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Agency

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and Toxics
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EPA

**Environmentally Preferable Purchasing Program**

# Private Sector Pioneers

## How Companies Are Incorporating Environmentally Preferable Purchasing

Printed on paper that contains at least 30 percent postconsumer fiber.

## Environmentally Preferable Purchasing Program

Environmentally preferable purchasing ensures that environmental considerations are included in purchasing decisions, along with traditional factors, such as product price and performance. The EPP program provides guidance for federal agencies to facilitate purchases of goods and services that pose fewer burdens on the environment.

For more information about environmentally preferable purchasing or EPA's EPP Program, please visit our Web site at <www.epa.gov/opptintr/epp>, or contact:

Pollution Prevention Information Clearinghouse (PPIC)

202 260-1023

e-mail: PPIC@EPA.GOV

# Acknowledgements

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# Disclaimer

This document provides an overview of recent private sector environmentally preferable purchasing initiatives and includes references to specific products and companies. These references are included to provide additional detail and do not constitute endorsement or recommendation for use by the U.S. Environmental Protection Agency (EPA). This document is intended to show representative private sector environmentally preferable purchasing activities. It does not attempt to include the efforts of every company initiating such activities or every activity initiated by the companies that are referenced.

EPA's Environmentally Preferable Purchasing (EPP) Program, however, is interested in learning about the environmentally preferable purchasing practices of other companies. Please share any information on corporate green purchasing activities with:

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# Acronyms

| | |
|---|---|
| CPG | Comprehensive Procurement Guidelines Program (EPA) |
| ELU | Environmental Load Unit |
| EPA | U.S. Environmental Protection Agency |
| EPP | Environmentally Preferable Purchasing Program (EPA) |
| EPS | Environmental Priority Strategies |
| DOE | U.S. Department of Energy |
| FEMP | Federal Energy Management Program (DOE) |
| FR | Federal Register |
| GPN | Green Purchasing Network |
| MSDS | Material Safety Data Sheet |
| PSE&G | Public Service Electric and Gas Company |
| PVC | Polyvinyl Chloride |
| rBGH | Recombinant Bovine Growth Hormone |
| TCF | Totally Chlorine Free |
| TEEM | The Energy Efficient McDonald's Program |
| VOC | Volatile Organic Compound |

# Introduction

During the past 20 years, U.S. federal agencies have operated under a series of federal statutes and Presidential Executive Orders mandating the purchase of products and services that pose fewer burdens on the environment. As a result, federal agencies are increasingly selecting products based in part on environmental attributes such as recycled-content percentages, energy- and water-efficiency ratings, lower toxicity, and the use of renewable resources. Many state and local governments are embarking upon similar initiatives. The U.S. Environmental Protection Agency's (EPA's) Environmentally Preferable Purchasing (EPP) Program is assisting these efforts and documenting federal, state, and local government attempts to implement environmentally preferable purchasing strategies.

**Through a variety of environmental and cost-savings initiatives, private sector companies are identifying, manufacturing, and purchasing "green" products and services.**

The growing interest in environmentally preferable purchasing, however, is not limited to the public sector. Private sector companies also are investigating and purchasing environmentally preferable products and services. Although environmental purchasing is a new concept for many companies, others are beginning to solve some of the challenges encountered when incorporating environmental considerations into purchasing decisions. Through a variety of environmental and cost-savings initiatives—design for the environment, greening the supply chain, full cost accounting, zero waste initiatives, ISO 14000 certification, environmental accounting, and others—private sector companies are identifying, manufacturing, and purchasing "green" products and services.

In an effort to provide federal purchasers and other interested parties with up-to-date information on current environmental purchasing practices, this report highlights some of the initial efforts of a few private sector companies to "buy green." The EPP Program hopes the ideas generated and lessons learned from these private sector environmentally preferable purchasing pioneers will provide additional incentives, goals, and tools to further advance environmental purchasing efforts.

For additional information on the EPP Program
or to access existing resources that can help you identify and purchase environmentally preferable products, please visit the program's
Web site at:

**www.epa.gov/opptintr/epp**

## Defining Environmentally Preferable Purchasing

**EPA encourages federal agencies to evaluate multiple environmental impacts when making purchasing decisions.**

According to Executive Order 13101, *Greening the Government Through Waste Prevention, Recycling, and Federal Acquisition* (September 1998), environmentally preferable purchasing means selecting "products or services that have a lesser or reduced effect on human health and the environment when compared with competing products or services that serve the same purpose." An earlier Executive Order, *Federal Acquisition, Recycling, and Waste Prevention* (October 20, 1993), initiated EPA's work on environmental preferability by mandating EPA to develop environmentally preferable purchasing guidance for federal agencies. EPA proposed seven guiding principles and provided further clarification to help federal agencies comply with the Executive Order mandates.

