HP ACHIEVES LEADERSHIP ON CARBON REDUCTIONS
OUTPACES TECH AND TELECOMS COMPETITORS ON SUSTAINABILITY

VERDANTIX
Helping You Change with the Climate

HP ACHIEVES LEADERSHIP ON CARBON REDUCTIONS
OUTPACES TECH AND TELECOMS COMPETITORS ON SUSTAINABILITY

EXECUTIVE SUMMARY

This case study is one in a series of Verdantix reports that analyse corporate climate change and sustainability strategies. Hewlett-Packard (HP) is one of the world's largest technology firms with revenues of $118.4 billion in the most recent financial year delivered by 321,000 employees. Due to its manufacturing roots and the outlook of the company founders, HP has had a constant emphasis on environmental performance. HP has set a goal to reduce energy consumption and associated GHG emissions of their products and operations by 40% below 2005 levels by the end of 2011. HP has split this goal into a number of absolute and relative reduction targets, achieving them through the implementation of a multitude of sustainability initiatives across its operations and products. Through these, HP has achieved the ultimate goal in carbon management decoupling operational emissions from revenue growth between 2005-2008, acting as an example for technology and telecoms firms around the world.

TABLE OF CONTENTS

FIGURES & RESOURCES

COMPANIES MENTIONED

AT&T, Cisco, Carbon Disclosure Project, Daimler, EDS, Google, IBM, Intel, Mercury Print Productions, Microsoft, Yahoo!, Wal-Mart, WWF

HP'S COMMITMENT TO SUSTAINABILITY DELIVERS REAL CHANGE

This case study is one in a series of Verdantix reports that analyse corporate climate change and sustainability strategies. The research helps individuals in roles such as VP Sustainability or Chief Sustainability Officer to benchmark their strategic thinking on climate change. Hewlett-Packard (HP) is one of the world's largest technology firms with revenues of $118.4 billion in the most recent financial year delivered by 321,000 employees worldwide. To hear about the firm's sustainability plan Verdantix spoke with Pierre Delforge, the Environmental Sustainability Strategy Manager for HP.

### HP Demonstrates Climate Change Vision, Governance And Strategy

Due to its manufacturing roots and the outlook of the company founders, HP has had a constant emphasis on environmental performance. The firm's strategy for environmental and sustainability performance aims to:

- **Deliver on four sustainability objectives.** HP focuses on: 1) Reductions in HP's operational footprint; 2) Reductions in the environmental impact of their products; 3) Development of new products that reduce the footprint of their customers; and 4) Advocating effective public policy to drive wider action on climate change. HP sets long-term goals, year-on-year targets and interim targets in the four focus areas. The firm tracks progress and publishes annual data in their Global Citizenship Report and a report to the CDP.

- **Build stakeholder engagement on sustainability.** HP formed an environmental sustainability council composed of 15 regional group leaders at director or VP level. This group guides internal policy and provides a channel for internal innovation. HP also actively collaborates with external stakeholders. To co-ordinate these external activities HP set up the Stakeholder Advisory Council with Forum for the Future, CSR Asia, Interfaith Center on Corporate Responsibility, WWF and the Electronics Takeback Coalition. HP also participates in Government schemes like the US EPA's Smartway and the ENERGY STAR: Change The World campaign.

- **Meet quantitative performance targets.** HP sets itself absolute and relative reduction targets across products and operations. The goals are to reduce energy consumption and associated GHG emissions of their products and operations by 40% below 2005 levels by the end of 2011. This splits into a 20% reduction in facility-derived emissions, improved energy efficiency for high volume server families by 50% and a 25% reduction in the energy consumption of desktops and notebook PCs. HP recycled 900,000 tonnes of products and supplies between 1987 and the end of 2010 and plans to reuse 200,000 tonnes of products between 2003 and the end of 2010.

