

HP Eco Solutions program

A green IT action plan
for printing and imaging

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According to an April 2008 survey conducted by Forrester Research, 20% of enterprise IT professionals do not have an overall plan for implementing green IT practices, while an additional 35% do not have a plan but are considering one!

Yet most IT leaders would agree that they are now expected—or will soon be asked—to help improve their company’s sustainability efforts. And they’re recognizing that building a strategy for greening their enterprise can yield significant business benefits.

A good way to reduce your organization’s environmental impact is through printing and imaging. This guide outlines a step-by-step approach to help IT leaders develop a plan that reduces the environmental impact of large office printing and imaging while saving money and increasing productivity.

That’s alternative thinking about printing.



Going green is going mainstream

Across almost all industries, the greening of business is moving from largely ad hoc, localized projects to major strategic initiatives driven by company leadership and tied to bottom-line goals.

Printing and imaging represents a huge opportunity for businesses—and for IT. Improvements in technology, process and workflow management give IT the opportunity to show leadership and drive business results such as:

- Reducing costs
- Conserving resources
- Improving energy efficiency
- Lowering greenhouse gas emissions

IT's time to take action

Why now?

If you haven't yet been charged with helping reduce the environmental impact of IT infrastructures in your organization, it's likely you will be soon. "Green IT" made Gartner's list of top ten strategic technologies and trends facing organizations for 2008 and 2009.²

Another reason for urgency is the increase in energy costs. According to Gartner, during the next five years, most U.S. enterprise data centers will spend as much on energy (power and cooling) as they will on hardware infrastructure.³

Why care?

New products and services make it possible to reduce the environmental impact of IT while achieving positive economic results. A recent survey of U.S. state CIOs found consolidation and green technology are top priorities for 2009.⁴ "Green technology is critical now but it is soon to be a mandate," said Ken Theis, Michigan CIO. "Budgets are going to get tighter and energy costs are going to get higher. If we don't get in front of it today, it's going to take us along for the ride."⁴

Why IT?

IT can have a dual impact by implementing a plan. First, by optimizing your printing infrastructure and second, by reshaping user behaviors to have less impact on the environment.

In the bigger business picture, "tackling climate change could create opportunities for a company to increase its value by up to 80% if it is well positioned and proactive" according to Carbon Trust, an independent company with expertise developing low-carbon technologies.⁵

This guide is designed to help IT leaders evaluate their organization's current printing and imaging environment, and develop an action plan addressing three areas:

- **Optimize infrastructure.** Standardize and optimize your printing and imaging network to reduce printing costs, including energy, waste and disposal.

- **Manage environment.** Efficiently manage your printing and imaging network to recycle consistently and make more efficient use of paper, materials and other resources.

- **Improve workflow.** Streamline document-intensive processes with digitally green alternatives to reduce your organization's environmental impact.

How would you answer about your company's printing and imaging environment?

Are individual printers common on desktops?	<input type="checkbox"/> Y	<input type="checkbox"/> N
Are many different printer makes and models in use throughout the enterprise?	<input type="checkbox"/> Y	<input type="checkbox"/> N
Are different devices used for printing, faxing, copying and scanning?	<input type="checkbox"/> Y	<input type="checkbox"/> N
Are many devices outdated, i.e., more than five years old?	<input type="checkbox"/> Y	<input type="checkbox"/> N
Are documents typically printed on only one side of a sheet of paper?	<input type="checkbox"/> Y	<input type="checkbox"/> N
Do people tend to print documents and then retrieve them later?	<input type="checkbox"/> Y	<input type="checkbox"/> N
Do devices remain on at night and on weekends?	<input type="checkbox"/> Y	<input type="checkbox"/> N
Do you manage print settings individually for each device?	<input type="checkbox"/> Y	<input type="checkbox"/> N
Are recycling of paper, print cartridges and old equipment inconsistently managed?	<input type="checkbox"/> Y	<input type="checkbox"/> N
Are devices unmanaged, preventing you from tracking physical location and determining who has access?	<input type="checkbox"/> Y	<input type="checkbox"/> N

If you answered no to these questions, congratulations. You are well on your way to a green printing and imaging environment. If you answered yes to one or more questions, consider each a potential area to focus your efforts. While these actions may have limited impact individually, collectively they represent a broad opportunity to reduce the environmental impacts of printing.



Assess the enterprise

Assessment is the first and most critical step in developing your green IT action plan for printing and imaging. If you don't understand your current environment and user attitudes, you can't fully identify the opportunities and challenges to address.

Objectively and comprehensively assess behavioral and technical (equipment, infrastructure and processes) factors:

Scope

Define what your project will cover as precisely as possible.

- Will you focus on office, commercial or production printing and imaging?
- Will you take a phased approach, starting with a pilot project at one office or look across multiple sites?
- How many people will the changes affect?
- Who will need to give approvals for changes?