EPA recommends that agencies select products to maximize beneficial environmental attributes and to minimize adverse environmental effects consistent with price and performance considerations. EPA encourages agencies to evaluate the multiple environmental impacts of every product throughout the product's life cycle—raw material acquisition, manufacture, packaging and distribution, use, and disposal. Environmental impacts can include:

- Energy-efficiency
- Recycled content
- Water-efficiency
- Resource conservation
- Waste prevention
- Renewable material percentages
- Adverse effects to workers, animals, plants, air, water, and soil
- Toxic material content
- Packaging
- Transportation

While very few private sector companies have formally defined environmentally preferable purchasing, several are incorporating environmental purchasing principles consistent with EPA's recommendations.

### Greening the Government

Executive Order 13101, *Greening the Government Through Waste Prevention, Recycling, and Federal Acquisition*, mandates federal agencies to identify and purchase environmentally preferable products and services. It defines them as:

> "...products and services that have a lesser or reduced effect on human health and the environment when compared with competing products or services that serve the same purpose. This comparison may consider raw materials acquisition, production, manufacturing, packaging, distribution, reuse, operation, maintenance, or disposal of the product or service."

## Selecting Report Participants

To select the companies represented in this report, numerous newspaper, magazine, and journal articles were reviewed to identify companies potentially engaged in environmental purchasing efforts. EPA also was working closely with Japan's Green Purchasing Network (GPN), which recommended several companies. In addition, messages were posted to multiple Internet list servers describing the proposed report and soliciting additional companies willing to participate. As a result of these efforts, a list of almost 60 companies from 20 different industry sectors was developed.

After describing the purpose of the report, companies were asked if they were interested in participating. A third of the companies (18) agreed and each was contacted and asked specific questions about their individual programs and efforts. EPA did not use questions from within a fixed set of questions or a plan of inquiry. Instead, EPA created tailored questions for each company.

For the 18 participating companies, EPA interviewed company representatives and requested publicly available information pertaining to the company's environmental purchasing efforts. EPA used the information to prepare this report. Participating companies were then given an opportunity to review the report before publication.

The Appendix includes a brief description of the participating companies.

### EPA's Environmentally Preferable Purchasing Guidance*

EPA identified seven guiding principles to help federal agencies incorporate environmental preferability into their procurement practices. These principles were proposed in the *Federal Register* (FR) in EPA's *Guidance on Acquisition of Environmentally Preferable Products and Services* (60 FR 50722):

1. Consideration of environmental preferability should begin early in the acquisition process and be rooted in the ethic of pollution prevention, which strives to eliminate or reduce, up front, potential risks to human health and the environment.
2. A product or service's environmental preferability is a function of multiple attributes.
3. Environmental preferability should reflect the lifecycle considerations of products and services to the extent feasible.
4. Environmental preferability should consider the scale (global versus local) and temporal reversibility aspects of a product or service's impact.
5. Environmental preferability should be tailored to local conditions where appropriate.
6. Environmental objectives of products or services should be a factor or subfactor in competition among vendors, when appropriate.
7. Agencies need to examine product attribute claims carefully.

* Note: EPA is currently revising these principles. The revised principles will be available on the EPP Program Web site at <www.epa.gov/opptintr/epp>.

# Public Versus Private Sector Purchasing

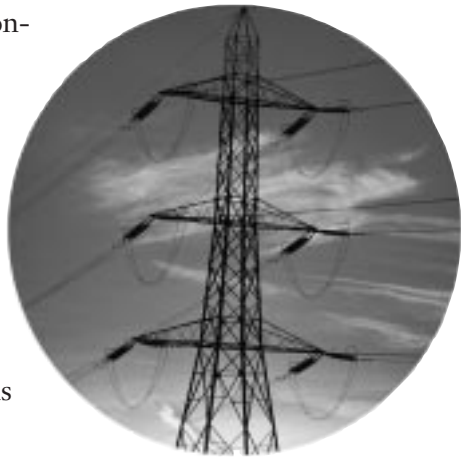
While public and private sector purchasing are similar in many ways, an important distinction between them is the role each plays in the supply and demand dynamic of the market. The government typically buys finished products—products that were designed and manufactured by private sector companies—and services.[1] Private sector companies, however, are both buyers **and** suppliers of products and services. As buyers, both the government and private industry are concerned with product price, performance, and availability. As suppliers, however, companies' purchasing decisions also are determined by their ability to sell the products they manufacture and the services they provide. Consequently, companies must concern themselves with each purchase's impact on their production costs and schedules, product performance, customer reactions, sales, and profits—concerns that are rarely part of the government's purchasing equation.

