

# HP & Sustainability

Frances Edmonds  
Director of Environmental  
Programs  
HP Canada  
February 2011



# Agenda

Competitive advantage through  
sustainability

Sustainability as we see it– the business  
opportunity

Extended producer responsibility

A tale of (1 billion) cartridges

Learnings to take away

Today HP is the largest technology company in the world—committed to using our products and services to unleash new possibilities and have a meaningful impact on business and life

Fortune 10 - U.S.

Fortune 26 - Global

Doing business in  
approximately 170  
countries

304,000 employees

145,000 sales partners

210,000 service partners

88,000 retail locations



# OUR ENVIRONMENTAL ETHOS

We have a stake in the world's well-being.

We use our unrivaled scale and expertise to transform how billions live, work and connect.

Business as usual isn't sustainable.

It's time to rethink, re-engineer and reinvent success with the environment in mind.

When faced with the impossible, we forge ahead.

We're fueled by an energy to innovate that's as powerful as it is renewable.

We make a bigger difference by leaving a smaller footprint.

We push ourselves to reduce the impact of our portfolio, supply chain and operations every step of the way.

Finite resources demand infinite ingenuity.

We help span the gulf between what the world has and what it needs.

Sustainability is a smart growth strategy.

Being environmentally responsible yields big dividends—for us, our customers and the planet.

Our vision takes the long view.

We've pioneered environmental stewardship since day one, with an eye fixed on the future.

Sustainability isn't an end state, it's a state of doing.

We're constantly creating amazing ways to move our customers, our business and the world forward.





# THE CHANGING BUSINESS LANDSCAPE

Demand for energy is rising—

**8.5 billion**

Projected global population in 2035,  
up 1.8 billion from 2007<sup>1</sup>

**49%**

Forecasted rise in energy  
consumption by 2035<sup>1</sup>

**43%**

Estimated increase in CO<sub>2</sub>  
emissions  
from energy use by 2035<sup>1</sup>

—creating opportunities to use IT to increase energy  
efficiency and deliver low-carbon solutions.

**7 in 10**

Worldwide, 69% of IT leaders cite  
reducing energy costs as the top  
motivation for pursuing green IT<sup>2</sup>

**\$3.7 billion**

Annual cost of wasted energy by  
idle and underused servers  
worldwide<sup>3</sup>

**1M cars off the  
road**

The comparable impact on  
reducing emissions if large US and  
UK companies use telepresence  
meeting solutions by 2020<sup>4</sup>

1: International Energy Outlook 2010, U.S. Energy Information Administration (EIA), June 2010.

2: "Market Overview: The Recession Dents Green IT's Global Momentum," Forrester, July 16, 2009.

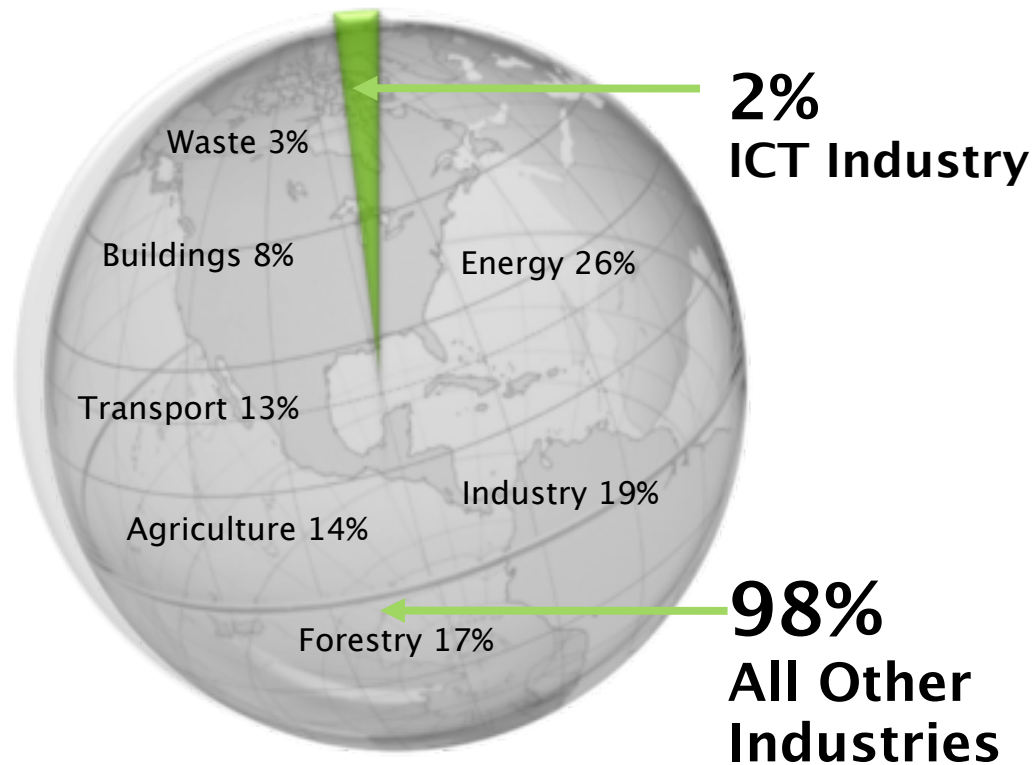
3: "US Green Data Center Market To Hit \$13.81 Billion By 2015," Environmental Leader, August 17, 2010.