This guide focuses on office printing and imaging. Depending on the complexity of your organization, it may be advisable to begin with a pilot project. This way you can test your approach, measure results and make adjustments before applying your plan more broadly.

Did you know?

You can quickly pull inventory and usage reports for networked printers—as well as non-networked printers connected to PCs on the network—with HP Web Jetadmin print management software.

Inventory

Audit printing and imaging equipment based on your project's scope.

- What individual (desktop) and shared printers, copiers, scanners, fax and multifunction devices are in use?
- What are the device details: make, model and purchase date as well as capabilities, service record and energy-efficiency certifications?
- Where does each device sit and who has access?
- What is the ratio of users to printers and other devices?
- Which devices are networked?
- Which devices meet eco-label qualifications, such as ENERGY STAR®, Blue Angel and Environmental Choice?
- Which devices are duplex-enabled?

This step can be a major undertaking, underscoring the advantage of a pilot project.

HP Houston Office Print Transformation pilot site

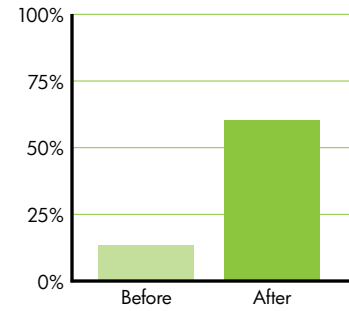
HP is transforming its own office printing. Assessment showed duplex printing fluctuated significantly, from printer to printer and site to site. To test how default printer settings influence behaviors, a pilot location was selected.

One simple change—setting defaults to duplex printing—had a big impact. Using the HP Universal Print Driver, the pilot team pushed default duplexing to an entire fleet of networked printers.

- The rate of duplexing went from 13% to more than 60%.
- Paper use was reduced by 25%.

HP is now applying a global duplex standard. Through this change, in conjunction with standardizing on shared multifunction printers, HP expects to save up to 800 tons of paper annually.

Duplex printing rates at HP Houston pilot site



Usage

Assess printing behaviors and the decisions that drive them.

- Where do people print, copy, scan and fax?
- How many sheets of paper do employees use per year?
- What's the ratio between printing in black and white and printing in color?
- Do you expect increased need for color printing?
- What is the ratio of single-sided to two-sided (duplex) printing?
- Do you enable duplex printing on a large scale?
- Can you establish printer settings at the network level?
- Do you use power management tools and software?
- Do you employ remote monitoring of devices across your network?
- How are print cartridges, paper and hardware disposed of at end of use?
- Are lost or forgotten print jobs common?

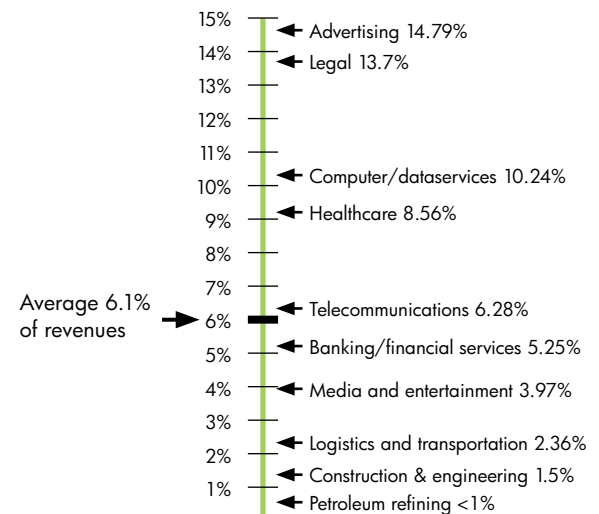
Costs

Gartner suggests that "active print management initiatives can cut your office print costs by up to 30%."

- What are your enterprise's per-page print costs, including supplies and support?
- What are your enterprise's energy costs?

One way to look at costs is in comparison with industry peers. The graphic below shows common industries and their overall office printing costs.

Dollars spent as a percentage of revenue (by industry)



Source: ALL Associates Group

Procurement

Determine how your company purchases printing and imaging equipment and supplies.

- Does your company have preferred vendors for printing and imaging equipment?
- Does procurement factor in total cost of ownership (such as energy costs), helpful in comparing the full impact of different devices?
- Are there opportunities or incentives to incorporate environmental factors in purchase decisions?
- Does your organization buy post-consumer recycled paper from a certified supplier?

Attitudes

Understand how employees perceive and use printing and imaging.

- Is convenience key? Reliability? Color?
- Do people print and retrieve jobs right away?
- Do people demonstrate concern about the environmental impact of printing?
- Do you have widespread paper and print cartridge recycling efforts?

These answers can come from informal conversations, meetings with users and formal surveys.

Organization

Determine the broader context for your plan.

- Is your action plan supporting a larger cost-cutting or environmental strategy?
- How are goals stated—dollars, hours, energy use, carbon footprint?
- How is your company greening products and services? Supply chain? Operations?
- Does your company produce an annual environmental report?

