



**Asset Recovery Solutions –  
A fundamental commitment  
to the environment**

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Contents

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- 2 *It's been said that you're either part of the problem or part of the solution***
- 2 *A solution that includes you***
- 3 *Reduce, reuse, recycle***
- 5 *Hazardous waste***
- 6 *Recognising accomplishments***
- 7 *Taking a stand***
- 8 *For more information***

**It's been said that you're either part of the problem or part of the solution**

As one of the world's largest corporations and manufacturers, IBM could have easily become part of the environmental problem. Yet, since the beginning of the age of environmental awareness, IBM has taken the enlightened path – developing and investing in methods, systems and facilities to reduce the environmental impact of its products while lowering overall costs of doing business.

Corporate directives published in 1967, 1971 and 1974 clearly lay out a foundation of environmental concerns and a commitment to: providing a safe and healthful workplace; protecting the environment; and conserving energy and natural resources. As these directives evolved to embrace new materials, equipment types and opportunities, one thing has remained constant: IBM's commitment to being part of the solution.

**A solution that includes you**

IBM originally began building this vast system as a solution for its own needs. Yet, today, this environmental protection infrastructure is extended to support IBM clients and others anywhere in the world.

Equipment owners can take advantage of IBM services to dispose of IT assets at end of life without having to manage the logistics involved with environmental regulations compliance burdens – companies disposing of assets with IBM receive certificates of destruction.

All of which means that IBM makes it easy and cost-effective for any technology user or producer to stand with IBM as an environmentally responsible business leader.

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**Highlights**

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***IBM has been a world leader in environmentally responsible industrial practices since 1967, with the establishment of its Office of Environmental Affairs and the publication of its first formal commitment to environmental stewardship.***

**Reduce, reuse, recycle**

These three words are at the heart of environmental responsibility. And when you think of it, of fiscal responsibility as well. **Reduce:** Already below two percent, IBM seeks to reduce its overall contribution to landfills by an additional ten percent per year. IBM accomplishes this in several ways. First, IBM returns as much equipment as possible to the market to extend its useful life. Second, IBM aggressively extracts parts and raw materials from non-marketable systems, and returns them to useful life via remarketing. Finally, IBM removes hazardous materials from the remainder in full compliance with international standards. IBM also demands waste reduction from its suppliers. A recently created IBM management team audited supplier shipping methods and packaging (packaging accounts for the bulk of IBM's landfill contribution) and discovered ways to eliminate 1,453 tons of packaging materials, 18,400 pallets, and 460 trucks/ocean containers/railway carriages. All in all, this means when you return your equipment, you become part of a worldwide movement to reduce landfill and make our shared world a cleaner, safer place. **Reuse:** By far, the vast majority of equipment returned to IBM is refurbished and resold on the secondary market. To ensure that prices are fair to buyers and sellers alike, and that assets move quickly, IBM created its own electronic worldwide marketplace, Private Trading Exchange (PTX). While PTX may not seem like an environmental initiative, systems that encourage reuse by simplifying every aspect of remarketing bring greater participation and lower the environmental impact of unwanted equipment.

**IBM has constructed one of the world's largest infrastructures of dedicated facilities for refurbishing, testing, reselling, dismantling and safely disposing of unwanted IT assets.**

**Recycle:** Systems that are too obsolete for reuse, or simply broken beyond cost-effective repair, are scavenged for parts that can be recycled into the spare parts stream. Whatever is left is smelted for precious metals and other valuable raw materials. Cash generated by resale of systems, reuse of components and the sale of raw materials is shared with clients disposing of equipment, or kept by IBM to cover the costs of refurbishing, marketing and hazardous waste disposal. Asset Recovery Solutions – A fundamental commitment to the environment

*In 2002, Landfill (Trash) represented only 2.6 percent of the total tonnage of returned IT equipment processed by IBM, and that fraction has been declining ever since. Landfill is non-product related, primarily mixed packaging material. The balance is either Reused (internal reuse or resale of parts) or sold as commodities (steel, copper and so on).*

**Recovered material content**

*Reuse 27.6 percent, Plastic 3.8 percent, Paper 2.6 percent, Nonferrous 23.1 percent, Ferrous 29.2 percent, Displays 2.2 percent, Cardboard 4.5 percent, Other 0.8 percent, Waste-to-energy 0.7 percent, Trash 2.6 percent, Hazardous 0.2 percent, Precious metals 2.6 percent.*

***Along with these physical plants, IBM has developed and evolved process, management and expediting systems efficient and robust enough to handle worldwide logistics and very large volumes.***

**Hazardous waste**

Computers contain hazardous substances, including heavy metals and contaminants that persist over long periods of time. IBM has three strategies for keeping these waste products out of the environment.

