

The importance of sustainability in the pressroom and prepress



Manufacturers around the world are implementing practices to comply with environmental regulations. Printers are initiating environmental programs and print buyers are choosing to work with companies that demonstrate concern for the environment.

As an environmentally-responsible corporation and a dedicated supplier to the printing industry, Agfa Graphics is committed to providing products, systems and services that maximize renewable resources and minimize environmental impact while improving manufacturing efficiencies. It does this with the customer and business partner in mind.

Agfa's corporate environmental department sets, reviews and develops targets for ongoing improvements in product stewardship, environmental protection, plant safety, hazard prevention, occupational safety and health.

Print service providers that wish to increase their environmental commitment should consider that there are critical components to sustainability. Being more environmentally responsible does not exist outside of your company's mission. It may mean developing an action plan to set new objectives, creating timelines and measuring progress while tailoring activities to your company's goals and objectives.



GREENWORKS™

Recently, Agfa Graphics launched a program called "GreenWorks," that spotlights our own customers who have instituted various environmental initiatives of their own. To be

part of this program, printers must be users of Agfa Graphics' chemistry-free or low-chemistry digital plates, they must also actively recycle, participate in community waste reduction programs or use alternative energy sources in their plants. Agfa knows that if our customers succeed, we succeed as well.

Your own GreenWorks-inspired program, if you don't already have one, should encompass four key and critical components, including a responsible product portfolio, go-to resources, education, and project teams to help successfully see environmental initiatives through to completion. Each component has a positive impact on your business, your customer's business and the environment

Once environmental responsibility is your company's state of mind, it is important to have the right mix of solutions that aid in environmental-friendliness and support the corporate mantra from the ground up. At the heart of any offset printer's green program should be systems that optimize the entire process:

- Prepress & pressroom optimization
- Ink key presetting and color control
- Makeready, labor and waste reduction
- Environmental friendly printing inks
- Ink mixing and management programs
- Environmental friendly products
- Chemical management program
- Clean Air Plant (CAP System)



Prepress optimization

In order to provide the most efficient, productive and responsible printing process, a workflow and color management system should be implemented with the endorsement and support of top management. The environmental and efficiency benefits of a “color managed printing process” begin with prepress optimization and continue throughout the entire workflow.

Critical to color management is the ability to integrate software components in prepress that provide significant benefits in the pressroom. Available are software programs that focus on ink control and management. They utilize gray component replacement (GCR) to replace process ink color (CMY) with black. The impact can be significant. Such software can dramatically reduce process ink consumption, thus reducing total ink costs. Additionally, this technology improves registration and color control, thereby improving makeready times, reducing job drying times, while speeding up production.

Additional prepress optimization can include:

- streamlining digital workflow
- implementing soft proofing systems
- calibrating digital platemaking for print application

Digital platemaking has been enhanced with the introduction of chemical-free and low-chemistry platemaking procedures that can:

- eliminate or significantly reduce chemical and water costs
- reduce disposal costs, and
- enhance color profiling of digital proofs to the press print gamut that can save money

To determine how best to improve your workflow and figure out whether chemistry free or low-chemistry plates are right for your operation, you will need your prepress department to examine its workflow and waste stream, and then consider the best ways to increase manufacturing accuracy, reduce waste and improve productivity. This process includes:

- conducting a survey of the current digital workflow, analyzing existing output systems and determining the best of existing digital solutions that will enhance your current and future workflow
- researching calibration instrumentation and procedures to figure out which digital plate system would be the best fit for your specific print application
- investment in a digital proofing system and adding it to a stabilized press environment. A “press/print/proof” analysis to determine an optimized print gamut will help provide accurate proof-to-press matches, cutting down on waste and enhancing the workflow
- working with a G7-Certified Expert for implementing processes, procedures and education for calibrating proof-to-proofs, proofs-to-press sheet and press-to-press matching.

Pressroom optimization

Critical to color management is the ability to customize ink formulation on demand. With the right hardware/software package, your ink inventories can be reduced and/or eliminated, thus reducing significant storage costs, while reducing obsolete ink disposal charges. Utilizing customized ink formulation and color matching also reduces make-ready time and paper waste.

