But not all clients are familiar with “green” design and printing processes. You may find that you need to act as an advisor. If clients ask for suggestions to improve materials from an environmental standpoint, be prepared to discuss a variety of possible solutions to help them understand how to plan other environmentally responsible projects in the future.

8. Practice what you preach.

Setting a good example will convince others to follow your lead. Consider incorporating these methods into your work:

- Conserve ink use by determining whether print projects need to be full color. Could a two-color design suffice instead?
- Maximize ink staying power by substituting a Pantone color for metallic inks, which tend to degrade. (This reduces VOC emissions, too.)
- Avoid wasting paper by designing to standard press sheet sizes (e.g., 23 x 35, 25 x 38, 26 x 40, 28 x 40). If a job is large enough, your printer can order a special sheet size from the mill. Since paper is sold by the pound, this approach can also save your client money.

9. Offset cost with creativity.

Some environmentally friendly products may be a bit more expensive. It’s important, however, not to view pricing issues as constraints. Instead, think creatively to help balance benefits with costs.

Design multifunctional projects—e.g., self-mailer/program combos—to economize when using more expensive paper. Also, combining projects whenever possible is wise; one idea is to print business cards and postcards from the same type of recycled paper. In the long run, your clients may actually save money—and they’ll be honoring the environment, too.

10. Know industry standards.

The Environmental Protection Agency (EPA) mandates that federal agencies must use uncoated printing and writing papers containing at least 30 percent post-consumer content. Coated and commodity papers must contain a minimum of 10 percent. Consider using these guidelines when selecting paper for your projects, too.

Become familiar with other important industry-issued standards. Important stamps of approval include the emblems of the Forest Stewardship Council (FSC) and Chlorine Free Product Association (CFPA). For these symbols to appear on products, they must meet specific standards determined by the International Standards Organization (ISO).



Tree-free options
Printer Greg Barber recommends using recycled and synthetic papers, and he offers a variety of choices. Top: Terraskin is a tree-free, chlorine-free paper made from crushed rock, and it’s very durable and

waterproof. Bottom: Another tree-free paper, Denim Blues, is made from 100% recycled blue jean cotton. Barber recently printed business cards for environmentally conscious celebrity Leonardo DiCaprio on Denim Blues.



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Top 10: Things You Can do In The Office To Improve the Environment

1. Conserve paper by printing in draft mode for draft copies and by printing two-sided copies.
2. Use nontoxic correction fluid.
3. Stock break rooms with silverware and coffee mugs instead of paper/plastic items.
4. Buy 100 percent unbleached and/or reusable coffee filters.
5. Donate old/unused office equipment to schools.
6. Use a screensaver when away from your desk.
7. Buy recycled office products (try www.greenhome.com).
8. Reuse one-sided internal office forms for scratch paper/note taking.
9. Shake toner cartridges occasionally to redistribute contents.
10. Bike to work instead of driving your car.attention-grabbing, and memorable.



Poster pride

These posters promote a series of plays by New Georges, a theater company dedicated to producing plays written exclusively by women. These colorful poster/ mailer combos were created by ALR De-sign and printed by Greg Barber Company using soy-based inks and 30% post-consumer waste recycled papers.

11. Evaluate projects individually.

The first priority in design is to create an appealing, functional piece of work. "It's imperative to do good design from an aesthetic standpoint," Scalin says. But he also urges designers to consider options that will leave behind a minimal amount of waste. "Lots of what's designed is thrown in the trash. Using recycled materials is necessary because so much is thrown away."

If a client won't switch to paper with a higher percentage of post-consumer recycled content, try finding a way to reduce the number of pages used instead. You might also recommend different paper types for different sections. For example, some publications use high-quality coated paper for advertisements and uncoated paper with higher post-consumer content for editorial sections.

12. Stay informed.

Being environmentally responsible means making the effort to stay current with new products and practices. Check out the following to see what others are doing to help keep our quality of life at a premium.

Conservation technology

- Waterless presses
Water washable inks eliminate VOCs from the printing process. www.waterless.org
- Windmill energy
This alternative energy source produces non-polluting, wind-generated energy to manufacture 100 percent post-consumer paper. Mohawk Paper is a leader. www.mohawkpapers.co

Special Interest Groups

- Compostmodern
This conference premiered in 2004; aimed at environmentally conscious designers/artists. www.aigasf.org/compostmodern/compost.html
- Business for Social Responsibility
Annual conference where designers can meet, see, and hear from business leaders concerned with social responsibility issues. www.bsr.org/bsrconferences/index.html
- Graphic Alliance
Join a community of socially conscious designers. www.graphicalliance.org

Making a commitment to practice environmentally responsible design can be challenging, but it's definitely doable and highly rewarding. Starting today will help ensure a healthier quality of life for tomorrow.

Recommended resources:

More great environmental sites:

Green Pages—
www.greenpages.com
An online directory of quality "green" businesses

Forest Stewardship Council—www.fsc.org
Independent, not-for-profit, nongovernmental organization that provides standard-setting, trademark assurance, and accreditation services for organizations interested in responsible forestry

Chlorine Free Products Association—www.chlorinefreeproducts.org
Promotes Total Chlorine Free policies, programs, and technologies

National Soy Ink Information Center—
www.soyink.com

PaperSpecs—
www.paperspecs.com
Vast paper resource for designer and the print industry, featuring tips, forums, and more

Conservatree—
www.conservatree.com
Guide to recycling, paper options, and general paper trends

Sustainable Symbols
You can send a green message with these eco-friendly emblems



The Ford Stewardship Council works with businesses and organizations to promote responsible forestry practices. Use of this trademark is restricted to those who comply with current standards and regulations.



The Soy Seal appears on many products printed with soy inks. Its presence on your print projects announces that you are concerned about sustainability issues.



The Processed Chlorine Free symbol notates that no chlorine or chlorine compounds were used during the paper manufacturing process, and that paper choices contain at least 30% post-consumer content.