



Environmentally Preferable Purchasing Guide

Greening Your Purchase of Copiers

Why Green Your Copier?

- The ENERGY STAR® feature in a typical medium- to high-speed copier can reduce that machine's annual electricity costs by as much as 60 percent.*
 - Using ENERGY STAR®-labeled equipment helps reduce the air pollution (including significant emissions of sulfur dioxide, nitrogen dioxide, and carbon dioxide, which contribute to the problems of smog, acid rain, and global climate change) associated with energy generation.*
 - Equipment will produce less heat when powering down, contributing to a cooler, more comfortable workspace; lowering air-conditioning costs; and helping reduce equipment failure, which helps increase the copier's life.*
 - A copier with fast and reliable duplexing (double-sided copying) can reduce office paper use by 25 percent or more, saving money in the process (Solid Waste Management Coordinating Board and the Minnesota Pollution Control Agency, April 2000).
 - If all copiers sold in the United States were ENERGY STAR®-labeled and set to automatically default to duplex, the amount of paper used could be reduced by more than 200 billion sheets. This adds up to a savings of 1 million tons of paper, enough to go around the world 1,400 times and save an estimated 20 million trees!*
- *(Massachusetts Operational Services Division, November 2000)

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Produced by EPA's Environmentally Preferable Purchasing (EPP) Program, this is one in a series of purchasing guides aimed at helping procurement officials identify and purchase "greener" products and services. Check out all our EPP tools and resources at www.epa.gov/oppt/epp.



It's Policy

The federal government has undertaken various initiatives to mandate the consideration of the environment in purchasing decisions. A growing number of state and local governments also have implemented green purchasing policies or programs. In 1995, EPA established the Environmentally Preferable Purchasing (EPP) Program to encourage federal employees to consider a broad range of environmental factors, such as reduced toxicity and lower volatile organic compound (VOC) content, in their purchasing decisions. In 1997, the Federal Acquisition Regulation (FAR), which provides broad purchasing guidance to federal employees, was amended to support federal procurement of green products and services. In addition, executive agencies, under Executive Order 13101, have been directed to identify and give preference to the purchase of products and services that pose fewer environmental burdens. Executive Order 13123 and FAR Section 23.704 direct agencies to purchase products in the upper 25 percent of energy efficiency, including all models that qualify for the ENERGY STAR® labeling program (Information on ENERGY STAR® can be found throughout this guide).



What Can You Do?

It is important to consider all of your options when deciding how to handle your organization's copying needs. Below are some of the options and factors to examine.

Leasing or Buying a Copier

Leasing is an important option to consider. It relieves you of the disposal responsibilities and allows for periodic equipment upgrades when new technology that may be more environmentally preferable is released.

Document Reproduction Services

One option to consider is purchasing document reproduction services. This option entails actually sending your copies to a company that makes the copies and returns the work. Often this is used for large copy jobs. This may often be the more environmentally preferable option—but it is not always practical in every situation (i.e., where there is a frequent need for immediate copies throughout the day).



Multi-Function Machine

You also might want to consider a multi-function machine, combining a printer, fax, scanner, and copier into one package. Especially if your office is small with lower equipment usage, it often can be the most economically and environmentally sound decision. Multi-function machines often provide the office necessities that would cost over one and a half times that amount if bought separately. Their compactness and the multi-capabilities from a single print engine mean that less energy is being consumed—one print engine idling uses less energy than three print engines (fax, copier, printer) idling.

Cost-Per-Copy

A recent trend in copy services is the cost-per-copy contract. Read the success story of the National Aeronautics & Space Administration (at the end of this document), which created its own environmentally preferable system for purchasing document reproduction.

What is a “Green” Copier?

A green product is one that has “a lesser or reduced effect on human health and the environment when compared to other products and services that serve the same purpose” (Executive Order 13101). Although it is important to realize that technology is constantly changing, in the following pages, EPA will outline what are currently considered reasonable factors to consider in your copier purchase.

If you are considering the purchase of a copier, look not only at the immediate environmental properties of the copier, but also the complete environmental effects of the copier throughout its life cycle, such as manufacturing, packaging, transportation, and usage (including paper and printing options), as well as disposal. EPA conducted a pilot project which helped in the preparation of this guide. This guide is intended to steer you toward the factors you may find useful to consider in your purchase of an environmentally friendly copier.

Leasing or Purchasing a New (or Used) Copier

The following are guidelines to help you purchase a green copier.

1. Determine applicable environmental attributes for your situation.

Evaluate your workspace to prioritize what attributes are most appropriate and important to your situation. For instance, if you are aware that your office space has poor air circulation, you might give high priority to those attributes related to indoor air quality. Make sure to choose a copier with the right capacity. Calculate the number of copies you need each month. Most machines have a counter—talk to your copier service representative, who should be able to help you calculate this number. Using a copier rated for a higher volume (or faster) than your daily needs can double your energy use.

