

# How environmentally responsible are your print cartridges?



Remanufacturers and refillers often claim that reusing print cartridges is good for the environment. But to understand the full environmental impact of a print cartridge, you need to know what happens before and after you use it.

A survey of published material and studies by industry analysts sheds light on the environmental practices of cartridge remanufacturers and refillers.<sup>1</sup> For example, industry analyst InfoTrends found, “The remanufacturers and brokers that we surveyed do not publish details about their environmental performance in regards to remanufacturing waste and its final disposal or about what happens to their own brand cartridges.”<sup>2</sup> Environmentally conscious customers who want a complete picture can keep the following questions in mind when choosing printing supplies.

## **What happens to cartridge components removed during remanufacturing?**

When remanufacturing print cartridges, many remanufacturers replace worn or damaged parts, such as the organic photo conductor (OPC) drum and cleaning blade. What happens to these removed parts is unclear and can vary from remanufacturer to remanufacturer. Gartner Research reports that, “While the use of remanufactured supplies can reduce initial acquisition costs and prevent cartridges [from] going to landfills, organizations must understand that many remanufacturers do not have proper disposal practices, and their efforts may not be environmentally sound.”<sup>3</sup>

## **How many times are cartridges remanufactured?**

Most empty cartridges are remanufactured only once. InfoTrends estimates that four out of five remanufactured toner cartridges sold will be thrown away after use.<sup>2</sup> So even though a cartridge’s journey to a landfill may be delayed by remanufacturing, it most likely will not be prevented.

## **Where do remanufacturers get used cartridges?**

Cartridge remanufacturers and empty-cartridge brokers buy and sell used cartridges from countries all over the world. This practice typically requires them to ship cartridges over long distances—consuming fossil fuels along the way.

## **Where are the cartridges remanufactured?**

There are far fewer local remanufacturers than in the past. Most local remanufacturers outsource their products to print cartridge remanufacturing facilities in distant countries with differing environmental regulations. Remanufacturing companies often don’t have direct control over the environmental standards in these remanufacturing facilities.

## **What percentage of collected cartridges cannot be remanufactured?**

InfoTrends estimates that 16 percent of toner cartridges and 36 percent of inkjet cartridges collected by remanufacturers cannot be profitably remanufactured.<sup>2</sup> Additionally, only about 10 percent of toner cartridges U.S. remanufacturers collect but find unusable are recycled, and almost no inkjet cartridges are recycled if they cannot be used again.<sup>2</sup> Previously remanufactured, excess and damaged cartridges may be sold multiple times to increasingly lower-quality remanufacturers before being discarded.

## **What can I do with empty remanufactured cartridges?**

Remanufacturers have a strong preference for collecting original equipment manufacturer (OEM) cartridges. Some avoid or even refuse to collect the cartridges they sell. For instance, major remanufacturer Clover Technologies’ product page states that they “only use ‘virgin’ OEM cores”—remanufacturing industry terminology for cartridges that have never been refilled before.<sup>4</sup>

Similarly, cartridge broker Greentec states in its terms and conditions that accepted cartridges "shall be an Original Equipment Manufacturer (OEM) product ... [or] are subject to a disposal fee."<sup>5</sup>

### **How does HP seek to reduce the environmental impact of its print cartridges?**

HP is committed to global citizenship. That means striving for environmental sustainability—meeting the needs of today while conserving and protecting the natural environment for the future—wherever it does business. When it comes to printing supplies, HP sees the big picture; it's not enough to simply delay the progress of a print cartridge toward a landfill. HP embraces an industry-leading life-cycle approach that includes environmentally responsible design and manufacture, as well as end-of-life recycling.

### **How does HP design for environmental sustainability?**

HP's Design for Environment program helps ensure that HP LaserJet and inkjet print cartridges use fewer materials, use resources more efficiently and are easier to recycle.

- **Fewer materials**

Through design innovation, HP has cut the average number of plastic resins used in HP LaserJet monochrome print cartridges by more than half and the average number of component parts by more than a third.

- **Packaging redesign**

Recent redesigns of HP inkjet and LaserJet print cartridge packaging will reduce CO<sub>2</sub> emissions by an estimated 55 million pounds in 2007, based on anticipated worldwide cartridges sales.

- **ISO facilities**

HP print cartridges are manufactured at facilities that are certified under ISO 14001, an internationally recognized standard of environmental management systems.

### **Why does HP focus on recycling Original HP print cartridges?**

HP does not offer remanufactured print cartridges because they do not meet our quality and reliability standards. That's why the HP Planet Partners program offers customers a free, easy and environmentally sound way to return their empty print cartridges for recycling, rather than remanufacturing. Pre-addressed, postage-paid shipping labels and envelopes are available in-box for many cartridges, and pre-addressed, postage-paid labels and boxes are also available at [www.hp.com/recycle](http://www.hp.com/recycle). Because HP Planet Partners recycling plants are located around the world, recyclable cartridges are routed to regional recycling locations, minimizing fuel consumption for transport.

### **What happens to cartridges returned to HP for recycling?**

HP uses patented technology to process used print cartridges, separating plastic and metal, and increases the amount of recyclable material that can be converted into new products. Recovered materials are used to make automotive parts, microchip processing trays, serving trays, roofing tiles and other useful items. Any remaining materials are used to generate energy, offsetting the use of fossil fuels, or are disposed of in an environmentally responsible manner.

### **How many cartridges does HP recycle?**

Between 1991 and 2006, more than 140 million HP LaserJet and inkjet print cartridges (more than 250 million pounds) were returned and recycled through HP's Planet Partners program. No Original HP cartridges returned through Planet Partners are sent to a landfill.

### **How do HP print cartridges reduce waste?**

Because HP printers, cartridges and media are engineered to work together, Original HP print cartridges have fewer waste-creating problems—such as jamming, poor print quality, and inconsistent toner and ink yields. During testing, four out of five remanufactured toner cartridges were dead on arrival, failed prematurely or produced a high number of low-quality pages, while only 2 percent of Original HP Color LaserJet print cartridges exhibited reliability problems.<sup>6</sup> When customers use a new, Original HP inkjet print cartridge in their HP printer there's virtually no chance it will fail; but if customers use a non-HP ink cartridge, on average there's a one in five chance it will be dead on arrival or fail prematurely.<sup>7</sup> HP print cartridges minimize their impact on the environment by being more reliable, cutting waste and using resources more efficiently.

<sup>1</sup> Sources for competitive environmental information include remanufacturer trade publications, advertising and industry research. Some research commissioned by HP.

<sup>2</sup> InfoTrends, "2007 Supplies Recycling: U.S. and Europe," May 9, 2007, Cathy Martin.

<sup>3</sup> Gartner, "How to Manage the Environmental Impact of Printing," August 8, 2007, Frederico de Silva Leon and Ken Weilerstein.

<sup>4</sup> <http://www.recycleyourcartridge.com/products.htm>, Sept. 2007

<sup>5</sup> <http://www.greentec.com/terms.asp>, Aug. 2007

<sup>6</sup> From a 2005 independent study performed by QualityLogic Inc. and commissioned by HP, comparing performance of HP Color LaserJet print cartridges with remanufactured cartridges on print quality and reliability (dead on arrival, premature failure and low quality).

<sup>7</sup> From a 2007 independent study performed by QualityLogic Inc. and commissioned by HP, comparing the performance of HP inkjet print cartridges with refilled brands on page yield and reliability (including dead on arrival and premature failure).