In addition to obtaining needed products and services, one of the historical roles of government purchasing in the United States is to promote specific social and economic objectives. While price and performance are usually the primary determining factors in government purchasing decisions, they are often examined within a broader context that includes Congressional or Presidential policy objectives. Government purchasing programs, for example, can be used to promote the purchase of products manufactured in the United States, to support women- and minority-owned businesses, to protect small business interests, to assist the less fortunate, to revitalize or stimulate growth in selected industries, and to encourage research and development in areas deemed important to national interests. As a result, incorporating environmental concerns into government purchasing decisions is a natural extension of the government's role in protecting the nation's environment.

1. Some government agencies, such as the General Services Administration, Defense Logistics Agency, UNICOR, NIB, and NISH, are, like their private sector counterparts, both buyers and suppliers of products and services.

# Private Sector Reasons for Adopting Environmental Purchasing Practices

Traditionally, private sector purchasing decisions are not made to promote social, economic, or political objectives. To prosper and earn a reasonable profit, private sector companies must sell quality goods at reasonable prices. As a result, before making a purchasing decision, companies typically only examine a product's cost, performance, availability, and any impact on future profits. An increasing number of private sector companies, however, are adopting purchasing policies to promote specific social, economic, or environmental objectives. A much larger number of companies, however, are adopting them when they also promote the company's financial objectives.



While many of the companies in this case study adopted environmentally preferable purchasing practices to help improve the environment, this section examines several of the "traditional" business reasons, including:

- Responding to customer interest in "environmentally friendly" products and practices.
- Distinguishing a company and its products from competitors.
- Pursuing cost savings.
- Joining an industry trend.

## Responding to Customer Interest in "Environmentally Friendly" Products and Practices

**Companies are taking steps to ensure their purchasing and manufacturing practices reflect customers' environmental sensitivities.**

Almost every company interviewed for this report referenced anecdotal evidence of increasing customer interest in the environmental performance of companies and their products. As a result, companies are taking steps to ensure their purchasing and manufacturing practices reflect the environmental sensitivities of their customers and that their products incorporate the environmental attributes customers are seeking.

Many companies reported receiving phone calls or surveys from existing and potential customers requesting specific environmental information about their products. **Collins & Aikman** and **Herman Miller** both regularly respond to calls or surveys concerning their products' recycled-content percentages, indoor air quality impacts, and other environmental attributes.

Several companies also mentioned recent consumer surveys that suggest customers are increasingly interested in purchasing "environmentally friendly" products or products from environmentally conscious companies. A 1995 Roper/International Research Associates press release cited by **Anheuser Busch, Collins & Aikman,** and **IBM,** reported that almost two in three people (64 percent) around the world believe "protecting the environment is the most important concern, even at the expense of economic growth." Companies also referenced similar studies indicating that

15 percent of the U.S. population routinely incorporates environmental considerations into purchasing decisions and an additional 33 percent do so occasionally.

**Ben & Jerry's** cited a 1994 study conducted by Cone and Roper that reported that:

- Seventy-eight percent of adults said they were more likely to buy a product associated with a cause about which they care.
- Sixty-six percent of adults said they would be likely to switch brands to support a cause about which they care.
- Fifty-four percent of adults said they would pay more for a product that supports a cause about which they care.
- Thirty-three percent of adults ranked a company's responsible business practices after price and quality as the most important factor in determining whether or not to buy a brand.

**Public Service Electric and Gas Company (PSE&G),** a New Jersey utility company, adopted a "buy recycled" program in December 1997 because polls suggested its customers strongly supported the emerging "green purchasing" trends. Public support for such initiatives led the New Jersey governor to establish an Office of Sustainability, which further encouraged PSE&G's environmental purchasing efforts.

**DaimlerChrysler** referenced similar studies, but expressed some concern that it has not yet seen any indication of a strong correlation between customers' words and customers' actions. The manufacturer mentioned recent surveys reporting that customers claim environmental performance is important before purchasing an automobile, but similar surveys conducted after an automobile purchase place environmental concerns well below other deciding factors such as the vehicle's comfort, size, color, and engine performance. While customer demand is not a primary reason, the company is adopting environmentally preferable purchasing practices for other reasons such as to save costs and increase profits.

## Distinguishing a Company and Its Products from Competitors

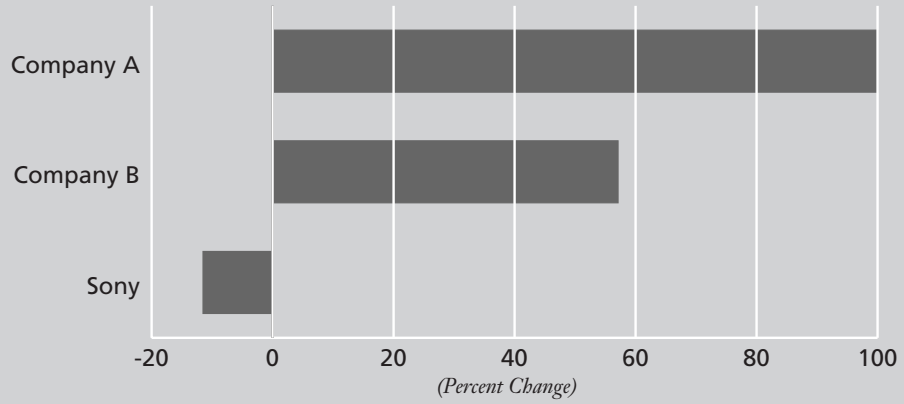
**Environmental performance can affect sales.**