The Complexity Of HP Requires A Multitude Of Sustainability Targets

HP's sustainability strategy and targets are designed to deal with the issues of operational emissions separately from emissions derived from their products. Headline initiatives include:

Figure 1. Between 2005 And 2008 HP Decoupled CO2 Emissions From Revenue

HP Revenue and Scope 1&2 Emissions Year-On-Year Growth

Source: HP, Verdantix
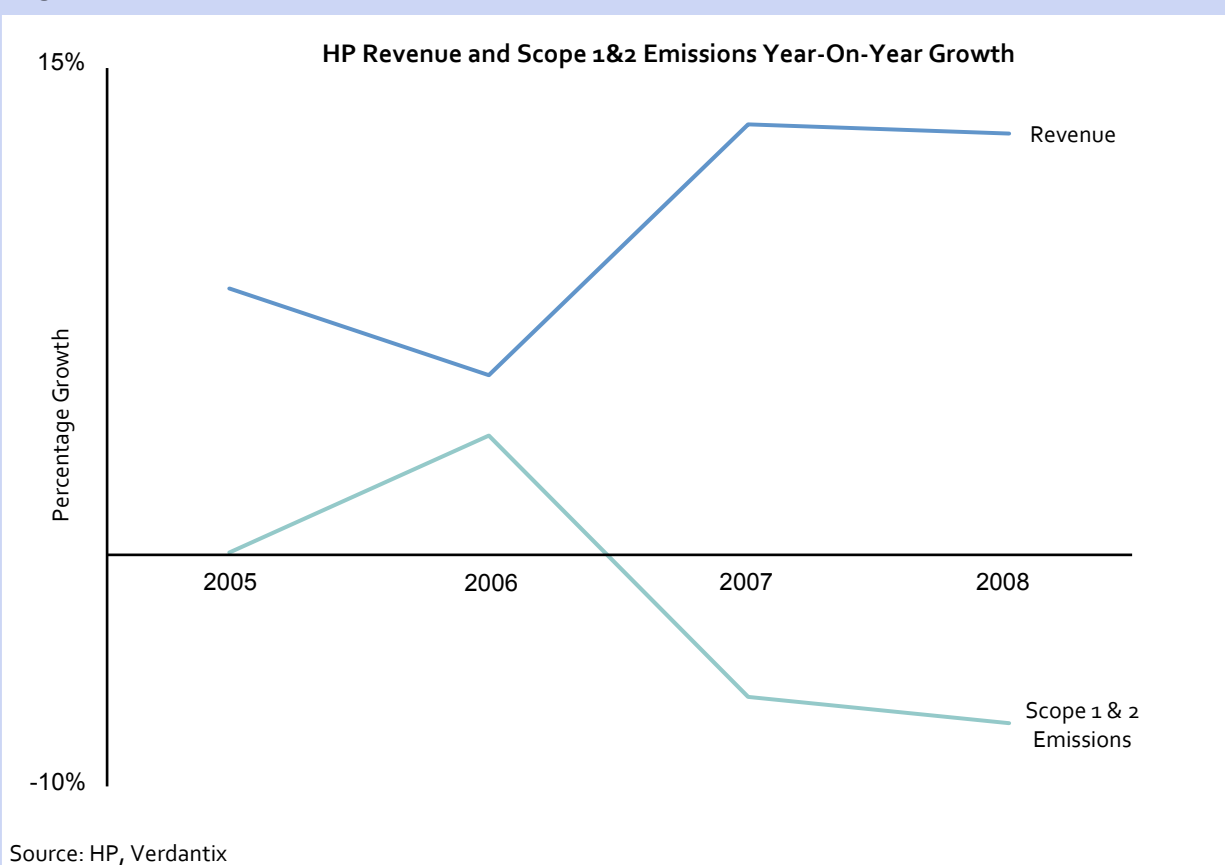
- **Labeling on HP products.** HP labels a selection of products with environmental information such as packaging materials, product make up and energy efficiency. HP has over 371 products certified by the US Environmental Protection Agency (EPA) ENERGY STAR programme which has now been adopted across the EU, Japan and Australia. Innovative paperless labeling on HP packages also cuts operational costs.