Audience

Identify who you will need to engage and who needs to give approval.

- Executive management / line of business managers
- Employees
- IT staff
- Facilities
- Procurement
- Internal green/corporate social responsibility (CSR) leaders

Did you know?

User-authenticated printing such as PIN and pull printing, often used to protect confidential documents, can help reduce waste due to forgotten or lost print jobs.

According to Gartner, “with as many as one in ten documents sent to the printer and uncollected or sent again before collection to correct user errors, enterprises could reduce ad hoc print costs by up to 10% by implementing PIN authentication.”⁶

You'll know this stage is complete when you have:

- Defined the scope of your project
- Mapped the enterprise devices within that scope
- Surveyed attitudes and expectations of users
- Engaged key constituencies

HP managed print services saved 3M \$3 million

Assessing the organization

3M Company is an innovator and one of America's best-run companies. But like many corporations, it was overpaying for printing, copying and faxing—and often did not meet the needs of 3M users.

"We were throwing away money on personal printers that were horribly expensive to operate," said Peter Godfrey, director of IT infrastructure at 3M. "It was costing us literally millions of dollars a year in waste."

Partnering with HP through a Managed Print Services agreement has changed that, allowing 3M to:

- Standardize on multifunction (MFPs) and laser printers
- Reduced device count by some 47% globally
- Cut per-page print costs by up to 90%
- Saved more than \$3 million in two years in the U.S. alone

This guide will show how 3M achieved those results by surveying their organization to identify opportunities and implementing a plan that drove business and environmental goals.

3M chose HP to help in implementing the project. The companies started by gathering data on 3M's existing processes and print infrastructure. The overall amount of spending and waste was eye-opening:

- No centralized control of printing and copying
- Some offices had almost as many printers as people
- More than 100 different printer models were scattered throughout 3M offices
- Little idea about total cost of ownership
- Recycling efforts were inconsistent

"HP's expertise in the discovery and design phase—investigating what devices we had in place, how we were using them, and what the costs were—was invaluable," said Paul White, IT print services manager. "They really brought the blueprint for this analysis."



Analyze data and set goals

This stage establishes a performance baseline for your printing and imaging environment that will help you set goals and measure progress.

- **If your organization has set business and environmental goals** Some decision-making has been done for you. With specific figures for planned reductions in energy use and costs in hand, you can analyze assessment data to pinpoint where reductions might come from and how they contribute to overall organizational goals.
- **If your organization hasn't set goals** Analyzing data gathered in the assessment stage can show how much you may be able to lower costs and energy use, and where to focus your efforts. These conclusions will be valuable to get management and stakeholder buy-in on the need for a green IT action plan for printing and imaging and the changes the plan will require.

When developing your goals, make them:

- **Explicit** Each goal should clearly state one specific thing to accomplish
- **Measurable** Indicate how success will be measured
- **Actionable** Results should come from a change in behavior
- **Time-based** Give a clear deadline for success

Some examples of environmental stewardship goals are:

- *Cut carbon dioxide (CO₂) emissions 10% by the end of this fiscal year*
- *Reduce energy use 30% in one year*
- *Recycle 95% of print cartridges*
- *Increase duplex printing rates by 20% in one year*

Setting specific and measurable goals now will help you decide priorities, make tough choices and gauge progress. Your goals will also help you sell-in your plan to key audiences by demonstrating the outcomes and associated benefits.

Getting started on goals

A good first step in goal setting is to estimate the carbon footprint of your printing and imaging operations. Use the pilot location you've chosen and calculate the potential savings based on your own scenario, by visiting: www.hp.com/go/carbonfootprint

Did you know?

The HP Carbon Footprint Calculator for printing allows head-to-head product comparisons or the ability to compare fleets of printers, including current HP printers, legacy HP printers from the last 20 years and non-HP printers from the last ten years.

The HP Carbon Footprint Calculator calculates printer energy consumption and associated carbon output, paper use and estimated monetary costs based on geographical energy assessments. It includes geographic-specific information for more than 146 countries.

[If you are looking for a template to capture data on printing, faxing, scanning and copying, double click the icon below to launch a sample worksheet you can use.](#)



After you have inventoried equipment, identify opportunities for improvement, such as:

- Consolidating and standardizing on fewer, more power-efficient devices to save energy and money. HP has seen customers save 40% and more in energy costs.
- Moving to HP multifunction printers, which use less energy and materials compared with similar print, fax and copy standalone products.
- Scheduling sleep and wake-up modes to conserve power. The U.S. Department of Energy states that companies can save up to 66% of the costs of printing and imaging equipment just by turning the devices off at night and on weekends.⁸
- Setting automatic duplexing to cut waste. According to an HP test, switching to duplex printing can reduce total paper use (volume) by 25%, with other analyses estimating possible reductions from 20% to 36%.
- Eliminating costly and wasteful reprints using PIN and pull-printing capabilities that employ user authentication methods.
- Reducing waste, transport cost and environmental impact by converting paper-based processes into digital formats.
- Minimizing electronic waste by simplifying the way assets are managed and disposed of, potentially recovering some of their value at end of use.
- Recycling equipment and supplies more efficiently.

