



Business Name	
Contact	
Phone Number	

**MONTEREY BAY AREA GREEN BUSINESS PROGRAM**

**Supplemental Checklist: Printers**

The following measures are intended to supplement those in the Minimum Measures and Office/Retail checklist. In addition to completing the Minimum Measures and Office/Retail checklist, this checklist must also be completed prior to certification.

Remember, the program offers free, non-enforcement, technical assistance to help meet the criteria. We will send out professional technical staff to assist you in meeting the energy, water, resource conservation, and pollution prevention requirements.

- On line applications are now being accepted for businesses located in Santa Cruz and Monterey Counties. Please visit: <http://www.montereybaygreenbusiness.org/HowToBecomeGr.html> to fill out an application.
- For businesses located in the unincorporated areas of Santa Cruz County, Scotts Valley, and Capitola, or Watsonville call (831) 477-3976 or email: [greenbusiness@co.santa-cruz.ca.us](mailto:greenbusiness@co.santa-cruz.ca.us)
- For businesses located in Monterey County, call Monterey County Environmental Health at (831) 755-4579 or email: [NapalanJA@co.monterey.ca.us](mailto:NapalanJA@co.monterey.ca.us)
- For businesses located in the City of Santa Cruz, call (831) 420-5160 or email: [shealy@ci.santa-cruz.ca.us](mailto:shealy@ci.santa-cruz.ca.us)

**Green Business Checklist**

Business must meet compliance with regulatory requirements as well as all of the criteria outlined below to obtain Green Business Status, except where a choice is given. If a certain section does not apply to your business, mark it with N/A for Not Applicable. For instance, if there are no company owned vehicles mark that section N/A.

**A. Pollution Prevention**

A. Drains and Housekeeping

(Before GB program)(After GB program)

1.  Use material transfer methods that prevent spillage. (Pipelines, pump & spigot, spout & funnel, etc.).
2.  Install spill and leak control equipment such as spill basins, splashguards, drip boards, overflow controls, alarms, relief valves, interlock and leak detection devices.
3.  Use pumps on solvent containers with a proper fit to minimize spills and evaporation.
4.  If you must pour solvent over a roller, use a drip pan underneath to collect the solvent that falls beneath. Dispose of excess solvent in the proper waste container.

**B. Press Maintenance**

(Before GB program)(After GB program)

1.  Routinely check all dampening rollers and systems; remove and replace bad rollers as needed.
2.  Keep presses lubricated on a daily, weekly, or monthly basis, as required by the manufacturer.
3.  Clean and oil vacuum system.
4.  Clean presses on an as needed basis in order to help minimize cleaner consumption and prevent build-up of ink, paper-dust, and lint.
5.  Train employees in noticing potential malfunctions.

**C. Waste Oils**

(Before GB program)(After GB program)

1.  Don't add waste solvent to used oil. (Adding solvent to used oil hinders recycling potential).
2.  Find a recycler for lubricating oils. Recyclers can re-refine the oil into new lubricating oil, create fuel grade oil, or use it for blending into asphalt.

**D. Cleaning Shop Towels**

(Before GB program)(After GB program)

1.  Do not send reusable shop rags to a commercial laundry with excess solvent or ink. If they are saturated, they are hazardous; meaning they must be shipped as hazardous waste by a license hazardous waste hauler.
2.  Remove excess ink from surfaces or equipment with a scraper or spatula before wiping with a shop rag.
3.  Reuse lightly soiled shop towels for non-critical cleaning.
4.  Reuse press wipes for as long as possible by using dirty wipes for the first pass and clean wipes for the second.
5.  Always keep wipes and spent solvent in separate containers.
6.  Take special precaution to see that no rags end up in the waste solvent drum; they can jam pumping equipment and increase your waste disposal costs.
7.  Keep shop towel container lids closed.
8.  If you use disposable wipes remove as much solvent from them as possible before disposing. Non-hazardous wipes can be disposed as solid waste; however, you must be able to demonstrate that they are non-hazardous, and that they do not contain excess solvent or ink. If you wish to dispose of the wipes as non-hazardous, your shop must profile the waste by analytically proving that the wipes are not characteristically hazardous (they are not ignitable, corrosive or contain toxic metals).

**D. Blanket Wash and Solvent**

(Before GB program)(After GB program)

**Choose Three out of the Seven following Criteria**

1.  Use job scheduling to reduce press clean up and solvent use by running lighter colors, and then darker ones whenever possible.
2.  Install automatic blanket washers to reduce the amount of solvent used and wastes generated.
3.  Use spot application of solvents for stubborn ink residues rather than over application of solvent to an entire area.
4.  Use re-circulating solvent sinks for parts cleaning to reduce once-used solvent cleaning of press parts.
5.  Use less toxic solvents or aqueous-based cleaners Product: \_\_\_\_\_

6.   Be wary of accepting free samples of solvents. If they turn out not to meet your needs, you will be left with the problem of disposing of them. Don't accept free samples unless the vendor agrees to take back any unused portion
7.   If possible, purchase solvents from a company that will pick up and recycle the spent solvent.