The first is to keep those computers working productively for a longer period of time. The longer they're in service, the fewer that need to be discarded and, ultimately, the fewer that need to be produced.

The second is to reduce the use of hazardous materials in new designs and in manufacturing. For example, a recent IBM innovation in substrate cleaning has the potential to reduce its use of aqueous-based solvents in circuit manufacturing by as much as 71 percent.

The third is to extract and dispose of hazardous materials utilising highly qualified and regularly audited subcontractors who specialise in this complex field. Fully documented for ISO 14001 compliance, these vendors ultimately assure you that hazardous materials from your returned computers will not enter the biosphere.

**IBM processes more than 35,000 tons of returned equipment every year. Less than two percent ends up in a landfill, and of this, the majority consists of benign shipping materials.**

#### **Recognising accomplishments**

IBM is committed to recognising those employees that do make a difference in finding solutions to improve the environment. Here are a few recent examples:

- *Several IBM employees from Research Triangle Park, North Carolina, and Poughkeepsie, New York, successfully converted all of the major plastic parts in the central processing unit of the IBM IntelliStation E Pro, a high-volume desktop computer, from prime to 100 percent recycled plastic resin. This achievement enabled IBM to become the first information technology company to offer globally a computer with a system unit having all of its major plastic parts made from 100 percent recycled material.*
- *Six engineers from Canada introduced a new thermal hydrolysis technology that destroys complex ferricyanide waste resulting from a multilayer ceramic plating process. Some of the benefits of the new system, the first known to attain such superior performance for complex ferricyanide waste destruction, include the elimination of the waste off-site disposal, the reuse of energy within the process and the annual elimination of 55 metric tons of sludge and 34 metric tons of chemicals required for treating the waste. It also reduces water use by 1.5 million gallons annually.*
- *Two engineers in the United Kingdom were recognised for their extensive data compilation, analysis and negotiation efforts which secured 48,000 megawatt hours of renewable energy for 2001 through 2003. This is believed to be the second largest green power contract in the UK.*

**All IBM manufacturing and development facilities are certified ISO 14001 compliant. ISO 14001 was introduced in 1996 and identified the requirements for an environmental management system. It applies to those environmental aspects over which the organisation has control and can be expected to have an influence.**

- *Four IBM engineers from Japan were recognised for reducing waste generation at Fujisawa by 50 percent through materials conservation and for sending zero waste to landfills as a result of innovative waste management, reuse and recycling programmes – a first in the company. The team’s efforts have resulted in environmental benefits that include, on an annual basis: – recycling 133 tons of plastic containers – reusing 650 tons of packaging materials – reducing 63 tons of manufacturing materials – avoiding the disposal of five tons of process equipment.*

These programmes also produced an annual savings of over \$3.8 million. In addition, the site has shared its waste management approach with other IBM locations, suppliers, and the Japan Management Association, a Japanese industry group.

#### **Taking a stand**

IBM is committed to protecting the environment because it’s good for our world and for our future generations. It’s also good business – waste is expensive, whether it’s natural resources or raw materials.

You can join us, and make environmental responsibility part of your company’s portfolio by using IBM Asset Recovery Solutions to dispose of your unwanted equipment. You’ll automatically:

- *Become part of one of the world’s most effective landfill reduction efforts*
- *Participate in an international effort to reduce the use of pollutants in manufacturing*
- *Join in an international effort to reduce the consumption of natural resources*
- *Engage the services of certified ISO 14001 hazardous waste handlers.*



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**For more information**

To find out more about IBM's environmental record, innovation and commitment, please visit our overview of the IBM corporate policy on environmental affairs at:

**ibm.com**/ibm/environment/policy/index.shtml

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