2. Conduct product research beyond the usual research on price and performance.

It may be useful to break the environmental attributes into the following categories:

Requirements: Those environmental attributes that the purchaser is confident can be obtained at a reasonable price and level of performance. If a purchaser requires too much, the procurement may be unsuccessful because the price will be too high, or no vendors may bid at all.

Preferences: Those environmental attributes which are desirable but not vital, but send a signal to vendors informing them of the purchaser's additional needs.

To find this information, ask your copier company representative. Although he or she may not know the answers right away, the representative should be able to find them. As demand increases for more environmentally friendly products, this information should become more readily accessible. Any copier lacking any of your requirements should be disqualified. Then you may want to compare copiers which have already met your requirements and determine which has the most preferences or which preferences are most important. It is important to carefully consider which attributes to include as requirements and which as preferences, according to your situational needs.

The following are basic guidelines for purchasing environmentally preferable copiers—determine your requirements and preferences as appropriate. When possible, choose copiers that:

- Comply with the EPA ENERGY STAR® Program—Tier II (standard size) or Tier III (large format).
 - Are programmable or clearly marked with duplexing options that can be set as default.
 - Use returnable or recyclable and remanufactured toner cartridges.
 - Use an organic photoreceptor (if not organic, it must not contain arsenic, cadmium, or selenium).
 - Do not use wet process technology.
 - Do not emit ozone at a concentration in excess of 0.02 mg/m³.
 - Do not emit dust at a concentration in excess of 0.25 mg/m³.
 - Do not emit styrene at a concentration in excess of 0.11 mg/m³.
 - Contain no polybrominated biphenyls (PBBs) or diphenyl ethers (PBDEs).
 - Use toner that is free of carcinogenic, mutagenic, and teratogenic substances.
 - Are refurbished/reconditioned/remanufactured.
 - Make use of remanufactured parts.
 - Contain materials made with recycled content.
 - Use minimal packaging and/or arrange for packaging taken back for reuse.
 - Can be taken back by the vendor at the end of its useful life for reconditioning or recycling of parts.
- ## 3. Develop contract language or performance evaluation criteria.
- See the EPP Web site for contract language: www.epa.gov/energystar/purchasing/6d_mfd.html#pl_mfd.
- ## 4. Solicit bids/information along with appropriate documentation/certification.
- Be sure that companies substantiate their claims with documents, such as Material Safety Data Sheets.
- ## 5. Review and evaluate bid responses.
- Consider your environmental requirements and preferences along with traditional purchasing considerations such as quality, price, and performance.
- ## 6. Receive a demonstration of the leading contender machines.
- It is important that these machines not only have the above-mentioned options available, but that they also are easy to use and/or are programmable.

7. Select the best value copier and make the award.

The best value might be based on the highest number of preferences met after the requirements were met. Normal performance and cost considerations should be considered along with the environmental attributes.

8. Train employees to maximize environmental features.

- Confirm that the specified environmental features are present and program any necessary features. Make sure ENERGY STAR® features are set to default.
 - Create a system to confirm that employees are utilizing these features. It will probably be necessary to execute a class in proper copier usage so that the environmental features of your copier are maximized. For example, if your machine does not have a duplexing option, or it is not practical to default the copier to that setting, make sure employees know how to do this from their computers.
- Place a paper recycling bin next to your copier.
 - If your copier does not have a sleep or power-down feature, make sure to turn it off at night, on weekends, and on holidays.
 - Make your copies in batches. This reduces energy consumption by decreasing the time your copier spends in high-power and warm-up modes.
 - Use recycled paper. Most copiers are engineered to work with recycled paper.
 - Avoid copying when possible—look for other ways to distribute the information. For example, send documents and memos as e-mails.

End-of-Life Issues—Some Alternatives to Disposal

Since you are interested in buying or leasing a newer, greener copier, you may be looking into disposing of your old copier in the near future. The best option is to give your old copier a new life. Some manufacturers are redesigning copiers to be more easily disassembled for recycling, and some manufacturers will take copiers back to recondition or remanufacture certain components for reuse. There is a growing market for remanufactured copiers—they often are available at lower prices compared to machines with all new components.

You should be aware that most older copiers contain circuit boards with lead, and some analog models have heavy metals, like selenium, in the drum. Both of these heavy metals pose disposal concerns because they are toxic. Purchase, rental, or leasing agreements that stipulate

take-back of the copier when you no longer need it can avoid the need for you to manage the copier as a waste. This puts the responsibility for safe management of toxic materials on those who provide you with the equipment.