Did you know?

Instant-on technology in many HP LaserJet devices provides up to 50% energy savings over traditional fusing while providing a first page-out measured in seconds—up to four times faster than competitive products without this technology.⁷

Did you know?

Through the HP Planet Partners program, more than 250 million HP LaserJet and HP inkjet print cartridges have been returned and recycled worldwide since 1991. HP has, to date, recycled 1 billion cumulative pounds of electronics and HP print cartridges.

You'll know this stage is complete when you have:

- Compiled and analyzed data to determine your carbon footprint
- Calculated current performance to set your baseline
- Identified how much energy, materials and CO₂ you can save



Apply framework to identify opportunities

In this stage you'll determine priorities and define tactics for meeting your goals.

Translating complex data and competing demands into action can be difficult. One way to make your green IT action plan for printing and imaging more manageable is by structuring your approach using the following three-part framework:

- **Optimize infrastructure** Create a standardized printing and imaging environment to reduce cost of energy, waste and disposal.
- **Manage environment** Ensure dependable operation of your network to recycle and make more efficient use of materials and resources.

- **Improve workflow** Accelerate business processes using digitally green alternatives to reduce your organizations' environmental impact.

While these steps are not necessarily dependent on each other, it's recommended that you move through them sequentially for maximum impact. The following page offers more detail on these focus areas, outlining challenges, opportunities and benefits.

HP experience

HP developed this framework to help enterprises use less energy, recycle more and reduce their environmental impact. Based on its work with thousands of customers and industry consultants, HP found the typical enterprise environment is incredibly complex because it:

- Includes a multitude of non-standardized devices
- Is rife with old products that serve a single function and can be energy inefficient
- Is not centrally managed
- Has ingrained attitudes and behaviors that may be hard to change

Optimize Infrastructure

Focus

Reduce costs

Challenges

- Too many devices for the numbers of people, as much as one per user
- Too many different models, making it impossible to standardize platforms and supplies
- Unbalanced usage with some devices bearing heavy print/imaging burdens
- Older, energy-inefficient devices that serve only one function

Opportunities

Some of the biggest include:

- Right-size imaging and printing networks and placement of devices
- Standardize on energy-efficient models
- Replace single-function devices with multifunction alternatives
- Create a more reliable and automated document infrastructure
- Simplify the way assets are managed and disposed of, and potentially recover some value at end of use
- Enable duplex printing across your network

Anticipated benefits

- Reduce energy use and costs
- Improve asset utilization
- Significantly reduce waste
- Recover some asset value at end of life
- Improve recycling

Manage Environment

Focus

Save resources

Challenges

- No easy way to reuse or recycle devices and print cartridges at end of use
- Printing and imaging operations are material- and carbon-intensive
- Printer and document management requires downtime, travel and/or on-site presence
- Majority of documents printed single side
- Ad hoc recycling efforts

Opportunities

Some of the biggest include:

- Work with a trusted partner to more easily and responsibly recycle print cartridges and hardware
- Give IT network-level control over printing functionality (duplexing, sleep mode) to reduce paper and energy consumption
- Reduce and potentially eliminate use of some resources

Anticipated benefits

- Drive greater reuse of products and materials
- Save natural resources
- Lower consumption
- Reduce carbon footprint

Improve Workflow

Focus

Deliver results

Challenges

- Many document-based practices are resource-intensive and slow operations
- Environmental impacts from business as usual
- Processes lead to lost or misdirected jobs, reprints
- Companies who want to make changes don't know how to get started
- Hard to align global operations with different processes, regulations

Opportunities

Some of the biggest include:

- Cut waste and costly reprints using PIN and pull-print authentication
- Capture and deliver documents electronically
- Implement efficient workflow solutions

Anticipated benefits

- Reduce environmental impact
- Improve your carbon footprint faster
- Reduce costs
- Accelerate business results

Did you know?

All HP print cartridges returned through the HP Planet Partners program, available in 47 countries and territories, are recycled to recover raw materials or energy. HP never refills, resells or sends print cartridges to a landfill.⁹

HP managed print services saved 3M \$3 million

Implementing the plan

After assessing its printing environment, 3M worked through a process reflecting this framework. Doing so helped 3M cut costs and environmental impact while boosting quality and productivity by:

• **Creating an optimized infrastructure**

- Reduced the number of devices from 101 to 9
- Emphasized multifunction models
- Replaced slow personal printers and poor quality, unreliable copiers with high-speed printing, copying, faxing and scanning capabilities

• **Transforming to better manage operations**

- Instituted companywide recycling, including 100 percent of print cartridges
- Set printer defaults to duplex printing, saving paper
- Transitioned to new energy-efficient devices, cutting energy use
- Centralized printer management using HP Web Jetadmin to monitor equipment and increase uptime

“Web Jetadmin lets us monitor all facets of the printers’ and MFP devices’ operation—including performance and reliability issues,” said Paul White, IT Print Services Manager. “It sends alerts that help us catch a problem before a machine goes down so we can proactively address problems before users are affected.”