While surveys have not conclusively established a link between customers' words and actions, anecdotal evidence suggests that environmental performance can increase or prevent sales. As a result, companies are beginning to respond to the "green" demands of their customers by adopting environmentally preferable purchasing and manufacturing practices in an attempt to distinguish themselves from competitors.

- In 1994, *Test*, a Dutch consumer magazine, rated **Sony** televisions as a "reasonable" buy while rating televisions made by two other companies as "best buys." The primary difference between the ratings was environmental performance. Following publication of the results, Sony's market share in the Netherlands fell by 11.5 percent. Its competitors' market shares increased by 57.1 and 100 percent, respectively. (See Figure 1 on page 9.)

  That same year, in a separate effort to further demonstrate its commitment to social responsibility and to provide quality products to its customers, Sony launched an ambitious new program—the "Greenplus Project." The project focuses on increasing the environmental performance of Sony's products by

**Figure 1—*1994 Market Share Changes Following Environmental Performance Rating of Televisions***




*After a 1994 European consumer magazine's evaluation of the environmental impacts of major television brands, Sony's regional market share decreased by more than 10 percent. Two of its competitors in the market increased sales by almost 60 and 100 percent, respectively. In 1998, the European magazine again evaluated major television brands. Sony's products were among the highest rated and Sony's market share has increased steadily.*

setting strict environmental criteria that its products must meet. At publication, Sony has more than 500 products registered as "Greenplus" products, which means they meet Sony's strict internal environmental performance criteria.

Although the "Greenplus" program was initiated for social and not economic reasons, Sony is beginning to see some benefits from this effort. In 1998, *Test* magazine rated the environmental performance of Sony's television products more favorably than its competitors, and its market share in the Netherlands has increased steadily.

- Since the summer of 1996, **Volvo** has provided automobile customers in Japan with information on the environmental impacts associated with the manufacture, use, and recyclability of each of its models. Following introduction of the environmental specifications, Volvo's automobile sales in Japan rose 17 percent, from 20,500 units to 24,000 per year. Although it is difficult to quantify any correlation between the increased sales and environmental performance, the company is assuming its products' environmental performance has some impact. As a result, Volvo is now providing information on the environmental attributes of its automobiles in Europe, Australia, and the United States. (For a sample of the environmental specifications Volvo provides, see Figure 2 on page 10.)

*An example of how Collins & Aikman promotes the environmental performance of its carpet.*

- **Collins & Aikman Floorcoverings, Inc.,** the second largest U.S. vinyl floor covering manufacturer, promotes the environmental performance of its products in all of its sales literature and developed a fact sheet specifically citing its product performance as measured against EPA's proposed environmentally preferable purchasing guidance. (See Figure 3 on page 11 for a sample.) To further distinguish itself from its competitors, Collins & Aikman provides customers with a "Sustainable Warranty" pledging to recycle its products at the end of their useful lives so that they never require disposal. Sales have been increasing steadily since Collins & Aikman


# Making Choices for a Better Environment

Volvo's commitment to environmental care covers all phases of the life cycle of an automobile – production, driving, and recycling. It's all part of the ongoing process that helps make your Volvo the high quality automobile you deserve.

As part of our environmental effort, we have developed environmental standards for every Volvo model we make – without compromising the legendary safety, reliability, performance, and comfort that Volvo owners have come to expect. We hope you'll take a moment to review the specifications for this model so you can see how it's possible to be careful of the environment and still produce a better car.

| PRODUCTION | S90/V90 |
|---|---|
| **Plant** | **Torslanda** |
| **Emission of solvents** | 5.06 lbs/car |
| **Water** | |
| Water consumption | 6.41 yd³/car |
| Maximum amount of waste emissions from Volvo to the water recipient regarding: | |
| Nickel | <.039 oz/car |
| Iron | <.130 oz/car |
| Chromium | <.004 oz/car |
| Zinc | <.014 oz/car |
| Phosphate | <.011 oz/car |
| Oils | <.049 oz/car |
| **Chemicals phased out of production:** | |
| Asbestos | ✓ |
| Nonylfenoletoxylates | ✓ |
| Mercury | ✓ |
| Cadmium | ✓ |
| CFC | ✓ |
| Chlorinated solvents | ✓ |
| Tricholorethylene | ✓ |
| PCB | ✓ |
| Halon | ✓ |
| **Waste** | |
| Total recycling excl. metals | 66% |
| Metal waste recycling | 100% |
| Cleaning solvent recycling | 100% |
| Waste excluding metals | 103.4 lbs/car |
| **Energy** | |
| Heating: | |
| Recovered heat spill | 66% |
| Natural gas | 34% |
| Gasol | 0% |
| Oil | 0% |
| Coal | 0% |
| Energy consumption | 1.7 MWh/car |
| Electricity | 1.3 MWh/car |