### E. Screen Printers

(Before GB program)(After GB program)

#### Must Meet All of The Criteria in This Section

1.   Reclaim screens immediately after a print run; remove as much excess ink from screens prior to cleaning and return back to original container.
2.   Apply haze remover only to areas where a ghost image is visible rather than to the entire screen. This will reduce chemical use.
3.   Place catch basins around the screen during screen reclamation in order to capture chemical over spray for recovery and reuse.
4.   Replace traditional solvent screen cleaning systems with high pressure water/detergent rinsing systems (aqueous cleaners) to reduce the amount of solvent used in the work place.
5.   Use degreasers that do not contain hazardous and/or chlorinated solvents.
6.   If you are using plastisol inks with metallic pigments, you cannot clean screens over the sink. Instead, use a self-contained parts cleaner when cleaning screens.
7.   Do not clean screens over the sink if you are using lacquer thinner or any other highly flammable solvent to clean them.
8.   Place catch basins around the screen during screen reclamation in order to capture chemical over spray for recovery and reuse.

### E. Silver Bearing Waste

(Before GB program)(After GB program)

Pre-press printing processes such as plate making and image processing use chemicals and materials similar to those in the photographic industry such as plastic film, fixers, and developers. These materials are usually composed of silver halide salts including silver chloride, silver bromide, and silver iodide. If you are using these types of materials, proper handling is necessary

1.   Consider installing electronic imaging and laser plate making systems to reduce the need for photographing and reshooting in pre-press operations.

### E. Pre-Press Operations

(Before GB program)(After GB program)

1.   Use aqueous based plate developing systems instead of solvent based ones.
2.   Consider replacing metal plates with alternatives such as plastic, photopolymer, flexographic and electrostatic paper plates.
3.   Use non-hazardous plate developers.
4.   Use squeegees to wipe excess liquid from film and paper to minimize chemical carryover and process bath contamination.
5.   Use counter-current rinsing to reduce cross-contamination.
6.   Reuse fixer; talk with your vendor about ways in which to extend the life of your fixer bath.
7.   Extend photo developer life by monitoring and adjusting process baths.
8.   Look for a recycling vendor that will collect your scrap film.

9.   For facilities using photo chemicals, spent fixer is being captured for silver or hauled away for treatment.

### E. Material & Product Changes

(Before GB program)(After GB program)

Use effective alternative products that are the least hazardous and polluting.

1.   Ink: Use low VOC & water/vegetable- based products Product: \_\_\_\_\_
2.   Aerosol spray cans: Use refillable, pressurized spray cans (e.g., WD-40) to reduce the use of spray cleaners like Windex. If using Computer to Press disregard the use of spray cleaners. Product: \_\_\_\_\_
3.   Reduce redundant or similar products (If you have several types of solvents, could fewer do the job?)
4.   Eliminate the use of isopropyl alcohol (IPA) in press cleaning operations and fountain solutions by switching to low-volatile organic compound (VOC) alcohol replacements, such as an acetone mixture, with VOC concentrations below 100 grams / liter.
5.   Eliminate the use of methylene chloride, perchloroethylene and trichloroethylene as solvents. These materials are carcinogenic.
6.   Other: \_\_\_\_\_

#### **GREEN NOTES – Alternative Cleaners**

*Blanket washes and solvent cleaners with high Volatile Organic Compound (VOC) concentrations degrade employee health and surrounding air quality and may require expensive equipment to control.*

*Instead, safer alternatives are available at a nominal increase in cost. The [Institute for Research and Technical Assistance \(www.irta.us\)](http://www.irta.us) and [Cal. Dept. of Toxic Substances Control](http://www.cdpr.ca.gov) have developed and tested safer alternatives. Results are summarized in a report:*

*“Assessment, Development and Demonstration of Low-VOC Materials for Cleaning of Lithographic Printing Ink Application Equipment, 2006”*

*Download the full report at <http://www.irta.us>*

### E. Image and Plate Processing

(Before GB program)(After GB program)

