

Eco-friendly "GREEN" Printing

4OVER4.COM is one of the very few online printing companies absolutely committed to the wellness of the environment. In addition, many of our loyal clients are on the GREEN path with us as well.

In an effort to spread the word and educate on why GREEN is GOOD, we've put together a bit of GREEN info for you to get an idea of just what it means to be GREEN in the printing industry.



What are "VOC's" and why are they harmful?

Volatile organic compounds (VOCs) are gases emitted from certain solids or liquids, such as paint and paint strippers, cleaning supplies, pesticides, building materials, furnishings, copiers and printers, adhesives, permanent markers and photographic solutions.

According to the [Environmental Protection Agency \(EPA\)](#), common human reactions to VOCs include eye, nose, and throat irritation; headaches; loss of coordination; nausea; and damage to the liver, kidney, and central nervous system.



What eco-friendly practices does 4OVER4.COM follow to minimize VOC's?

Where ever possible, 4OVER4 uses green materials and production processes to minimize VOCs. Here are some of the steps we are taking to be good stewards of the environment.

- Eliminated alcohol-based products
- Switched to vegetable-oil based, water-soluble washes for cleaning presses, which are free from VOC-producing petroleum solvents and can reduce VOCs by up to 90%
- Use non-polluting wetting agents made of natural materials such as citric acid and gum arabic
- Eliminated paper cleaning supplies and replaced with reusable cloth wipes
- Recycle solvents to reduce the amount of hazardous waste disposed
- Use water-soluble aqueous coating, which can be recycled
- Use of color management practices and ink-key preset automation which reduces press makeready times up to 70%, thus reducing paper waste and ink usage. Reduction in ink reduces harmful VOC's

RECYCLING



What are your policies on recycling?

4OVER4.COM's policy is to manage inventory and production to minimize waste as much as possible (see other questions for more information). We also recycle everything we can. This includes:

- Paper waste generated during the printing process
- Wood products, such as pallets and off-cuts
- Metal, including all aluminum plating materials



What is printers waste, or scrap paper?

4OVER4.COM, like other large printing facilities, generates tons of paper waste, or scrap paper, each year. Printer's waste comes in two forms: printed (post-consumer) or unprinted (pre-consumer). The waste we collect at 4OVER4.COM comes from trimmings (also called guillotine waste), overprinting, and rejected printing projects.



Do you recycle your waste paper?

Absolutely. 4OVER4.COM recycles 100% of our waste paper. This reduces our carbon emissions and reduces natural resources used in milling virgin paper. The paper waste 4OVER4.COM recycles saves thousands of trees each year, and millions of kilowatts of electricity and gallons of water. That's doing your best to do your part!

INKS & PAPER



What kind of inks do you use?

Traditionally, the printing industry has relied primarily on petroleum-based ink, which is not good for people or the environment. Petroleum-based inks contain volatile organic compounds (VOCs) and as they dry, they give off toxic gases. These gases may contain hazardous materials such as heavy metals or toxic stabilizers. They contribute to air pollution.

At 4OVER4, we use inks that are vegetable based and environmentally friendly and have little or no mineral oil content. Most frequently, 4OVER4 uses soy-based inks, which come from the soybean crop. Soybeans require little energy in the growing and harvesting process. For example, the crops do not need to be irrigated so they conserve water. Soy ink does not give off VOCs and in fact, soybean plants remove greenhouse gases.

4OVER4 also prints efficiently to reduce the amount of ink needed, so we have less waste and we save energy.



What is pre-consumer and post-consumer waste?

Pre-consumer waste is material, such as trimmings from paper production that is discarded before it was used for the end consumer. It is common in paper manufacturing.

On the other hand, post-consumer waste is paper that has been discarded after consumer use and returned through a recycling program. It reduces the waste that ends up in a landfill. When you recycle your newspapers and magazines, for example, you are recycling post-consumer waste. Office paper waste makes up the majority of post-consumer waste content that is used to make recycled copy and printing papers. Both pre-and post-consumer waste, called scrap paper, can be recycled.



What is de-inked consumer waste?

After you recycle your magazines and newspapers, the ink, filler and coatings must be removed before it is recycled into useable paper. This is called de-inked consumer waste. As you can imagine, using non-toxic inks is valuable in the recycling process as well as the printing process.



What is the difference between elemental chlorine free (ECF) and totally chlorine free (TCF)?

The paper you use is usually white because it has been bleached by a chlorine-based beached. Bleaching paper with chlorine or chlorine derivatives is harmful to our environment. In fact, chlorine--intensive bleaching is purported to be the worst source of water pollution in the water.

According to treecycle.com, bleaching terms are often misused, although there are significant differences among them.

Totally chlorine free (TCF)-No chlorine or chlorine derivatives are used to make the paper. It comes from virgin (new) fiber.

Elementally chlorine free (ECF)-No chlorine was used, however other chemicals containing chlorine are used for bleaching. ECF paper is often misrepresented as TCF.

Process chlorine free (PCF)-Recycled paper that is processed back into paper using no chlorine or chlorine derivatives. The paper is either not re-bleached or is bleached with an oxygen-based system. Secondarily chlorine free (SCF) is the same as PCF.

