



HP Eco Solutions for Imaging and Printing

Overview

HP is committed to helping customers reduce their environmental impact with the industry's most comprehensive portfolio of products, services and solutions. By designing products that reduce energy consumption and resource conservation, and encouraging product reuse and recycling, HP helps its customers reduce their environmental footprints.

The new HP Eco Solutions program includes products, features, tools and services that help customers reduce their environmental impact when it comes to technology. One of the latest milestones in HP's longtime environmental leadership, the Eco Solutions program is designed to make it easy for customers to make environmentally responsible choices.

HP Carbon Footprint Calculator for printing

The updated HP Carbon Footprint Calculator for printing gives users the power to evaluate the carbon footprint of their current printers to understand how they can reduce their environmental impact through responsible printing.

The improved, customer-friendly calculator combines the capabilities of the existing HP Carbon Footprint Calculator and the HP LaserJet Power Calculator to create a more robust tool to better help customers determine and reduce their energy consumption, paper use and carbon output, as well as the associated monetary costs.⁽¹⁾

Some of the new features and benefits include:

- Separate tabs for different needs: one for customers comparing specific head-to-head printers and one for businesses assessing a fleet of printers; the energy usage, carbon output and cost savings are calculated for both printer fleet measurement and individual printer comparisons
- The more powerful tool now measures the energy consumption of inkjet printers as well as HP LaserJet printers, providing customers with access to a comprehensive view of their HP printer portfolio
- Customers can now produce a head-to-head comparison of two devices including their HP printer to another printer, regardless of type, including competitive printers, newer HP printers and even older HP printers
- The tool has increased worldwide reach by offering regionally localized output; for example, customers in Europe can view their savings in Euros per kWh, instead of dollars
- Calculations are based on 20 years of historical data for HP and 10 years for competitors, resulting in more thorough and accurate comparisons than the existing HP

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Carbon Footprint Calculator

- The new calculator has a “pull printing” percent savings button that calculates the positive impact of incorporating this networked print management feature. For instance, research shows that customers will reduce their paper consumption by 10 percent by using a pull printing solution; the pull printing feature eliminates wasted paper by not printing jobs that might have otherwise been forgotten or discarded, translating into significant savings of energy, paper and supplies
- Users can customize information about their printer fleets, such as the percentage of duplex printers, or build a fleet of specific product types and quantities

Using the HP Carbon Footprint Calculator and other technologies such as Instant-on Technology, duplexing, Universal Print Driver, pull printing technologies and Web Jetadmin, HP has helped several Fortune 500 customers realize up to a 30 percent reduction in their carbon footprint.

HP Eco Printing Assessment

The HP Eco Printing Assessment helps enterprise customers assess their energy consumption, paper usage and carbon emissions and recommends ways to use less energy, recycle more and reduce the impact of imaging and printing. The service begins by taking a representative sample of a customer’s printing environment. HP uses the current printing infrastructure as a benchmark to capture the environmental impact of the printing fleet. HP then recommends best practices and identifies a roadmap of recommended changes, helping customers reduce costs, save resources and deliver results that are good for business.

HP Eco Highlights label

Designed to make it easy for customers to make informed decisions when it comes to the environmental impact of their imaging and printing, the HP Eco Highlights label summarizes features that reduce the environmental impact of a product, tool or service, such as energy use and recyclability, in order to make it simple and clear for consumers to identify the environmental attributes of a specific product. Since its introduction in May, the label has been incorporated on nearly 65 products across HP’s Imaging and Printing Group and Personal Systems Group. Customers can locate the Eco Highlights label on packaging, the web and in data sheets.

Auto-On/Auto-Off

HP’s Auto-On/Auto-Off feature will help imaging and printing customers improve energy efficiency in personal, desktop LaserJet printers by three times versus a device’s normal sleep mode by automatically powering down printers after a period of inactivity and putting them into a mode that uses less than one watt of power. In the future, higher-end LaserJet devices will offer over 20 times improvement. HP will pre-configure printers to power down automatically after a set amount of time, ranging from one to 30 minutes, although HP Auto-On/Auto-Off also offers customers the ability to customize and pre-set their own off times for the printer. This proprietary technology works in concert with Instant-on Technology, which enables customers to produce the first page faster when a printer is coming out of sleep mode.

The U.S. Environmental Protection Agency estimates customers lose up to 66 percent of their energy on nights and weekends by not turning off IT equipment. Efficient solutions



like HP Auto-On/Auto-Off can contribute to energy reductions and cost savings. This feature will begin shipping with high-volume personal desktop laser printers in 2009, eventually rolling out to the majority of the HP LaserJet portfolio.

Recycled content

The HP Deskjet D2545 is the company's first printer made from 83 percent recycled plastic content, with 100 percent of the outer casing and tray parts made from recycled content. One of the first inkjet printers to feature HP's new Eco Highlights label, the HP Deskjet D2545 is ENERGY STAR® qualified and comes packaged in molded-pulp end caps made from recycled materials including water bottles.

In addition to incorporating recycled content, being shipped in 100 percent recyclable packaging and demonstrating energy efficiency the HP Deskjet D2545 features convenient HP Smart Web Printing, which optimizes web printing by letting users easily combine portions of numerous web pages onto one page. The HP Deskjet D2545 is currently available at the HP Home & Home Office Store and Wal-Mart stores for an estimated retail price of \$44.99.⁽²⁾

Furthermore, earlier this year, HP announced an engineering breakthrough that enables the use of post-consumer recycled plastics – such as Original HP inkjet cartridges and everyday water bottles – in the production of new Original HP inkjet print cartridges. This year alone, HP has used more than 7 million pounds of recycled plastic as part of this “closed loop” recycling process and HP expects to reach its goal of 10 million pounds by the end of this year. Since announcing this “closed loop” recycling process, HP is now using recycled plastics in full production of nearly 20 cartridges.