Choose Five out of the Ten Criteria

1.   Recover your silver from fixer and wash water onsite or, contract with a licensed hauler who recovers the silver from waste fixer.
2.   Install in-line silver recovery to extend fixer bath life.
3.   Use floating lids on developer containers to protect stored materials from oxidation.
4.   Extend bath life with additives such as acetic acid to keep the pH low. Monitor temperature.
5.   Extend bath life with additives such as ammonium thiosulfate, which could as much as double the allowable concentration of silver buildup.
6.   Use electronic pre-press and imaging systems to reduce developers and film or plating materials.
7.   Install waterless paper and film developing units to minimize the volume of fixer waste. Segregate fixer from developer.
8.   Use diazo, vesicular, photopolymer and electrostatic films instead of those containing silver.
9.   Use glass marbles to bring the liquid level to the brim each time the liquid is used.
10.   Other: \_\_\_\_\_

### E. Makeready

(Before GB program)(After GB program)

Printers Checklist

Last Updated June 11, 2009

Choose Three out of the Six criteria

1.   Use an automated registration system.
2.   Use automated plate benders to prevent problems with fit.
3.   Use automated plate scanners for web and sheet-fed offset presses to determine image density, avoiding unnecessary ink usage.
4.   Use an automatic ink key setting system.
5.   Use ink/water sensors.
6.   Other: \_\_\_\_\_

### E. Printing and Finishing

(Before GB program)(After GB program)

Choose ~~Five~~ Eight out of the ~~Ten~~ Sixteen Criteria

1.   Install automatic ink levelers or use anti-skinning spray. These technologies do contain VOCs; however, they are significantly less polluting than drying ink and fountain solution.
2.   Use automatic roller and blanket cleaning equipment to promote more efficient use of cleaning solvent.
3.   Use a fountain solution that contains low concentrations of isopropyl alcohol (IPA) or one that does not contain IPA. (IPA emissions can cause air pollution problems and may require the installation of air pollution control equipment. Substitutes are available.)
4.   Educate customers about the benefits of soy-based inks and other safer alternative printing chemicals. Provide documentation.
5.   Adopt a standard ink sequence to reduce wasted ink and cleaning solution.
6.   Refrigerate fountain solution. (This reduces fountain solution losses, VOC emissions, and waste.)
7.   Utilize blanket washes that contain less hazardous materials and low vapor pressure (10 millimeters of Mercury or less, measured at 20°C or 68°F).
8.   Use shop towels as long as possible before sending to a commercial launderer. Use dirty ones for the first pass; clean ones for the second pass.
9.   Whenever possible, run similar jobs simultaneously to minimize waste generation between cleanup and start of the next run.
10.   Schedule jobs from light to dark colors.
11.   Evaluate ink recycling systems or vendors who provide this service.
12.   Donate ink that you no longer use to vocational/tech schools, colleges, etc rather than pay for disposal.
13.   Investigate UV-cured inks, electron-beam (ECB) inks or water-based ink
14.   Select glues that are low in volatiles.
15.   Choose finishing materials that can be recycled.
16.   Other: \_\_\_\_\_

### E. Hazardous Substance Reduction

(Before GB program)(After GB program)

1.   Only appropriate containers are used for hazardous wastes and all containers are labeled and in good condition
2.   All hazardous materials and waste must be secondarily contained, or placed in a bin that can contain up to 110% of the entire contents of the containers should there be a leak.

3.   Check all containers on a regular basis for potential holes and leaks. Leaks on steel drums can appear as rusted out spots or indentations initially. If a leak is discovered, place drip pans or absorbent material under the leak and then attempt to repair the leak immediately. Keep lids, bungs, and tops secured on waste barrels and containers at all times, except when adding waste to containers or dispensing product.
4.   Keep typical hazardous wastes generated by printers stored indoors or in a covered area outdoors. These items include: press/screen cleaning solution, waste inks, untreated fixer, coatings or adhesives, parts cleaning solvents or waste oil
5.   You cannot send reusable shop rags to a commercial laundry with excess solvent or ink. If they are saturated, they are hazardous; meaning they must be shipped as hazardous waste by a licensed hazardous waste hauler

In Addition the five mandatory items above, choose three out of the six below

1.   Look for ways to reuse your waste products either in your processes or as a raw material for recycling companies.
2.   Segregate waste streams to allow for the reuse/recycling (on-or off-site) of hazardous materials/wastes.
3.   For photos strip goldenrod from negatives and accumulate for pickup by a licensed hauler.
4.   Accumulate chromoliths for recycling.
5.   For web presses, save excess inks and market them to customers as “house colors” or mix to make black.
6.   Other: \_\_\_\_\_

**C. Solid Waste Reduction**

A. Environmentally Preferable Purchasing

(Before GB program)(After GB program)

1.   Jobs are conducted using the highest recycled content paper whenever possible.
2.   A range of recycled-content paper is made available to customers at reasonable, market prices.

All criteria have been met as of the following date:

Signature of authorized Green Business Program Coordinator:

Printed Name: \_\_\_\_\_