

XEROX CORPORATION ENVIRONMENTAL STRATEGY

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As we approach a new millennium, the well being of the Earth's environment is emerging as one of the most pressing concerns to face humanity. It has become increasingly clear that the very survival of the human race may well depend on our success in maintaining the health of the environment. Yet the environment continues to be subjected to attack on many levels.

Natural resources are dwindling. The stream of waste material is growing around the world. The ozone layer of the Earth's atmosphere, the critical protection against potentially deadly solar radiation, continues to suffer depletion. The delicate balance of the Earth's various climates is being threatened by global warming. And we are continually beset by water and air pollution.

The gravity of the situation was underscored in 1991 by two international conferences, held in Rio de Janeiro in close succession. One was an industry forum and workshop on environmental protection, sponsored by the International Chamber of Commerce. The second was the well known Earth Summit, a United Nations Conference on the Environment and Development. In addition to staging the Rio Forum and workshop, the International Chamber produced a Business Charter for Sustainable Development - a set of principles for industrial development without damage to the environment. Xerox Corporation was an early subscriber to the charter, which now has some 1,000 signatories.

In early 1995, two environmental business organizations, the Business Council for Sustainable Development and the World Industry for the Environment merged, forming the World Business Council for Sustainable Development. Member companies are pledged to work on environmental issues, in cooperation with the United Nations and with other environmental programs. Xerox is playing a significant role in this new business council.

Conventional wisdom had long held that the profit motive is at odds with environmental preservation. But, a new awareness has emerged that recognizes an inextricable linkage between these two interests. At Xerox, environmental initiatives have saved hundreds of millions of dollars by reducing waste and conserving resources and, we have only just scratched the surface of our opportunity. While environmental management has been practiced by Xerox for many years, it is now a fully integrated part of product design and manufacturing operations. It is fundamentally changing the way Xerox does business today.

Quality environmental management is an essential part of being a quality company. Environmental leadership has become an integral part of the business and values of Xerox. Our corporate environment, health and safety policy advocates a commitment to the protection of the environment and the health and safety of employees, customers and neighbors on a worldwide basis. Protection against such unacceptable risk has priority at Xerox over economic considerations. This is a rule we refuse to compromise.

The Xerox environmental policy is applied uniformly at every facility around the globe. In fact, in some countries stricter standards are actually imposed by Xerox than are required by local law. In the classical environmental engineering sense, Xerox began pollution-prevention activities in the 1960's, by retrieving spent drum-type photoreceptors - a copier's equivalent of film in a camera - from the machines used by customers, and salvaging them. These photoreceptors were aluminum drums that were recycled, re-coated and re-used.

In the 1970's Xerox began to explore alternatives to chlorofluorocarbons (CFC's) and other atmospheric ozone-depleting substances, such as chlorinated hydrocarbons, that were being employed in refurbishing used copiers for cleaning metal parts. Alternatives such as aqueous detergents and biodegradable terpenes made from orange peelings were adopted instead.

We took an entirely different approach in 1991 when, a method for cleaning and degreasing parts and assemblies (originally developed for cleaning jet-engine parts), was adopted. The method involves blasting the workpiece with carbon dioxide pellets. The pellets vaporize on impact, taking the dirt with them. By mid 1993, all ozone-depleting materials were eliminated from the processes employed by Xerox and its vendors, worldwide. All these changes, together with solvent-abatement investments, have reduced Xerox air emissions that are regulated by United States Superfund amendments by 75% since 1990. We hope to do considerably better in the future.

Xerox has been a voluntary participant in the US Environmental Protection Agency's 33/35 program, which called for a 33% reduction of certain toxic chemical air emissions by 1992 and a reduction of 50% by 1995, compared with a base line of 1988 air emissions. In spite of

increasing manufacturing activity, we have already achieved a 60% reduction.

At Xerox we do not assume everything is all right until some regulatory agency tells us otherwise. We prefer to uncover our own problems and then fix them. Perhaps the most striking example of this practice occurred in 1985, when we undertook - voluntarily - an environmental assessment of all our facilities, worldwide. In addition to seeking out soil and ground water contamination, we also studied environmental-management processes at these sites to help prevent the repetition of any problems found. As a result of this exercise, approximately 66 contaminated sites worldwide were fully characterized, and remediation was initiated. Fourteen of these remediations projects have been completed. The remainder are undergoing remediation or monitoring, or are awaiting final remediation-plan approval from the appropriate regulatory agencies.

In the course of this remediation work, Xerox environmental engineers invented a two-phase, vacuum extraction process for removing pollutants from both soil and ground water. This process is so efficient that, in two and a half years, we were able to accomplish a volume of removal and treatment that would literally have taken 90 years to complete with conventional methods. While we remain diligent about the prevention, detection, and remediation of hazardous wastes that escape into the environment, we have expanded our activities to include non-hazardous, solid waste material. As much as possible, Xerox is trying to prevent the generation of solid waste, an objective that has changed the way products are designed.

A good example of this kind of designing, as practiced in the automobile industry, was described in the February 6, 1995 issue of Fortune magazine. The article in question told how Fortune 100 companies in the automobile industry are designing products so they can be easily torn down into reusable parts and components. This is called designing for disassembly. The same design practice is being applied in other industries to products such as engines, telephones, cameras, computers and copiers. Xerox has been in the forefront of this development since 1990, when we initiated an environmental leadership program.

The object of designing for the environment is to avoid the generation of waste and to obtain the greatest possible value from its products. Environmentally sound designs require fewer kinds of materials, include parts that can be used on other models or products, are easy to disassemble and have an extended useful life. To attain these goals we completely re-engineered the design and delivery process for Xerox products.

We began with the copy cartridge, a customer-replaceable unit that is used in smaller copiers. Instead of disposing of them as trash, our customers are encouraged, with discounts on their copy cartridge purchases, to ship their used cartridges back to Xerox, at our expense. We then remanufacture the cartridges. Any plastic parts that are not in condition to be re-used are recycled into their raw material state. Customers are also encouraged to return their empty developer and toner, or dry ink, cartridges to us for refurbishing and re-use.

While Xerox has been remanufacturing machines since the 1960's, the process was not nearly as extensive as it is now, with products designed for easy teardown. Remanufactured products are marketed with the same warranties and performance guarantees as our newly manufactured products. Our environmental leadership objectives are to produce waste-free products in waste-free factories. Whenever possible, for example, our vendors ship parts to us in re-usable containers that we return to them, and we take every opportunity to minimize our own product packaging.

Our ultimate goal is to send nothing to landfills. The waste-free office is the next objective at Xerox. We have set a target of 90% freedom from office waste by 1997. As noted above, environmental responsibility is profitable, to the tune of several hundred million dollars annually. That is the value of the materials we have conserved.

Our conservation leadership is also very good for our reputation as a total-quality company. It has earned us awards in Latin America, Europe and China. We are particularly proud of two awards: The World Environment Center's Gold Medal for outstanding international environmental achievement in 1993 and the Environmental Achievement Award of the National Wildlife Federation's Corporate Conservation Council in 1994.

The Xerox view that environmental conservation is profitable, is shared by an ever-increasing number of business establishments. Like Xerox, they are committing themselves to maintaining environmental integrity and to sustaining the world's natural resources for the coming millennia. It is our responsibility - and it is fun.