Clear packaging technology

HP has engineered a new way to package its high-end printers that on average, cuts the volume of foam packaging materials needed to ship these products by almost 70 percent. With HP's clear packaging system, the products have been designed so that they do not need to be entirely encased and instead are supported with packaging materials only in critical areas where the printer requires extra support. In addition, when compared to traditional packaging methods, the new packaging uses between 22 and 49 percent less corrugated material by weight – all of which is readily recyclable in many areas. The plastic film used is made from polyethylene, the same basic material as plastic milk jugs.

Digitally green alternatives

HP has a long history of bringing to market digital printing alternatives. The transition from analog to digital publishing has allowed HP to develop a host of new solutions for customers to reduce waste and overall costs, including fees associated with transportation and warehousing outdated inventory. Going “digital” uses fewer resources and helps customers reduce their carbon footprints, and HP is looking to all of our business segments to drive change to this end. Earlier this year, HP introduced several digital solutions designed to give its customers tools to help them reduce their environmental footprints including:

Retail Publishing Solutions – Digital, dry solutions for the retail photo printing market that consume three times less energy than comparable silver halide products. In fact, when in sleep mode, the HP Photosmart ML1000 Minilab printer uses less energy than a two 60



watt light bulb and reduces the chemical and water waste associated with traditional photo processing.

Distributed Printing – HP wants its customers to be able to print exactly what they want, when they want it. Distributed Printing allows for on-site, customized printing at a moment's notice. For instance, a large retailer with hundreds of locations probably has multiple different promotions going on at any one time. Rather than print generic merchandizing materials and shipping them around the country, with Distributed Printing, each location could print store-specific materials on-site, resulting in a more effective piece of marketing while saving on associated costs, transportation and warehousing.

Digital Presses – With the introduction of several new digital presses and workflow solutions, HP has advanced the trend of print-on-demand publishing. According to Pira International, up to 30 percent of traditional book stock remains unsold and is eventually re-pulped; with digital print-on-demand book publishing, excess inventory is significantly reduced.

Halo – HP Halo Telepresence solutions help support global companies' efforts to minimize greenhouse gas emissions associated with business travel while meeting their corporate citizenship objectives. For instance, flying one person from New York to London and back generates more than 3,000 pounds of carbon dioxide.⁽³⁾ Eliminating that 3,000 pounds of CO₂ is the equivalent of taking more than 90 cars off U.S. roads for one day.⁽⁴⁾

Latex Printing Technology – Innovative, new water-based HP Latex Inks provide many of the benefits of solvent-ink technology without imposing the typical environmental, health and safety considerations. Odorless prints⁽⁵⁾ produced with HP Latex Inks emit extremely low levels of volatile organic compounds. There is no special ventilation required to meet occupational exposure limits and there are no requirements for air discharge permitting⁽⁶⁾, facilitating an improved printing environment. Non-hazardous HP Latex Inks are not classified as hazardous waste⁽⁷⁾ and are non-flammable and non-combustible. In compliance with the industry-leading certification, Nordic Swan, HP Latex Inks do not produce ozone emissions during printing and contain no hazardous air pollutants.⁽⁸⁾

(1) The Carbon Footprint Calculator generates estimates of energy consumption during use of a printer, emissions of carbon dioxide from production of that electricity, and carbon dioxide emissions from production of estimated volumes of paper consumed during printing (i.e., estimated CO₂ from electricity production and CO₂ from paper production). It is based on certain key assumptions and makes use of data and models generated by third parties. For more information visit:

www.hp.com/go/carbonfootprint.

(2) Estimated U.S. street price. Actual price may vary.

(3) Calculated using HP Corporate and Brand Marketing Carbon Calculator Assumptions:

- Air Travel: 0.447 pounds CO₂ per passenger air mile. This is an average for short haul and long haul flights.
- Electricity: Varies by region based on how electricity is generated. Average for US is 1.27 pounds CO₂/kWhr. Average for Europe is 0.386 kg CO₂/kWhr. Average for Latin America is 0.189 kg CO₂/kWhr. Average for Canada is 0.224 kg CO₂/kWhr. Average for Asia Pacific is 0.710 kg CO₂/kWhr.



- RT flight from NY to London is 6,888 miles. RT flight from London to Tokyo is 11,986 miles.
- ⁴⁾ Reference from EPA website, www.epa.gov/climatechange/emissions/ind_calculator.html. The average U.S. car emits 12,100 pounds CO₂ in a year. This equates to 33 pounds CO₂ per day.
- ⁵⁾ Printers using HP Latex Inks use internal heaters to dry and cure the latex polymer film. Some substrates may have inherent odor.
- ⁶⁾ Special ventilation is not required to meet U.S. OSHA requirements on occupational exposure to volatile organic compounds (VOCs) from HP Latex Inks. Ventilation equipment installation is at the discretion of the customer – no specific HP recommendation is intended. Typically no air discharge permitting required with inks that emit extremely low levels of VOCs. Customers should consult state and local requirements and regulations.
- ⁷⁾ HP Latex Inks are generally not considered hazardous waste. Customers should consult state and local requirements and regulations.
- ⁸⁾ No ozone products expected based on ink composition and printing technology; no hazardous air pollutants per U.S. Environmental Protection Agency Method 311.

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