

ECO-BRIEF

**The Environmental Product Life Cycle:
Environmentally Conscious Product End of Life**

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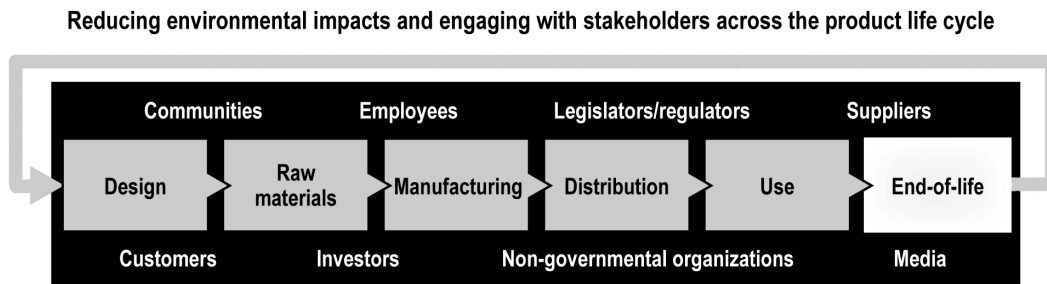
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EXECUTIVE SUMMARY

The last link in the IT product chain is end-of-life disposition. Until recently, manufacturers and end users paid little attention to this stage; however, with increasing environmental concerns and more rigorous regulation, the need for eco-friendly product disposal is growing. HP has long played a leading role in eco-aware product end-of-life issues; and with its Asset Recovery management program, it provides a solid infrastructure to assist its customers in extending the life of their IT products when possible and recycling them and recovering raw materials from them when it's not. Further, HP's Asset Recovery program guards against data security issues, starting with providing secure transportation to the asset recovery center and extending to services ranging from one or more rounds of software-based wiping to physical destruction of the device. For a graphical depiction of how end of life fits into the product life cycle, see Figure 1.

FIGURE 1

HP Approach to Reducing Environmental Impacts and Engaging Stakeholders Across the Product Life Cycle



Source: IDC, 2007 adapted from HP

BACKGROUND

With nearly 1 billion PCs installed worldwide and with an equally impressive number of servers, peripherals, displays, and accessories, environmentally friendly disposal of IT assets has become an increasingly important concern for manufacturers and end users alike. Unfortunately, many organizations have not adopted environmentally conscious end-of-life procedures. In its 2005 Commercial PC survey, IDC found that only 37% of U.S. organizations stated they have an electronic recycling policy, and more than 50% donate unwanted systems, pushing disposal responsibility onto other organizations. Since the problem will only continue to grow, implementing proper end-of-life policies is critical for users and vendors alike.

Asset Recovery Services: HP Approach to Product End-of-Life (EOL)

HP began pursuing environmentally friendly disposal policies long before they were mandated by government regulation. Originally started largely in response to addressing disposal requirements in its own installed base, HP's Asset Recovery management program has subsequently evolved to the point where it now provides eco-friendly product end-of-life programs to HP customers. Starting with an upfront consulting practice in which HP works with customers to advise them on optimizing total costs and recovery potential while mitigating risks, the HP Asset Recovery program focuses on three primary methods to address product end of life:

- ☒ Extending the life of systems when possible through a refurbishing process
- ☒ Properly disposing of units that cannot be refurbished
- ☒ Extracting useful components and materials from recyclable systems to make use of them elsewhere

Refurbishment and Reuse

The HP Asset Recovery service, primarily operated by HP Financial Services, disposes of hardware products using a strict auditing, testing, refurbishment, and resale or recycling process based on the condition of the hardware. In support of this goal, HP gives its customers the option to donate working computer equipment, thus elongating the life of the hardware, reducing environmental impact, and making IT available to a wider user base. For products that are remarketed, HP shares the proceeds of sales with its customers, extracting additional value for the customer while elongating the life of the hardware. Further, by focusing on achieving the highest recovery value, as opposed to looking only at cost mitigation through recycling and recovery, HP helps companies pursuing a leasing strategy to better achieve residual end-of-lease assumptions thereby maximizing the financial value of their lease.

Recycling and Recovery

For products that have outlived their usefulness, HP has a multiphase recycling process that includes sorting, shredding, and plastics and metals separation, and provides transport and logistical services to guarantee the proper movement of hardware to HP's facilities. Recycling, primarily operated by HP's Imaging and Printing group, is offered for a wide range of products including servers, PCs, displays, peripherals, and print cartridges. The extracted products in their final stage become raw commodity material recycled into other industries.

HP's recycling procedures are in strict compliance with local, regional, and international regulations. HP has led efforts to establish proper recycling policies in the United States, Europe, and in key markets where it operates. In the United States, HP has engaged federal and state governments, while in Europe, HP has contributed to noted environmental regulations such as the RoHS Waste Electrical and Electronic Equipment (WEEE) directives, which control the use of six materials, including lead, mercury cadmium, hexavalent chromium, polybrominated biphenyls (PBB), and polybrominated diphenyl ether (PBDE).

HP's policy is to meet or exceed all global reuse and recycling regulations. It applies this policy to its own infrastructure and has adopted an assurance process to ensure that recycling partners conduct their operations in an environmentally friendly manner.

Data Security and Environmental Stewardship

For end-user customers taking advantage of product reuse or recycling, data security issues are of paramount concern. Whether for regulatory compliance, customer privacy, or competitive intelligence, companies cannot afford to have sensitive data leaked during the process of asset disposal.

For this reason, as part of its Asset Recovery program, HP provides data destruction methods that match the sensitivity of the data and each customer's security requirements. From software-based processes that involve one or more hard drive wiping rounds, with the most stringent utilizing a three-time wiping based on U.S. Department of Defense requirements, to physical destruction for those requiring the ultimate security guarantee, HP employs a tight chain-of-custody control and documented processes to demonstrate regulatory compliance.

IDC Analysis

IDC believes that HP's strategy to handle hardware end of life is among the industry's best of breed thanks to a growing refurbishing and recycling infrastructure, a worldwide network of recycling partners, and multifaceted approach of extending the life of hardware when possible and recycling when the product is no longer useful. With its global reuse and recovery capabilities, HP can provide a single point of contact for large multinational enterprises to manage their end-of-life assets. Opportunities for HP include leveraging its leadership position and extending end-of-life services to a wider user base, enabling it to achieve economies of scale for its investments in this area.

At the same time, much like other IT vendors, HP faces a number of challenges. As IDC research indicates, end users remain poorly educated on their options, and end-of-life functions in organizations are often poorly managed. So while the infrastructure for environmentally compliant disposal and recycling is growing, HP and other industry players will need to focus on additional user education.

CONCLUSION

As the volume of IT products to be retired grows and environmental regulations become more stringent, HP appears to be well positioned to meet the challenges of customers' product end-of-life issues. With the right mix of processes, facilities, and technologies, IDC believes that HP is likely to remain one of the leading players in providing IT product end-of-life services.

HP Products and the Environment Document Series

This eco-brief is part of a series of IDC documents commissioned by HP to discuss its environmentally aware policies and practices. This series includes a core white paper, *HP Products Built to Protect the Environment*, as well as standalone eco-briefs focusing on specific product areas: product design, manufacturing, power and cooling, and product end of life

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