4: Carbon Disclosure Project Study 2010: The Telepresence Revolution, 2010.



# BEYOND TECHNOLOGY'S FOOTPRINT

Reducing technology's impact while responding to the larger opportunity



# THRIVE IN THE LOW-CARBON ECONOMY

Technology creates efficiencies, increases productivity and drives transformation

## Portfolio

More than 1 billion people rely on HP every day

## Operations

300,000+ employees, 170 countries

## Supply chain

Largest in the IT industry

## Partnerships

Advance industry standards and educate the public

## OPTIMIZE RESOURCES

Applying IT to reduce waste and increase the efficiency of current processes and systems

## BUILD INTELLIGENT INFRASTRUCTURE

Embedding IT to monitor conditions and align supply with demand in real time

## DRIVE SUSTAINABLE TRANSFORMATION

Innovating IT to replace carbon-heavy behaviors and industries with more productive, viable alternatives



Wynyard Data Center



Central Nervous System for the Earth (CeNSE)



HP Visual Collaboration



# HP'S Environmental Strategy

## Seeing the big picture





# Case study:

## Closed Loop inkjet cartridge recycling

HP Planet Partners makes it easy to responsibly recycle old technology and print supplies

### Publicly stated goals

- HP will recycle a cumulative 2 billion lbs of hardware & supplies by 2010
- HP will use a cumulative 100 million pounds of recycled plastic in our imaging & printing products by 2011

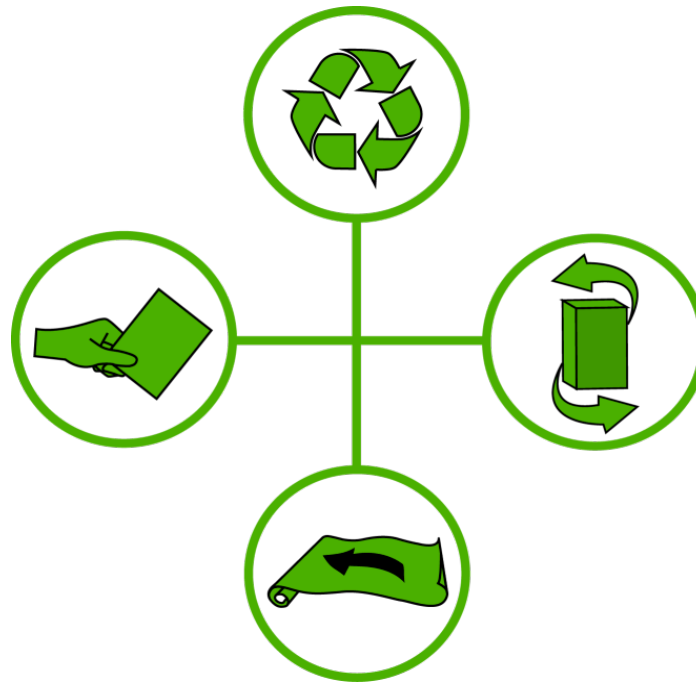


# HP Planet Partners: available in over 50 countries

HP Planet Partners makes it easy to responsibly recycle old technology and print supplies

Printers and supplies  
recycling

HP Hardware  
Reuse



HP Hardware  
Recycling &  
Trade-in  
program

Large-format  
media recycling

# Closing the Loop on HP inkjet cartridges



“HP’s use of recycled plastic in an application as technically demanding as their inkjet cartridges represents an unprecedented engineering innovation.”