An important component for environmental-friendliness is strong pressroom automation with the right software/hardware combination. There are software and hardware packages available that utilize digital prepress data to pre-set ink key on the offset press with up to 95% color accuracy on the first pull. Such systems are utilized to stabilize and control color variation during the press run (closed loop). This type of technology can:

- reduce press make-ready times up to 50%, thus reducing paper waste, ink usage and press time
- decrease the use of paper for less deforestation
- reduce VOCs and associated manufacturing costs by using less ink / chemistry
- optimize press usage to reduce energy consumption, wear-and-tear on equipment and increase production efficiencies and waste disposal



As each printing operation is unique, you should consider conducting an extensive ROI analysis. Such an examination can and should be conducted to demonstrate these “real” benefits of such software/hardware systems.

Adjusting the workflow

You and your staff may not even realize just how many natural resources you are burning through in your day-to-day operation. By incorporating on-site surveys, process analysis, and technology options, you can learn how to reduce cycle times, improve production and increase print quality, while reducing your overall process costs. For example, through the reduction in raw material consumption and labor / manufacturing costs, additional assets become available, allowing you to re-invest into new energy-saving components, solvent reduction programs, water recycling systems and employee training. When environmental thinking comes from the top down, your prepress and pressroom managers will think in those terms and use it to help them decide the right direction in which to go.

Printing ink is a major component to color managed printing. The proper integration of the right ink is critical to quality, productivity and environmental responsibility. All offset printers have their own quality and environmental requirements, print applications, proof-to-press color management goals and consumption / distribution / disposal needs. There are inks available that may provide a reduction in ink feed, thus reducing ink usage, disposal and chemical consumption. Environmentally-friendly raw materials have a positive effect on the environment and ensure press-friendly ink rheology.

What else your organization can do

Besides clearing the air, a reduction in volatile organic compounds (VOCs) may result in a positive impact on your insurance premiums, help you increase press capacity without becoming a larger volume VOC generator, and reduce hazards in handling and disposal.

Do you recycle your solvent? By recycling your solvent using a vacuum distillation and condensing system, significant reductions in solvent purchases may be realized. Recycling solvent can reduce your hazardous solvent waste hauling (and associated costs up to 95%). Also, by decreasing the chemical discharge to approved waste disposal facilities you can reduce your in-plant VOC generation.

Chemical and container disposal is an important concern for the industry. You should participate in a container disposal management and reduction program that incorporates a chemical container analysis with recommendations for alternative containers that can help you reduce container disposal. You could also participate in a local Drum Pick-up Program that provides local services, direction and options for empty drum disposal and reuse, thus potentially reducing disposal impact. Your local municipality can usually provide assistance.

Providing a clean working environment is critical to safety, productivity and being a responsible printer. Your plant should always be properly ventilated. There are systems available that use advanced bio-filtration technology to clean the air inside your facility on a continuous basis. By destroying VOCs, you can eliminate odor, gases and fumes and even solid and particulates from the air which may reduce your overall energy usage and costs.

Usually your business partners will be in a similar situation. They, too, want to be responsible corporate citizens. Working with such companies can often be a good resource for you when looking to start or modify your own environmental programs. Frequently, your business partners may even have educational training programs that can be tailored to your specific needs. Such programs can help you:

- optimize your printing system
- employ unique process controls in your operation's segments
- identify and correct problems



Your business partners can help you implement a plan that is designed specifically for your company's needs and timelines.

Are these some of the things you think about on a monthly, weekly, or daily basis, if at all? If not, then your staff isn't getting the message either. Environmental responsibility and sustainability within an organization comes from the top down. People may recycle at home and keep their thermostats set low or drive hybrid cars. But if their managers or business owners don't usher in an environmentally-friendly way of thinking, chances are it won't permeate the business culture. Your organization may be at a loss when it comes to savings related to environmental sustainability. It is up to all of us to protect our world and keep it healthy. Together we can preserve the environment as we grow our businesses.