• **Taking steps to improve workflow**

- Made print processes more efficient. In the past, many employees would print a document original on their printer, then walk to the copier and make as many copies as needed. Quality suffered, and it took extra time. Now, they can simply print all those copies on a high-speed HP LaserJet multifunction printer (MFP) straight from their desks.
- Made operations less paper intensive. One group was required to send receipts to customers each day. So employees would copy the receipts, package them up and send them out via overnight messenger. Now, with an HP MFP, they can scan the receipts, key in an email address, and attach the scanned file using the scan-to-email function.

Establish green procurement guidelines

As part of your action plan, engage the procurement organization. Working together to develop and implement green procurement criteria will help reinforce your organization's commitment to a more environmentally sustainable IT environment.

Your policy should:

- Be fair and equitable: how much you weight environmental criteria is up to you, but it should be applied equally to all decisions.
- Prioritize decisions in alignment with your organization's goals. They should address the areas of greatest concern.
- Ensure claims are measurable and verifiable.
- Be transparent so that suppliers know what's expected and your company understands what's happening in the marketplace.

Procurement questions:

- **Energy efficiency** Does the product meet eco-labeling qualifications, such as Blue Angel, Environmental Choice and ENERGY STAR®?
- **Materials** How much material is used in manufacturing the product? Are materials environmentally sensitive?

- **Packaging** How much material and energy is used in transport? What is the environmental impact of the packaging (i.e., is it easily recyclable)?
- **Asset recovery** Can the product or components be reclaimed at end of useful life?
- **Recycling** Does the supplier offer take-back programs or make recycling easy?
- **Security** Is personal information protected and erased prior to reuse or recycling?
- **Supply chain** Does the supplier work with its own vendors on environmental concerns?
- **Supplier commitment** Does the supplier have a written environmental policy in place? Do they measure against it?

[Double click the icon below to launch an HP Green Procurement white paper.](#)



Asset recovery: Challenge of the IT lifecycle

As businesses upgrade to better, more efficient devices, they face a significant challenge: what to do with older equipment. Disposing of obsolete or surplus equipment carries environmental considerations:

Devices contain valuable resources. Recycling can help reduce waste, conserve resources and capture value for the enterprise.

Electronic waste may contain harmful elements. Such materials pose health risks and should be managed accordingly.

Environmental regulations are increasing. Many states are considering legislation to regulate disposal of electronics.

A well-managed asset recovery program will:

- Return asset value to the organization
- Reduce cost
- Manage risk
- Establish a company's reputation for environmental responsibility

If you are considering an asset recovery program, consider these best practices:

- Choose partners who understand environmental and privacy issues.
 - Send equipment for refurbishing immediately—up to 90% of IT equipment can be resold if processed promptly after being taken offline.¹⁰
 - Select a vendor with a reputation for integrity.
-



Develop your action plan

To this point you've been gathering information, identifying challenges and opportunities, and setting priorities and goals. Now it's time to bring it all together into a plan of action.

Organize your action plan in four areas:

I. Purpose

- Include business and environmental drivers, major challenges and opportunities, questions
- Provide overview of issues facing current environment up front, including number and location of devices, users per device, estimated energy cost, the estimated carbon footprint of your printing and imaging fleet

II. Green IT action plan elements

- Include scope, goals (qualitative and quantitative) and timeline to accomplish them, resources and budget, metrics, contingencies, assumptions

III. Recommended approach

- Identify and prioritize tactics across focus areas based on impact, investment, complexity and ability to leverage results (immediate wins, short-term priorities, pilot projects)

IV. Management of change and communication

- Include audiences, messages, media channels and tools

When developing your action plan, it's important to use a format preferred in your organization. Some companies rely on slide presentations, others on spreadsheets and reports. Consider the length appropriate for each audience. You may have a short executive summary version as well as a full report with details of your action plan.

[Double click the icon below to launch a sample outline you can use to build your action plan.](#)



You'll know this stage is complete when you have:

- A realistic, actionable and measurable outline of the strategies and tactics you'll use to meet your goals



Gain organizational commitment

From the outset, it's critical to earn the support of internal stakeholders. If you don't build awareness and secure buy-in from all audiences affected, your plan may be at risk of falling short when rolled out.