  Verdantix take. HP has a wide range of certifications for the energy and environmental performance of their products. Their leadership in this area shows an ability to collaborate and conform to government and NGO standards. This also shows to customers and competitors alike that they are confident in their sustainability credentials originating from the corporate culture within HP. As other firms like Cisco and IBM collect these medals and sustainability becomes an important contract-winning criterion, HP will have to look towards extolling its track record of collaboration as a differentiator.

- **Pursuing Design for the environment principles.** Set up in 1992 by the US EPA, Design for the Environment (DfE) optimises the environmental performance of HP products from an engineering perspective. The initiative focuses on energy efficiency, materials innovation and design for recycling. HP's company-wide approach involves product stewards and designers applying DfE guidelines to HP products.

  Verdantix take. While HP's competitors look for energy efficiency improvements, HP applies its mature environmental governance and strategy to its advantage. Looking at the wider environmental impacts of its products by assigning individual product stewards generates

Figure 2. Between 2005 And 2008 HP Cut CO2 Emissions By 31% Per Revenue Unit

Source: HP, Verdantix
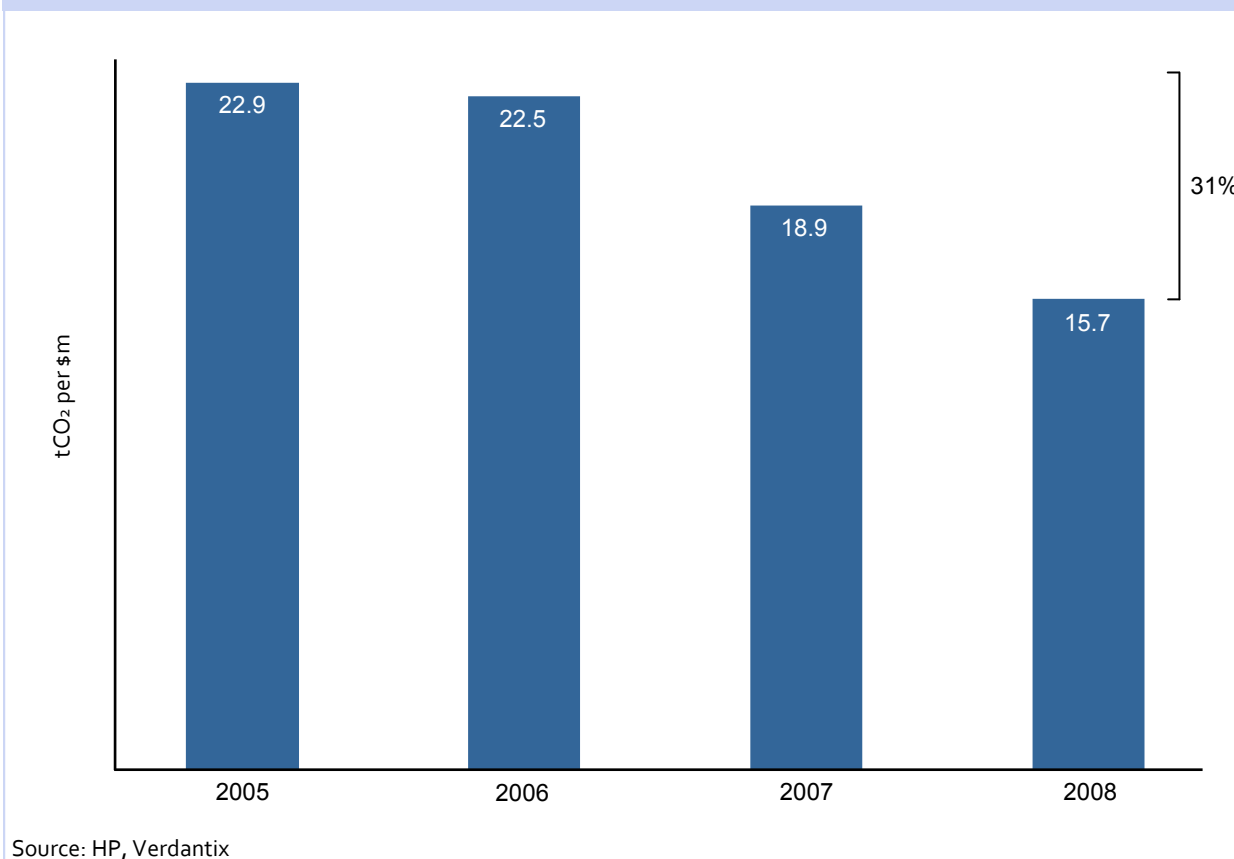
positive inertia around product and design innovation. Going forward HP will need to convince customers that the incremental changes warrant purchasing the product.