Larry Koester  
VP Communications, Environmental Division  
Society of Plastics Engineers

# RECYCLING & RECYCLED MATERIALS

Innovation and continuous improvement

OPTIMIZE  
RESOURCES

BUILD INTELLIGENT  
INFRASTRUCTURE

DRIVE  
SUSTAINABLE  
TRANSFORMATION

## – Industry-first ‘closed-loop’ RPET program

- Program investigation begins 2000
- First ‘closed-loop’ cartridges manufactured 2005
- Program announced 2008

## – Program improvements/innovation continues

- Recycling process **innovation**
- Supply infrastructure **improvement**
- Leveraging ‘closed-loop’ **material innovation**



# Original HP ink cartridges made with recycled plastic reduce environmental impact.<sup>1</sup>



**THE RESPONSIBLE  
CHOICE**

- 2010 lifecycle assessment of recycled plastics used in Original HP ink cartridges:
  - » Reduce carbon footprint
  - » Cut fossil fuel consumption
  - » Save water
- Footprint calculation includes “hidden” recycling-related factors:
  - Ø Collection, transport, and processing



# Carbon footprint



**22% SMALLER  
FOOTPRINT**

A major reduction in environmental impact.

- **Recycled plastic in Original HP ink cartridges has up to a 22 percent smaller carbon footprint than virgin plastic in HP ink cartridges<sup>1</sup>**
- **Manufacturing 1 billion Original HP ink cartridges with recycled plastics is equivalent to:**
  - » Avoiding burning about 1.7 million gallons of gas<sup>2</sup>
  - » Taking more than 3,000 cars off the road for one year<sup>2</sup>

1. For cartridges produced between 2005 and 2010. Based on a 2010 life-cycle assessment (LCA) performed by Four Elements Consulting and commissioned by HP. The study compared the environmental impact of using polyethylene terephthalate (PET) plastic with the environmental impact of using recycled polyethylene terephthalate (RPET) plastic to manufacture new Original HP cartridges. For details, [www.hp.com/go/RecycledPlasticsLCA](http://www.hp.com/go/RecycledPlasticsLCA).  
2. Calculated with the EPA Greenhouse Gas Equivalencies Calculator. For details, see [www.epa.gov/cleanenergy/energy-resources/calculator.html](http://www.epa.gov/cleanenergy/energy-resources/calculator.html).

# Fossil fuels



**147,000  
SAVED**

Recycled plastics in Original HP ink cartridges reduce fossil fuel consumption.<sup>1</sup>

- Recycled plastic versus virgin plastic in Original HP ink cartridges:
- **Manufacturing 1 billion recycled Original HP ink cartridges with recycled plastic is equivalent to:**
  - » Less than half of the fossil fuel used in manufacture, transport, and recycle phases<sup>1</sup>
  - » About 147,000 barrels of oil saved<sup>2</sup>

1. For cartridges produced between 2005 and 2010. Based on a 2010 life-cycle assessment (LCA) performed by Four Elements Consulting and commissioned by HP. The study compared the environmental impact of using polyethylene terephthalate (PET) plastic with the environmental impact of using recycled polyethylene terephthalate (RPET) plastic to manufacture new Original HP cartridges. For details, [www.hp.com/go/RecycledPlasticsLCA](http://www.hp.com/go/RecycledPlasticsLCA). 2. Calculated with the EPA Greenhouse Gas Equivalencies Calculator. For details, see [www.epa.gov/cleanenergy/energy-resources/calculator.html](http://www.epa.gov/cleanenergy/energy-resources/calculator.html).