From the outset, it's critical to earn the support of internal stakeholders. If you don't build awareness and secure buy-in from all audiences affected, your plan may be at risk of falling short when rolled out.

Key audiences to target include:

- **C-level executives** Need to know the cost associated with green IT changes, the business impact and projected return on investment.
- **IT organization** Have to be aware of how their roles will change, what the new expectations will be and what's in it for them.
- **Employees** Need to understand what's going to change, how it directly impacts them and why they will ultimately benefit. These people can also be valuable resources as you develop and implement your plan.
- **Green leaders/organization** Should be aware of your plan and goals in order to align with ongoing green efforts and provide visible support.
- **Facilities** Need to understand how your plan will impact their role and how they stand to gain.
- **Procurement** Can help drive the plan and adherence to goals by incorporating a green IT perspective into purchase plans.

It's helpful to anticipate questions or objections people may have and frame your responses as benefits. If people are attached to their personal printers, you'll need to explain the benefits they will realize from moving to a shared printer. Otherwise, users will focus on their objections, unable to consider the advantages you are presenting. The following template will help you.

Internal communications

Draw on the expertise of your organization's internal communications team to create a communications plan that supports your Green IT initiatives. They have expertise and understanding of communications channels that can increase your success.

The following model can help you build a story for the specific needs of each audience you need to engage.

For

Who want/need

The following changes:

1.

2.

3.

Will provide these estimated benefits:

1.

2.

3.

4.

This is an example of how positioning might look. You'll fill in the blanks with what your executives need to know.

For company executives and senior management

Who want to cut costs 10% and improve office printing efficiency

The following changes:

1. Convert printing and imaging fleet to shared multifunction devices
2. Centralize management of printing and imaging devices
3. Setting print defaults and automating processes to reduce waste

Will provide these estimated benefits:

1. Cut energy use by 10%
2. Save \$50,000 per year on energy costs
3. Increase uptime 25%
4. Reduce paper use by 10%, saving \$70,000 per year

[Double click the icon below to launch a sample template you can use to build the organizational commitment section of your action plan.](#)



You'll know this stage is complete when you have:

- Worked through the approach you will take with each
- Secured buy-in and endorsement as needed
- Have necessary approval and resources to proceed



Manage the change

As you put your plan into action, it's important to share ongoing progress and success. Management of change allows you to deliver additional instructions, address questions and regulate the impact of changes across the organization.

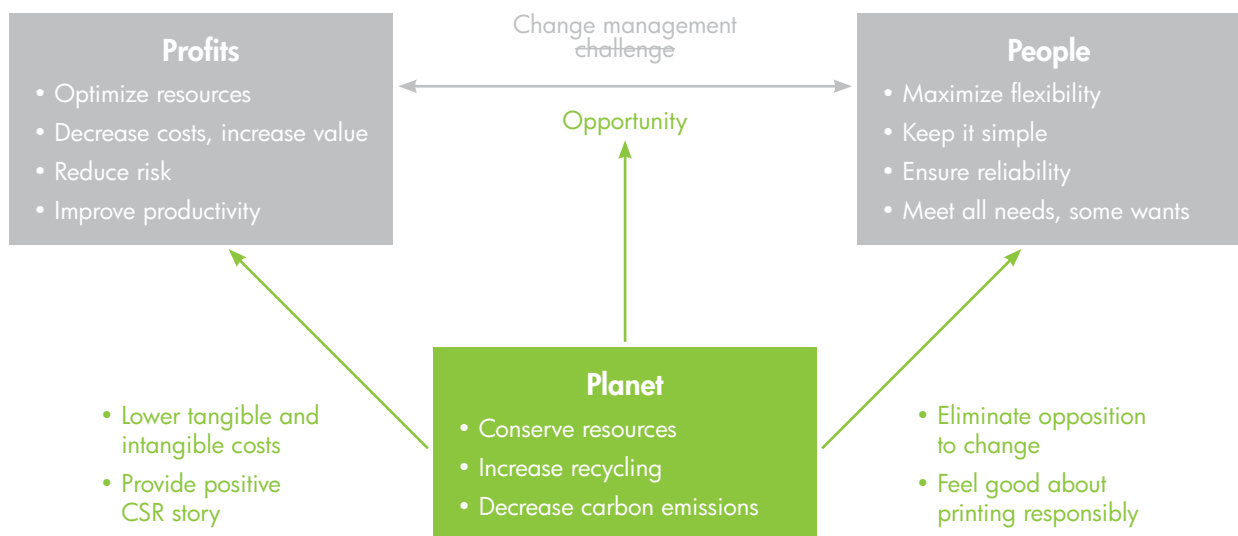
Why is this important? People who understand the reasons behind change and recognize how it benefits them are more likely to accept and support the effort.