| DRIVING | | | |
|---|---|---|---|
| **Sales Version** | | **S90** | **V90** |
| **Engine** (liter) | | 2.92 | 2.92 |
| Horse power | | 181 | 181 |
| Transmission | | Automatic | Automatic |
| **Emission control components:** | | | |
| Emission level | | Tier 1 | Tier 1 |
| Catalyst | | 3 way | 3 way |
| Oxygen sensor (two) | | Yes | Yes |
| Exhaust gas recirculation | | No | No |
| Air pump | | Yes | Yes |
| Evaporation canister | | Yes | Yes |
| Diagnostic system | | OBDII | OBDII |
| **Exhaust emissions*:** Standards: (EPA/CARB†) (50,000 mile cert. level) | | | |
| HC (Hydrocarbons) | 0.41/NA/g/mile | .137/NA | .140/NA |
| NMHC (Non methane hydrocarbons) | 0.25/0.25 g/mile | .128/.128 | .121/.121 |
| NMOG (Non methane organic gas) | NA | NA | NA |
| CO (Carbon monoxide) | 3.4/3.4 g/mile | 1.36/1.35 | 1.76/1.76 |
| NOx (Oxides of Nitrogen) | 0.4/0.4 g/mile | .13/.13 | .08/.08 |
| **Fuel consumption**:** | | | |
| City (mpg) | | 18 | 18 |
| Highway " | | 25 | 25 |
| Combined " | | 20 | 20 |
| **CO2 (Carbon dioxide)*:** | | | |
| City (grams/mile) | | 447 | 451 |
| Highway " | | 281 | 289 |
| Evaporation (3 day test)* (grams/test) | | 1.73 | 1.73 |

†Environmental Protection Agency/California Air Resources Board *Test results shown are for a test for a specific sales version. **1998 Model Year EPA fuel economy figures. NA: not applicable

| RECYCLING | All S/V90 models | Percentages vary by sales version |
|---|---|---|
| **Material contents: (% of weight)** | | **Recycling:** |
| Steel | 70% | Marking of plastic material: Yes |
| Aluminum | 7% | **Material recycled today:** |
| Zinc, lead, copper | 3% | Steel, aluminum, copper: 100% |
| Plastic (polymer material) | 9% | **Use of recycled material:** |
| Rubber | 5% | Iron and aluminum (0 -100% depending on component): Yes |
| Glass | 2% | Plastic: No |
| Other | 4% | |