- **Transforming the printing services business model.** Domestic ink cartridge replacement and commercial analog printing pose major sustainability challenges for HP's IPG group. To combat these issues HP runs the Planet Partners recycling programme, which has led to the return of over 90 million kilograms of laser jet and ink jet cartridges. HP's digital print on-demand services aim for business model innovation with environmental benefits. Firms seeking more sustainable print solutions like Daimler for their Smart Car brochure and Mecury Print Productions for textbooks ordered online have turned to HP's digital printing solutions.

  Verdantix take. Each year 25% of textbooks and 3 billion magazines remain unsold. HP targets reductions in end-of-life waste and at the same time increases operational efficiency and customers' financial performance. For example, Mercury Print Productions experienced a 200% increase in productivity and a 50% decrease in maintenance hours which overall reduced its environmental impacts. While the printing business remains the albatross hanging round HP's neck, the firm needs to increase customer awareness of its Planet Partners campaign to drive business transformation around the commercial print business.

- **Lowering absolute GHG emissions from operations.** HP set itself a target of a 20% reduction in absolute carbon emissions from all HP facilities and leased facilities by 2013 relative to a 2005 baseline. Sources of reduced CO_2 emissions include non-office based working for employees and improved building management by real estate managers.

Figure 3. HP's Sustainability Initiatives Target Operations and Product Innovation

TYPE OF CHANGE	EXPECTED BENEFIT		
	Brand Enhancement & Risk Management	Cost Reduction	Revenue Generation
Business As Usual	• Material Safety Data Sheets	• Efficient Data Center Design	• Energy Efficient Personal Systems • Managed Print Services
Product Innovation	• Eco Highlights Labelling • Energy Star Labelling • EPA Smart Way Partnership	• DfE—Materials Innovation • DfE— Energy Efficiency • Commercial Print On Demand • Paperless Labelling	• Energy Efficiency Services • Intelligent Building Design • Smart Grid And Sensor Tech
Operational Change	• GHG Reporting—Scope 1,2 &3 • Supply chain auditing • NGO Partnerships • Purchasing green energy	• DfE— Recycling • On-site Renewable Generation • Data Center Consolidation	• Remanufactured Goods • Sustainable Business Design
Cultural Change	• Employee Engagement	• Flexible Office space • Work At Home Policy • Work Place Transformation	
Strategic Innovation	• Stakeholder Advisory Council • Supply Chain Social and Environmental Responsibility		• HP Sustainability Labs • EDS Acquisition • EYP Acquisition

Source: Verdantix

HP also installed on-site renewable power generation at the San Francisco HQ. In Ireland a remarkable 90% of HP's energy comes from on-site wind turbines.

*Verdantix take. Decoupling operational emissions from revenue growth is the ultimate challenge in carbon management. HP revenues have grown by a CAGR of 8% through 2005-2008 while scope 1 and 2 emissions have decreased by 6% (see **Figure 1**). Compared to their technology and telecoms peer group, like AT&T, Cisco and Google, HP's achievements on CO_2 reduction are truly remarkable. Learning from previous projects will be important especially given that the acquisition of EDS in 2008 added an extra 44% to HP's scope 1 and 2 emissions in 2008.*

- **Innovating to build a more sustainable IT ecosystem.** In 2008 HP set up research labs dedicated to inventing sustainable IT ecosystems. The research labs target cradle-to-cradle thinking and technology design for minimum energy and material use. They will

also develop software with the aim to lower the CO_2 footprint of data centers by 75%. HP researchers also developed the Central Nervous System for the Earth (CeNSE), a sensory network that will have multiple applications across a wide number of industries such as equipment tracking, pesticide monitoring and product quality control.