Copiers with all-in-one toner cartridges that can be re-engineered are becoming more common with digital technology. These cartridges may be sent to a remanufacturer, saving resources and cutting waste. All-in-one cartridges have the toner, drum, and other components of the imaging system in one unit, as opposed to separate drums and toner bottles. In the remanufacturing process, cartridges are disassembled; worn or defective parts are replaced; and the unit is cleaned, refilled, and reassembled. Such cartridges may be remanufactured a number of times.

Five Guiding Principles

To help government purchasers incorporate environmental considerations into purchasing decisions, EPA developed five guiding principles. The guiding principles provide a framework purchasers can use to make environmentally preferable purchases. The five principles are:

1. Include environmental considerations as part of the normal purchasing process.
2. Emphasize pollution prevention early in the purchasing process.

3. Examine multiple environmental attributes throughout a product's or service's life cycle.
4. Compare relevant environmental impacts when selecting products and services.
5. Collect and base purchasing decisions on accurate and meaningful information about environmental performance.

For more information, go to the five guiding principles on EPA's EPP Web site at www.epa.gov/oppt/epp/fivegp.htm.

Success Stories

NASA's Environmental Approach to Copiers

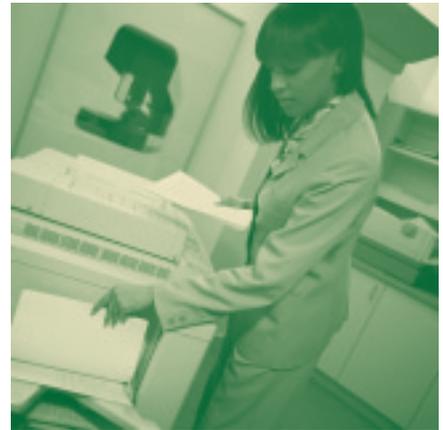
NASA's unique "cost-per-copy" agency-wide contract, which means the agency purchases copy services rather than machines, allowed the inclusion of several environmental features important to NASA, including recycled paper and energy-efficiency. As a result, the agency estimates it will save approximately \$4.5 million during the 5-year span of the contract. In a cost-per-copy contract environment, the contractor provides convenient copiers, all supplies including toner (which previously was a separate, high-cost item for all NASA sites), preventive maintenance, repairs and repair parts, training, moves, and associated labor costs. These convenience copiers were viewed as an easy item to consolidate into one agency-wide contract that could yield considerable savings. Consolidating NASA's copier needs into one contract significantly reduced administrative costs associated with contracts being competed, awarded, administered, and closed out.

Ramsey County, Minnesota

When the Environmental Health Section at Ramsey County purchased a copier, the Request for Bids included a requirement about recycled paper performance. Vendors could only respond if they could offer a copier that would work well with recycled-content paper and

make two-sided copies. This specification came in handy when the newly installed machine began jamming.

The repair technician initially suggested that recycled paper was the problem and recommended switching to virgin paper. When the office manager reminded the technician of the bid requirement, the technician continued to work with the machine to assure it would be properly adjusted to handle the type of paper used by the section. It took a little more effort by the technician, but the properly adjusted copier delivered the performance the office manager was looking for and allowed the agency to practice what it preaches—to use recycled paper and copy on both sides.



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ENERGY STAR®

Many copier manufacturers participate in ENERGY STAR®, a voluntary partnership program established by EPA and the U.S. Department of Energy. ENERGY STAR® labeled copiers are equipped with a feature that allows them to automatically turn off after a period of inactivity, potentially reducing a copier's annual electricity costs by more than 60 percent (ENERGY STAR® Web site). High-speed copiers include a duplexing option that can be set to automatically make double-sided copies — reducing the environmental and financial costs of paper usage. It is important to make sure that these ENERGY STAR® features are enabled when your copier is first delivered. Visit this Web site for more

information on ENERGY STAR® copiers:
<yosemite1.epa.gov/estar/consumers.nsf/content/copier.htm#Copier>.



EPA's Purchasing Tool Suite

EPA's EPP Program has developed the following Web-based tools to help purchasers consider the environment, along with price and performance, when buying a product or service.

EPP General Training Tool

www.epa.gov/oppt/epp/gentt/

Covers basic EPP principles and mandates, along with more in-depth applications of EPP, in an entertaining and multimedia format.

EPP Database of Environmental Information on Products and Services

www.epa.gov/oppt/epp/database.htm

A searchable database of product-specific information (e.g., environmental standards and guidelines or contract language) developed by government programs, both domestic and international, as well as third parties.

Promising Practices Guide for Greener Contracts

www.epa.gov/oppt/epp/ppg

A series of short case studies highlighting successful strategies for incorporating environmental factors into a variety of product and service contracts.

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