4OVER4.COM uses paper which is free from the use of chlorine.



What is virgin fibre?

Virgin fiber is wood that is harvested for the first time. In other words, it has not been recycled. According to the Forest Stewardship Council (FSC), fibers from virgin forests make up approximately two-thirds of the pulp that goes into papers made at North American paper mills. However, even though printing and office papers make up more than a quarter of all U.S. paper production, less than 6% of the fibers come from recycling. This means that more than 90% of printing and office paper has no recycled content at all.

Of course, we must use some virgin fibers in paper production. It can't all be recycled. However, 4OVER4.COM partners with vendors certified as suppliers of paper that comes from responsibly managed forests.



What is the Forest Stewardship Council, or FSC?

The [Forest Stewardship Council \(FSC\)](http://www.fsc.org) is an international organization that brings people together to find solutions to promote responsible stewardship of the world's forests.

The FSC ensures that forests comply with internationally agreed upon FSC principles for Responsible Forest Management and certifies those that do. Certified forest operations can claim the forest products they produce come from a responsibly managed forest. This is the first step in the chain from raw material to finished goods.



What are FSC Certified Papers?

4OVER4.COM is proud to print our products on Forest Stewardship Council (FSC) certified papers. FSC Certification ensures that the paper we print on contains fiber from well-managed and responsibly harvested forests that meet strict environmental and socioeconomic standards.

Why is this so important? While "recycled paper" may be the big buzz term as of late, according to the Forest Stewardship Council (FSC), fibers from virgin forests make up approximately two-thirds of the pulp that goes into papers made at North American paper mills. Less than 6% of the fibers of printing and office papers come from recycling. This means that more than 90% of printing and office paper has no recycled content at all. Of course, we must use some virgin fibers in paper production. It can't all be recycled. As such, 4OVER4.COM partners with vendors certified as suppliers of paper that comes from responsibly managed forests.

OTHER



Do you select your suppliers based on their environmental policies?

Yes. 4OVER4 purchases goods only from suppliers who have demonstrated their commitment to environmentally friendly business practices.



What other steps do you take to be environmentally friendly?

First and foremost, 4OVER4.COM is a proud FSC Certified printer. 4OVER4.COM Cert No. **BV-COC-080732**. The FSC certifies organizations, such as printers, that use FSC-certified forest products in the processing, manufacturing or distribution of their products. This is called a Chain-of-Custody Certification and demonstrates that your organization supports the highest social and environmental standards in the markets where you use paper. Here are some of the other steps 4OVER4 takes to be good stewards of our resources and the environment.

- Keep machinery well maintained and in good working order to reduce waste and energy usage
With our processless, chemical-free computer-to-plate technology we avoid using printing products, such as fixer, that contain silver, which is a toxic heavy metal.
- Furthermore, with our process-free printing plates, we eliminate all processing chemicals and their disposal, which saves water and energy
- Use of vegetable oil based inks, as opposed to mineral oil with high levels of VOC's
- Use of FSC Certified Papers
- Automate wherever possible to reduce production time (and therefore energy consumption) and paper waste
- Recycle liquid wastes such as oil
- Recycle metal, including all aluminum plating materials
- Manage inventory to reduce waste
- Minimize paper usage through electronic communications and billing
- Invest in energy saving printing presses. Our Ryobi 754 printing presses consume 50% less electricity than popular competing machine
- Equipment is chosen to be more efficient - faster setup and running speeds ensure more output per Kw of electricity used
- Package our products with biodegradable padding materials, instead of petroleum
-

based foam "peanuts" that are not only annoying to gather and dispose of, but also harmful to the environment.

Educate our customers on "green printing"

Use of water-based aqueous coating to produce high-gloss results, instead of UV coatings which are much less friendly on the environment



What can I do?

Good question! You can start by choosing an environmentally committed printer.

The [Direct Marketing Association \(DMA\)](#) is a good source of information for ensuring your direct marketing is as environmentally friendly as possible.

As part of its Guidelines for Ethical Business Practice, the DMA has published The Green 15: Benchmarking Environmental Progress. [The Green 15](#) provides recommendations in five areas of the direct marketing process.

Paper Procurement & Use

Paper is both a renewable resource and an important part of the direct marketing process. Making environmentally conscious paper choices can contribute greatly toward reducing your overall environmental footprint.

List Hygiene & Data Management

A "clean" list means less returned or undeliverable mail, less wasted paper, and a higher response rate—a win for the environment and for your bottom line.

Mail Design & Production

It's not just the paper and other materials you use, it's how you use them. Simple changes to your mail pieces can make them more environmental friendly—and often more cost efficient as well.

Packaging

Regardless of what marketing channels your organization uses for direct sales, how you package and ship customer orders and other fulfillment commitments is an important environmental consideration.

Recycling & Pollution Reduction

There are steps you can take in your marketing operations and within your office to reduce your organization's environmental footprint. Encourage your customers to do the same.

Additional resources

[Environmental Protection Agency \(EPA\)](#)
[TreeRecycle.com](#)
[Forest Stewardship Council](#)