Balance the triple bottom line

Cost-cutting actions can sometimes be seen as sacrificing service and support that people need in favor of profits. Triple bottom line is a concept that seeks to balance people, profit and the planet. Focusing on the environmental aspect can be key to a successful transformation, helping you:

- Reduce people's opposition to changes that affect them, which may include the loss of their personal printers, if they understand the environmental and business benefits
- Motivate environmentally responsible behaviors by helping people feel good about the results they have a hand in creating

Triple bottom line



Manage the change

As you manage the changes across the enterprise, focus on:

- Setting (and resetting, as necessary) expectations
- Educating audiences on the rationale, scope and benefits of coming actions
- Outlining what people are expected to do
- Positioning changes, which may be perceived negatively, as environmental or business benefits
- Motivating adoption
- Soliciting feedback and addressing questions and concerns
- Engaging green champions
- Creating campaigns to build awareness, recognize success and drive adoption
- Considering contest or demo days focused on learning about new devices and environmentally beneficial processes
- Making change relevant and describing benefits in terms people understand (e.g., trees saved, equivalent of cars off the road)

Calculators

- To translate reductions in CO₂ emissions into the equivalent number of cars that could be taken off the road, consider a typical passenger vehicle is estimated to produce 5.5 metric tons of carbon dioxide.¹¹
Number of cars off road = Amount of CO₂ emission reductions (in metric tons) / 5.5 metric tons
- To calculate the printer energy consumption and associated carbon output, visit the [**HP Carbon Footprint Calculator**](#).
- For additional calculations that turn energy use (gallons of gas, kilowatt hours of electricity) into common equivalent measures (homes powered for a year, acres of forest preserved), consult the EPA [**Greenhouse Gas Equivalencies Calculator**](#).

You'll know this stage is complete when you have:

- Ongoing and productive dialogue with audiences about the changes
- Widespread adoption of desired behaviors
- Set goals that reflect people, profits and planet

HP managed print services saved 3M \$3 million

Managing the changes

3M's savings have reached more than \$3 million in the first two years and cost per page on many devices is as much as 90% lower than 3M was paying in the past. Of course, getting started was no picnic.

"We had to overcome the entitlement philosophy," said Paul White, IT Print Services Manager. "People were used to having their own personal printer. They didn't want to give it up." How did 3M win them over? By giving users more:

- Faster, high-quality prints. Instead of slow personal printers and unreliable copiers that produced poor quality, users now access high-speed printing, copying, faxing and scanning capabilities from a newer, more reliable multifunction device.

- Increased uptime. "Web Jetadmin lets us monitor all facets of the printers' and MFP devices' operation—including performance and reliability issues," said White.
- Environmental benefits. New printers use less power than the devices they replaced, and are set to duplex printing. So it's easier for 3M to be green—saving paper and energy. In addition, 3M participates in the HP Planet Partners Recycling Program, recycling 100% of its print cartridges.
- Improved efficiency. New capabilities enable more efficient workflows.



Measure and revise

You've implemented your plan, managed the changes across your enterprise and are seeing results. End of story? In a word, no.

Greening your printing and imaging is an ongoing effort. The bar will continually be raised as your department—or your company—builds on its efforts. External stakeholders, non-governmental organizations and customers may also monitor progress and push for change. Mergers and acquisitions can present additional opportunities and challenges to green IT efforts.

As people see progress, interest will grow, sparking more ideas and greater commitment. You should continually review results and make refinements to your action plan. Consider these best practices:

- **Regularly measure results against your baseline.** Don't hesitate to make changes based on what's working and what's slow to show results.
- **Identify new opportunities for improvements/advancements.** No matter how well you assess your organization, you won't be able to spot all opportunities. As your plan unfolds, look for new ideas to explore and act on.
- **Seek out and address all feedback.** Establish an open forum for discussion of the changes and new ideas. Users have a great perspective on how things can be improved. Tactics you may want to look at:
 - Online feedback forms
 - Survey
 - Brown bag lunches

- **Refine plans as needed to reach goals.** It's unlikely that all aspects of your action plan will work as anticipated. Look for unexpected outcomes, listen for new ideas and don't be afraid to make adjustments. Be sure any changes map to your goals, follow your plan's framework and are communicated appropriately.
- **Celebrate successes early and often.** People want to know that the changes they've made are working. Celebrating early wins gives your plan credibility, builds interest, shows progress and motivates continued adoption.
- **Identify opportunities to support corporate social responsibility (CSR) reporting.** CSR reports are becoming common as companies look to tell their story and satisfy stakeholders. Green IT and the resulting environmental gains make a great story. Be sure IT is represented in your company's CSR story. If your organization doesn't do this reporting, encourage them to start.

You'll know this stage is complete when you have:

- Actually, it's never complete; constantly measure, analyze and refine your action plan

For more information

- Visit the [HP Imaging and Printing](#) website for more tools, case studies and tips on greening your printing and imaging enterprise, including the carbon footprint calculator for printing.
- Contact your local HP representative to identify an approach that can help your company save money and help you reach your environmental sustainability goals.