# Water resources



**SUPPLY 3.3 MILLION  
HOUSEHOLDS FOR  
1 YEAR**

Using recycled plastics in place of  
virgin plastics to manufacture

**1 billion Original HP ink cartridges  
is equivalent to:**

- **Saving enough water to supply 3.3 million American households for a year<sup>1</sup>**
- **Avoiding 169 million toilet flushes<sup>2</sup> or 7 million showers<sup>3</sup>**

# Improvements to process in 2010



## – More efficient collection

- » Conversion from the process of sending envelopes with one used cartridge, to a more efficient process of encouraging box returns that can hold a larger quantity

## – New disassembly tool and system

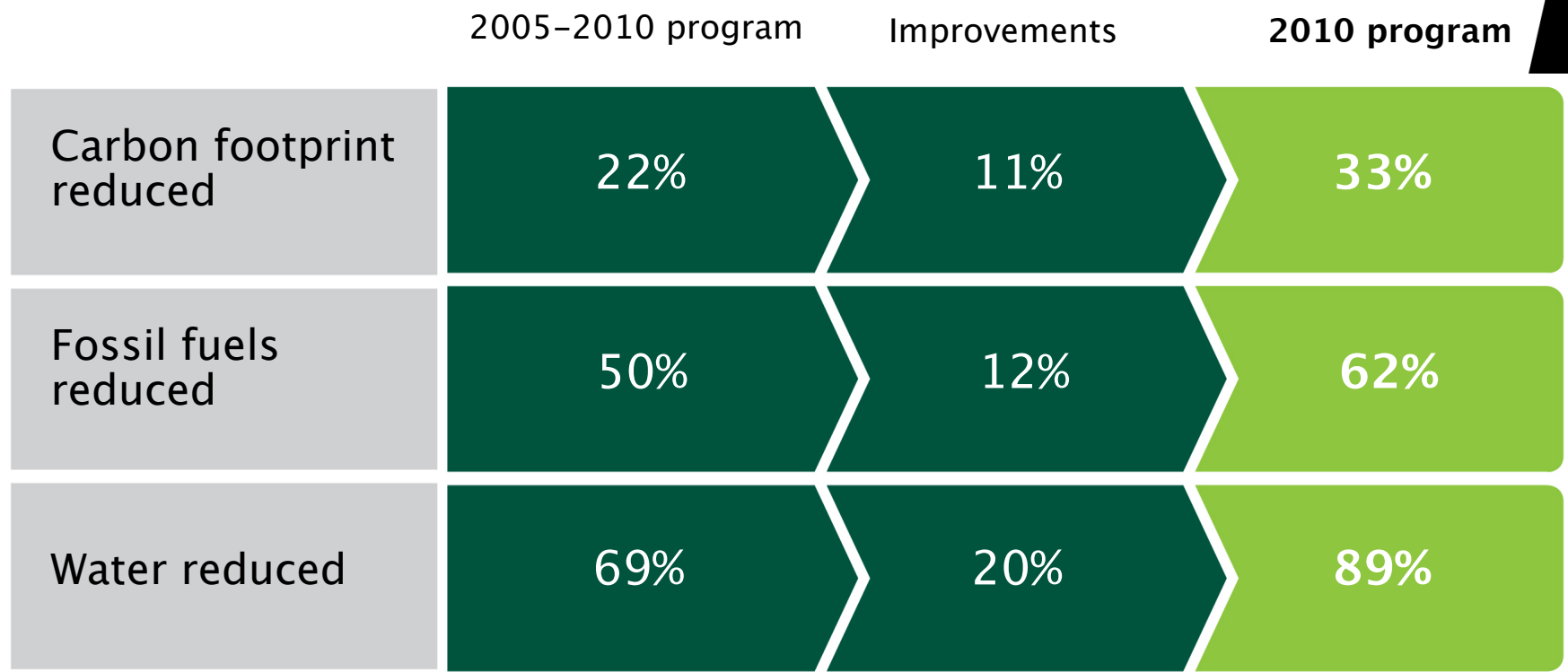
- » Reduces energy and water use
- » Recovers a higher percentage of PET than earlier processes