Verdantix take. HP actively targets reductions in the IT industry through their data centre and sensor innovation. Some will view HP's more ambitious projects, like CeNSE and sustainable IT ecosystems as suspect especially as Shell is the first customer for CeNSE and plans to use it for "a clearer picture of oil and gas reservoirs". The CeNSE value proposition may also be used to improve environmental performance but this is clearly not the case in the application of the technology by Shell to drill for more oil.

- **Creating products and services for a low carbon society.** Products like Halo, HP's telepresence solution, have enabled HP to cut its own business travel by 43% — although this may also be a feature of cost control in the recession. Smart grid and sensor technologies for utility firms like National Grid and Duke Energy also feature on the HP innovation agenda. The 2007 acquisition of EYP, a consulting firm focused on large-scale data centre transformation, provided the core team for HP's Critical Facilities Services which provide sustainable data centre advisory work. Spending on data centre energy efficiency in the UK will reach $244 million in 2010 rising to $303 million in 2013 (see [Verdantix UK Climate Change & Sustainability Spending 2009-13](#)).

Verdantix take. Energy efficient and low carbon products and infrastructure will see increasing demand over the coming years due to higher energy prices, tighter regulations, the increasing cost of carbon, consumer awareness and a relentless demand for information processing. As the demand for low carbon products evolves into demand for low carbon infrastructure HP are well positioned to exploit both opportunities.

- **Engaging one of the largest supply chains in the industry.** HP engaged 635 of their suppliers in 2008 on sustainability issues. Out of those engaged, HP audited 76% against the new Electronics Industry Citizenship Coalition standard. This accounts for nearly all tier one suppliers. Global firms' supply chains are six or seven levels deep. To achieve even more control over its indirect environmental impacts HP plans to undertake a product lifecycle analysis to uncover impacts over multiple supply chain levels. To dig further into the second and third tiers HP works with NGOs like WWF.

Verdantix take. By combining audits with assistance to improve sustainability performance, HP protects brand reputation and gets good results. This avoids negative backlash from stubborn suppliers who are unwilling to take on additional cost because they are told to do so by an over-weaning large customer — the experience of Wal-Mart when it attempted to unilaterally impose RFID tags on its suppliers. Working with NGOs is also an effective strategy when companies require specialist knowledge around environmental issues.

HP's Sustainability Programme Points To Best Practice For Peers

Unlike the bulk of other technology and telecoms firms around the world, HP has achieved genuine reductions in CO_2 emissions over a four year period — without resorting to carbon

offsets or renewable energy certificates. To get on level terms peers should:

- **Embed environmental thinking across all business processes.** The maturity of HPs environmental management framework facilitates the development of new goals and supports speedy execution. How else could the firm decouple CO_2 emissions from revenue growth? Technology firms like Google, Intel and Microsoft need to understand that achieving sustainability excellence is a multi-year process involving cultural change within the firm. Less committed firms, like Yahoo!, treat sustainability as a discretionary activity. Witness Yahoo!'s decision to drop its carbon neutral target.

- **Focus on filling the sustainability governance gap.** Verdantix research has identified the need for firms to fill the management deficit between the C-Suite and functional heads in CSR, Energy and Sustainability to achieve tangible results in sustainability programmes (see Verdantix Best Practices Carbon Management). HP's environmental council has sufficient authority, responsibility, budget influence and representation throughout the firm to drive emissions reductions. The CSR function is no substitute for a core business transformation team.

- **Capture revenue opportunities to drive internal change.** Verdantix research shows that the market for corporate spending on climate change and sustainability initiatives in the UK alone will be worth $5.3 billion in 2010. Sustainability leaders in tech firms need to identify revenue opportunities to ensure execs switch from a perspective rooted in the question: "How much will energy spend and climate change regulation cost us?". By 2013, firms in the UK with revenues above $1 billion will spend $642 million on energy and carbon data collection of which $160 million will be on equipment such as meters and software (see Verdantix UK Climate Change & Sustainability Spending 2009-2013).