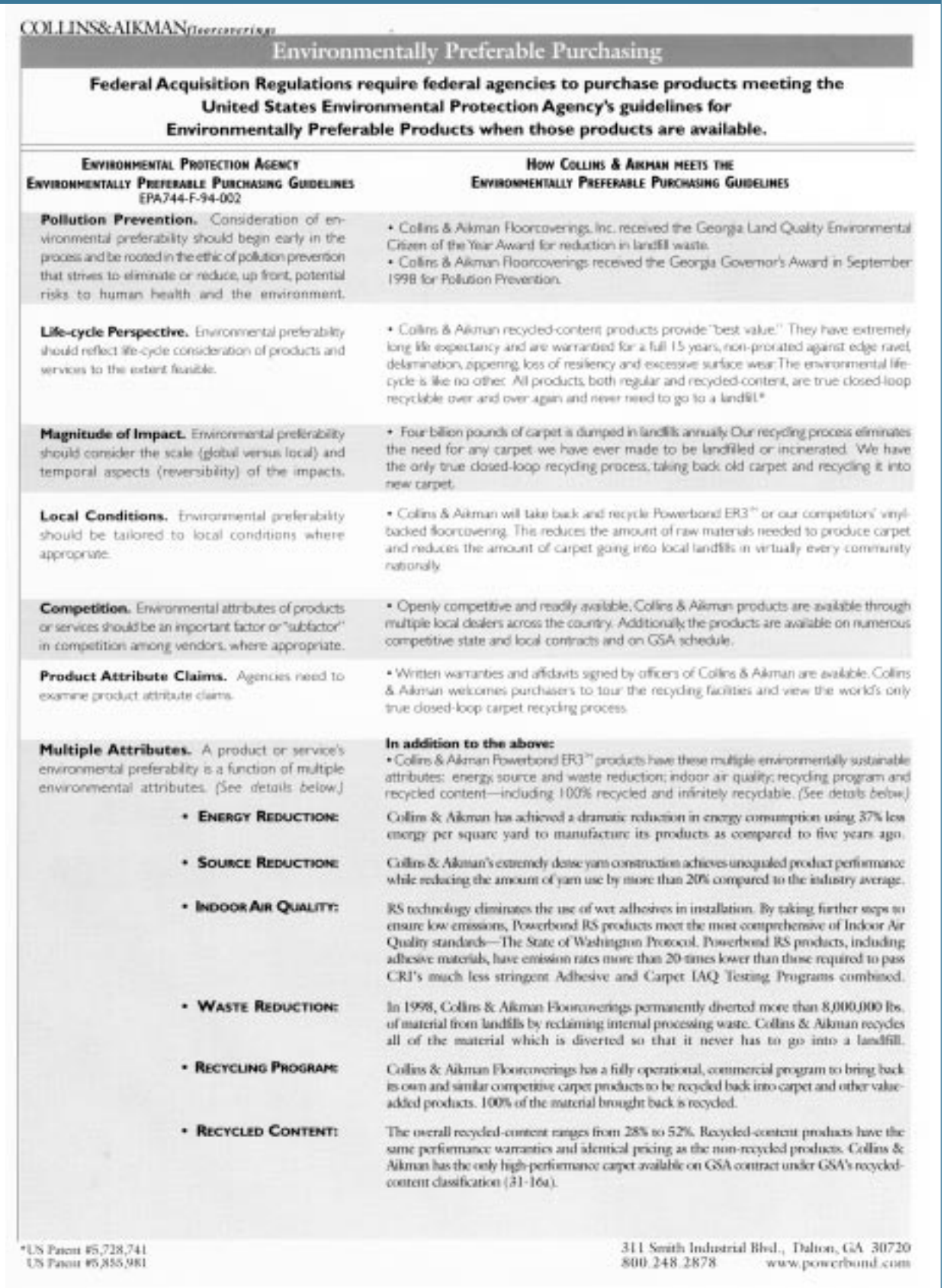
Volvo's pursuit of quality solutions extends to the brochure in your hands. It is printed on recycled paper which as 10% post consumer waste, is fully recyclable and environmentally compatible, right down to the inks and coatings. Drive Safely.

Printed in U.S.A.

VOLVO

Figure 2—*Sales Brochure Providing Environmental Attribute Information*

**Figure 3—*Sales Brochure Providing Environmental Attribute Information***



COLLINS&AIKMAN floorcoverings

## Environmentally Preferable Purchasing

**Federal Acquisition Regulations require federal agencies to purchase products meeting the United States Environmental Protection Agency's guidelines for Environmentally Preferable Products when those products are available.**