For further reading

- *Creating the Green IT Action Plan*, Christopher Mines, Forrester Research, Inc., October 19, 2007

Suggested resources

- **HP Eco Solutions program** This program represents a company-wide effort to design for the environment including product design, energy efficiency, resource conservation, digitally green alternatives and reuse and recycling, as well as focusing on reducing our environmental footprint in our operations and supply chain.
- **Enterprise printing and imaging solutions: A resource center for business and IT professionals**
- **3M Company HP Managed Print Services case study**
- **Viacom cuts costs, saves energy with HP Managed Print Services case study**
- **HP Carbon Footprint Calculator** for printing
- **HP Printing Infrastructure** video
- **HP Environmentally Preferable Paper Policy**
- **HP Asset Recovery Services**
- **Asset recovery** – Balancing risk and opportunity

End notes

¹ Source: Forrester Research, Inc. "More Green Progress in Enterprise IT." Christopher Mines. May 16, 2008.

² Source: Gartner, Inc. "Gartner Identifies the Top 10 Strategic Technologies for 2008." October 9, 2007. URL: <http://www.gartner.com/it/page.jsp?id=530109>. Gartner, Inc. "Gartner Identifies the Top 10 Strategic Technologies for 2009," 14 October 2008. URL: <http://www.gartner.com/it/page.jsp?id=777212>.

³ Source: Gartner, Inc. "U.S. Data Centers: The Calm Before the Storm." Rakesh Kumar. September 25, 2007.

⁴ Source: "State CIOs Say Budget, Energy Crises Are Forcing Green Initiatives." Craig Zarley, ChannelWeb. September 25, 2008.

⁵ Source: The Carbon Trust. "Climate change—a business revolution?" September 2008.

⁶ Source: Gartner. "Cost Cutting Initiatives for Office Printing". Sharon McNee. February 22, 2008.

⁷ Source: Internal HP study

⁸ Source: U.S. Department of Energy. "Copiers, laser printers, faxes, and other office equipment can save up to 66% of their 24-hour power consumption if on only during office hours." URL: <http://www.eere.energy.gov/buildings/info/components/appliances/officeequipment.html>

⁹ Program availability varies. HP printing supplies return and recycling is currently available in more than 47 countries, territories, and regions in Asia, Europe, and North and South America through the HP Planet Partners program. For more information visit: www.hp.com/recycle.

¹⁰ Source: HP, Managing Older IT Assets—a Growing Challenge, 2007

¹¹ Source: EPA. <http://www.epa.gov/OMS/climate/420f05004.htm>

Glossary

- **Asset recovery** Process by which unneeded equipment is returned for recovery of valuable parts and materials and proper disposal of hazardous elements.
- **Carbon footprint** Measure of the impact activities have on the environment, expressed in terms of the amount of greenhouse gases produced, usually as units of carbon dioxide.
- **Management of change** Structured approach to get individuals, teams, and organizations to shift from current behaviors to desired actions and attitudes.
- **Corporate social responsibility** Concept where companies consider and optimize their impact on people, the communities where the organization is active, and the environment.
- **Duplex printing** Process of printing on both sides of a sheet of paper.
- **E-waste** Unwanted electronic devices that have been taken offline and must be disposed of.
- **Greenhouse gases** Natural and man-made gases, which are essential for heating the Earth, but in excess can raise the temperatures to lethal levels.
- **Green IT** Practice of using information technology resources efficiently to reduce use of hazardous materials, maximize energy efficiency of product manufacturing and office use, and promote recycling of assets and supplies.
- **HP Planet Partners** Return and recycling program that enables simple, convenient recycling of original HP inkjet and LaserJet supplies, as well as any brand of computer hardware and rechargeable batteries.
- **Managed Print Services** A service to manage printing, usually including printing devices, technology, supplies, support and maintenance services.
- **Multifunction device** A single device that combines print functions such as printing, copying, scanning, faxing and digital delivery.
- **PIN printing** Capability where users enter a personal code to send a print job and again at the printer to release the job.
- **Post-consumer waste** Materials left over at the end of the usage lifecycle, which may end up as garbage; recycling efforts attempt to capture and reuse these materials and many products will show how much material (usually a percentage) of recycled material is included in new products.
- **Print management software** Printing and imaging fleet management software, such as HP Web Jetadmin, that give you a single tool to manage and monitor a wide range of networked peripheral devices
- **Pull printing** Capability where users send and store a print job on a networked print server, authenticate at a printer of choice and select the print job they need; the printer “pulls” the job from the server and prints
- **Triple bottom line** Business management philosophy that balances environmental, social and financial concerns, also referred to as the three Ps: people, profit, and planet.
- **Universal Print Driver** A single print driver from HP that provides instant access to a wide range of HP print devices, streamlining networking and remote printer management, without having to download separate, product-specific drivers.

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