VERDANTIX
Helping You Change with the Climate

Sustainability And Climate Change Business Research

Verdantix is the leading provider of business research and strategic analysis to help firms change profitably with the climate. Clients access our research through individual reports, annual subscriptions and multi-client engagements.

Your Business Challenge

We live in an age of inevitability and uncertainty. It is inevitable that climate change will affect your business in the future. But do you know when climate change will have a material impact on profitability? And do you know which climate change factors - regulations, customer perceptions, weather risk, energy costs and competitive actions - will affect your business? Our research helps climate change leaders incorporates, professional services firms and carbon markets to manage the tension between inevitability and uncertainty.

Our Knowledge Service

Verdantix conducts ground-breaking research on the climate change market to help you change with the climate. Our solution combines high quality business research with continuous client needs assessment to deliver a uniquely powerful knowledge service. We help you to successfully manage the tension between inevitability and uncertainty by delivering evidence-based research designed to meet your specific knowledge requirements.

> *"Equity analysts divide into three groups based on their climate change perspective: believers (30%), skeptics (28%) and cynics (30%). This should influence how CEOs communicate their climate change strategy."*
>
> *- Verdantix Survey: How Equity Analysts Link Company Valuation and Climate Change (June 2008)*

How You Benefit

Our knowledge services help you to:

- Plan effectively for regulations.
- Keep pace with competitive actions.
- Make connections with new customers.
- Inform senior executives with evidence.
- Develop climate change propositions.
- Quickly shortlist suppliers.
- Spot hidden business opportunities.
- Validate your thinking and proposals.
- Speed up business case assessments.

> *Help you change with the climate*
>
> *Save you time by leveraging best practices*
>
> *Save you money by offering cost effective advice*
>
> *Offer independent thought leadership*

Research Plus

The Verdantix research agenda is defined collaboratively with our subscription clients. We call this collaborative approach Research Plus. This element of our service ensures we align our research activities with client needs. Through experience we know that clients find it hard to articulate what they don't know today. It's also a challenge for clients to explain what they will need to know tomorrow. Our Knowledge Needs Tool stimulates thinking, identifies knowledge gaps and prioritizes research projects. The tool is based on Verdantix research into the drivers behind climate change and sustainability risks and opportunities.
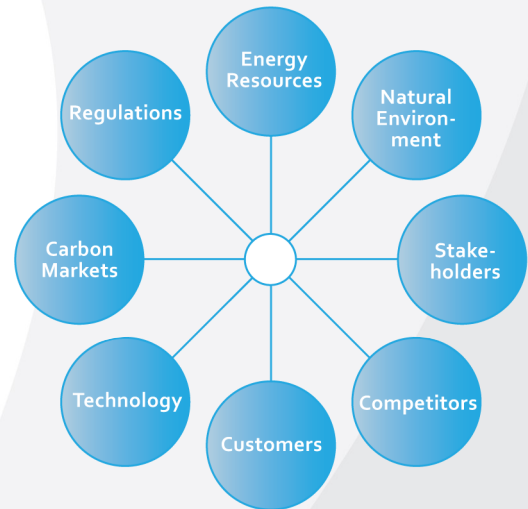
Why Choose Verdantix

Unique. Verdantix offers a unique knowledge service for individuals in charge of climate change or sustainability strategy, innovation, projects, products and services.

Cost effective. Our subscription research model shares costs across multiple firms resulting in a much lower price point than consulting.

Connected. We have privileged access to thousands of decision-makers in companies, service providers, academia, governments and financial markets.

Quality. Our research is based on robust methodologies such as the Green Quadrant and Smart Vendors developed by experienced research professionals.

Commercial. The Verdantix knowledge service focuses on providing commercial insights to help P&L owners deliver financial results and win support in budget negotiations.

For More Information

info@verdantix.com

www.verdantix.com