| Environmental Protection Agency Environmentally Preferable Purchasing Guidelines EPA744-F-94-002 | How Collins & Aikman meets the Environmentally Preferable Purchasing Guidelines |
|---|---|
| **Pollution Prevention.** Consideration of environmental preferability should begin early in the process and be rooted in the ethic of pollution prevention that strives to eliminate or reduce, up front, potential risks to human health and the environment. | • Collins & Aikman Floorcoverings, Inc. received the Georgia Land Quality Environmental Citizen of the Year Award for reduction in landfill waste.<br>• Collins & Aikman Floorcoverings received the Georgia Governor's Award in September 1998 for Pollution Prevention. |
| **Life-cycle Perspective.** Environmental preferability should reflect life-cycle consideration of products and services to the extent feasible. | • Collins & Aikman recycled-content products provide "best value." They have extremely long life expectancy and are warranted for a full 15 years, non-prorated against edge ravel, delamination, zippering, loss of resiliency and excessive surface wear. The environmental life-cycle is like no other. All products, both regular and recycled-content, are true closed-loop recyclable over and over again and never need to go to a landfill.* |
| **Magnitude of Impact.** Environmental preferability should consider the scale (global versus local) and temporal aspects (reversibility) of the impacts. | • Four billion pounds of carpet is dumped in landfills annually. Our recycling process eliminates the need for any carpet we have ever made to be landfilled or incinerated. We have the only true closed-loop recycling process, taking back old carpet and recycling it into new carpet. |
| **Local Conditions.** Environmental preferability should be tailored to local conditions where appropriate. | • Collins & Aikman will take back and recycle Powerbond ER3™ or our competitors' vinyl-backed floorcovering. This reduces the amount of raw materials needed to produce carpet and reduces the amount of carpet going into local landfills in virtually every community nationally. |
| **Competition.** Environmental attributes of products or services should be an important factor or "subfactor" in competition among vendors, where appropriate. | • Openly competitive and readily available, Collins & Aikman products are available through multiple local dealers across the country. Additionally, the products are available on numerous competitive state and local contracts and on GSA schedule. |
| **Product Attribute Claims.** Agencies need to examine product attribute claims. | • Written warranties and affidavits signed by officers of Collins & Aikman are available. Collins & Aikman welcomes purchasers to tour the recycling facilities and view the world's only true closed-loop carpet recycling process. |
| **Multiple Attributes.** A product or service's environmental preferability is a function of multiple environmental attributes. *(See details below.)* | **In addition to the above:**<br>• Collins & Aikman Powerbond ER3™ products have these multiple environmentally sustainable attributes: energy source and waste reduction; indoor air quality; recycling program and recycled content—including 100% recycled and infinitely recyclable. *(See details below.)* |
| • **Energy Reduction:** | Collins & Aikman has achieved a dramatic reduction in energy consumption using 37% less energy per square yard to manufacture its products as compared to five years ago. |
| • **Source Reduction:** | Collins & Aikman's extremely dense yarn construction achieves unequaled product performance while reducing the amount of yarn use by more than 20% compared to the industry average. |
| • **Indoor Air Quality:** | RS technology eliminates the use of wet adhesives in installation. By taking further steps to ensure low emissions, Powerbond RS products meet the most comprehensive of Indoor Air Quality standards—The State of Washington Protocol. Powerbond RS products, including adhesive materials, have emission rates more than 20-times lower than those required to pass CRI's much less stringent Adhesive and Carpet IAQ Testing Programs combined. |
| • **Waste Reduction:** | In 1998, Collins & Aikman Floorcoverings permanently diverted more than 8,000,000 lbs. of material from landfills by reclaiming internal processing waste. Collins & Aikman recycles all of the material which is diverted so that it never has to go into a landfill. |
| • **Recycling Program:** | Collins & Aikman Floorcoverings has a fully operational, commercial program to bring back its own and similar competitive carpet products to be recycled back into carpet and other value-added products. 100% of the material brought back is recycled. |
| • **Recycled Content:** | The overall recycled-content ranges from 28% to 52%. Recycled-content products have the same performance warranties and identical pricing as the non-recycled products. Collins & Aikman has the only high-performance carpet available on GSA contract under GSA's recycled-content classification (31-16a). |

*US Patent #5,728,741
US Patent #5,855,981

311 Smith Industrial Blvd., Dalton, GA 30720
800.248.2878 www.powerbond.com

began promoting the environmental benefits of its products, although the company has not conducted the necessary research to demonstrate a direct correlation.

- The search to improve the environmental attributes of its own products drives **Canon's** environmentally preferable purchasing program. It believes more and more customers are demanding environmentally friendly products and cites several recent examples of large sales finalized because of its products' environmental attributes.
- **Ben & Jerry's** fought a series of court battles to ensure the right to use product labels to inform customers that its products contain milk and cream from suppliers that do not treat their cows with recombinant bovine growth hormone (rBGH), a synthetic hormone used to increase a cow's milk production by 10 to 15 percent. Ben & Jerry's believes the use of synthetic hormones is an important environmental issue about which its customers should be informed. The company has not attempted to measure the impact, if any, its stand against rBGH has had on sales, but believes its customers expect no less from the company.
- Products containing recycled content or organic cotton are clearly identified in **Patagonia's** catalogs and stores. Patagonia believes these symbols help to inform consumers about important environmental issues and to distinguish its products from its competitors'.

## Pursuing Cost Savings

**Many companies are employing environmentally preferable purchasing principles to increase cost savings.**

Another important reason many companies are employing environmentally preferable purchasing principles is to pursue potential cost-saving opportunities. Environmentally preferable purchasing requires examining all purchases from a new perspective and questioning previously unchallenged assumptions. Adopting an environmental perspective allows companies to discover and avoid previously hidden costs. It requires looking beyond the initial cost of a product or of a procedural change and examining the savings resulting from reduced material handling, reporting requirements, pollution abatement, or disposal costs that could accrue over the next 5, 10, or 20 years.

Companies that have adopted this perspective are proving that "pollution prevention pays." They are profiting from the cost savings that result from eliminating unnecessary purchases, avoiding waste disposal costs, and investing in energy-efficient equipment.

- **DaimlerChrysler** saved almost $45 million and prevented 110,580 tons of pollution in 1997. Most of these savings resulted from careful screening and tracking of all chemical purchases to eliminate excess purchases; substituting less hazardous chemicals when possible, which significantly decreased disposal costs; reducing the number of plastic resins purchased, which reduced costs and increased in-house recycling opportunities; and investing in energy-saving measures.
- **PSE&G** saved more than $2 million by streamlining its purchasing process and reducing the number of its chemical suppliers from more than 270 to only 9. The new system allows PSE&G to avoid excess inventory and drastically reduces disposal costs for outdated or unnecessary chemicals.