## – Increased percentage of recycled content

- » In 2010 HP's rPET contained no virgin PET blend

# Recycled plastic vs. Virgin plastic

Improvements made to the program in 2010 make good benchmarks even better



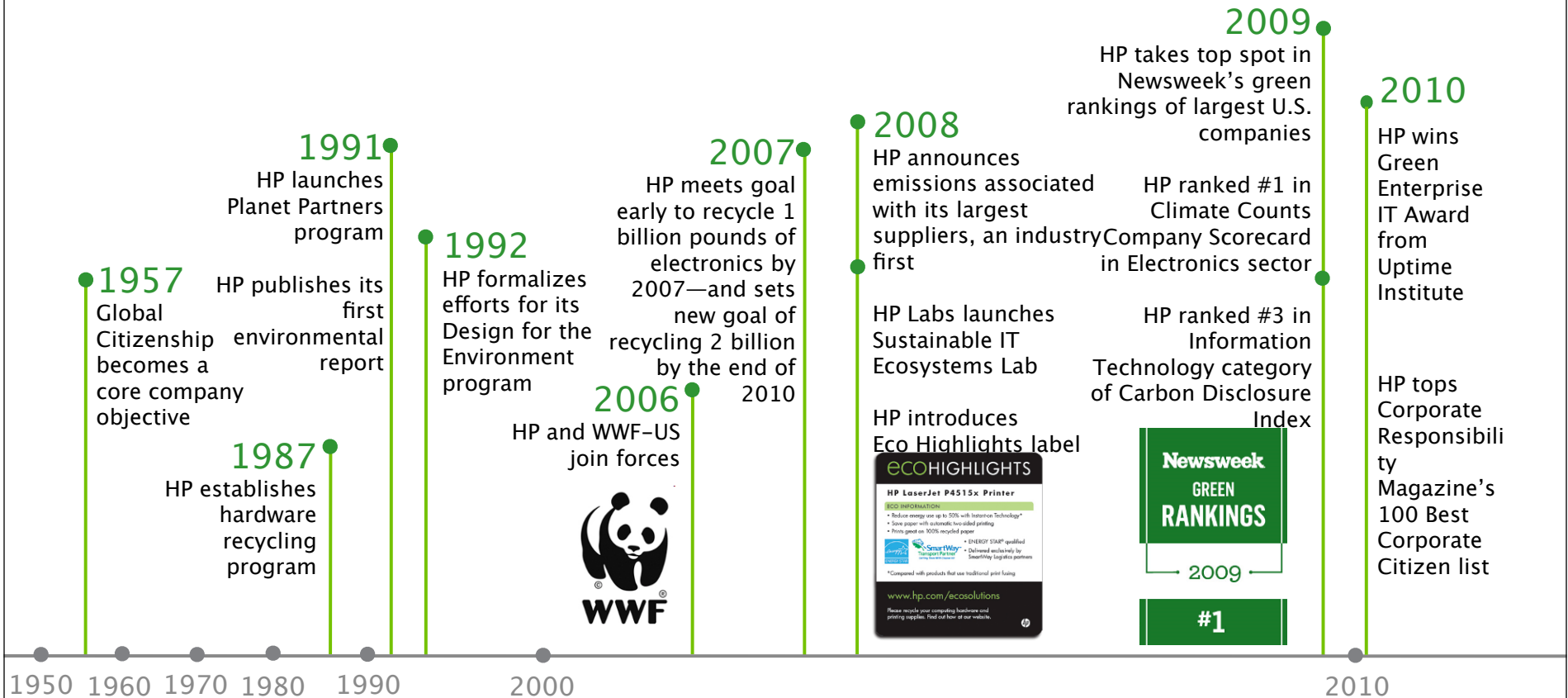


# So what are the factors that make this kind of innovation possible?

- Long history of doing the right thing
- Standards of business conduct
- Integrated Principles of extended producer responsibility
- Employees who are willing to “give it a try”
- Management structure that encourages innovation & supports doing the right thing
- Environmental Employee engagement programs
- External recognition– leading to hiring more sustainability minded professionals
- Proof that sustainability is a competitive advantage when customers proactively seek out vendors that lead

# HP ENVIRONMENTAL MILESTONES

A legacy of leadership



# INDICATORS OF HP'S SUCCESS



- 2006 – 2010, HP won numerous awards @ Canadian Environmental Printing Awards
- HP is one of Canada's Greenest Employers for 2
- HP ranked No.1 in 2010's Top 100 Best Corporate Citizens list from Corporate Responsibility Magazine
- HP ranked No.1 among the electronics industry in the Climate Counts ranking of the world's largest companies
- HP ranked No. 2 in Newsweek's Green Rankings of the 500 largest U.S. Companies
- HP won Best Green Vendor at the E-Reseller Choice Awards



INews