- After adopting an aggressive energy-efficiency initiative in 1996, **Anheuser-Busch** expects to keep its utility purchases in 2000 at or below its 1995 utility costs. The company anticipates annual savings of $60 million by 2000. Most of these savings will result from large capital investments to decrease utility consumption and cost. At present, the company is on schedule to meet its goal.
- **Collins & Aikman** reduced the amount of yarn in some of its carpet lines by more than 10 percent without adversely affecting performance. In addition to lower material costs, this change also allows Collins & Aikman to manufacture the same amount of carpet with significantly less energy.
- Several companies, including **Anheuser-Busch, The Body Shop, Herman Miller, IBM,** and **McDonald's,** are purchasing lighter weight or reduced packaging to contain their products, which significantly reduces product packaging volume, saves money, and reduces impacts on solid waste disposal systems.

## Joining an Industry Trend

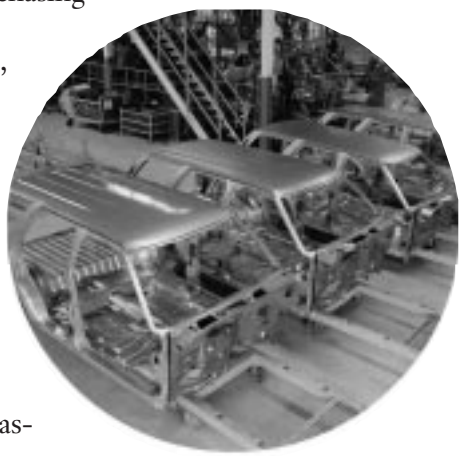
**Supplying environmentally preferable products will be an important industry objective in the next century.**

Several companies suggested that supplying environmentally preferable products will be an important industry objective in the next century. Supplying "environmentally friendly" products requires companies to purchase and use environmentally preferable components in manufactured products and to identify vendors to stock environmentally preferable products. In an attempt to identify such products, more than 1,800 Japanese companies and other organizations have joined the Japanese government's Green Purchasing Network (GPN) to learn more about environmentally preferable purchasing and to share product information. GPN has sold more than 10,000 copies of its Environmental Data Books, which compare the environmental attributes of products. (Please visit <www.wnn.or.jp/wnn-eco/gpne> for additional information on GPN.)

Similarly, more than 368,000 people refer to information published by Green Seal, a nonprofit organization providing environmental product recommendations in 33 product categories. Green Seal developed a 110-page buying guide to share its environmental product and services research. It also helps its more than 450 Green Seal member companies evaluate their current purchases and implement green buying programs. The organization publishes a monthly *Choose Green Report*, which lists products Green Seal has identified as environmentally preferable. (Please visit Green Seal's Web site <www.greenseal.org> for additional information.)

# An Overview of Private Sector Environmentally Preferable Purchasing Activities

Many companies have incorporated environmentally preferable purchasing principles into their routine operations, but very few have formal environmentally preferable purchasing programs in place. Instead, companies are developing and refining critical components of what could become formal programs. This section provides an overview of these components and of company activities to implement them. The components include the following:



- Developing lists of chemicals to avoid.
- Creating lists of approved products.
- Establishing single environmental attribute purchasing programs.
- Considering multiple environmental attributes when making purchasing decisions.
- Working closely with suppliers to enhance environmental performance.

In addition, though not covered in detail in this report, companies are making efforts to better track chemical and waste streams and to define the total cost and environmental impact of materials, processes, and products. These measures significantly aid company efforts to buy and manufacture environmentally preferable products.

## Developing Lists of Chemicals to Avoid

**Several companies have expanded their efforts beyond regulatory compliance.**

In the mid 1970s, the U.S. federal government began regulating the manufacture, use, and disposal of numerous chemicals because of concern for potential adverse human health or environmental effects. As a result, many companies in a wide variety of industries began carefully tracking and modifying their chemical purchases. While these early steps toward environmental purchasing were instituted to comply with federal laws and regulations, several companies have expanded these efforts beyond their original compliance concerns to save money or to incorporate a broader environmental ethic.

- **DaimlerChrysler** maintains several databases to screen more than 1,700 chemicals and chemical compound groups. This database tracks information concerning the environmental health and safety impacts of more than 760 substances used or considered for use by the company. More than 100 of the chemicals are identified as having potential adverse effects or excessive handling or disposal costs based on toxicity, volume used, associated emissions, number of operations using the substance, potential worker risks, reporting requirements, carcinogen potential, mutagen potential, adverse effects on the nearby Great Lakes, and potential for additional regulations. As a result, purchases of these chemicals are either prohibited or are being reduced significantly.

- **Volvo** has a similar program to track chemical usage. It employs a database identifying the environmental impacts of more than 5,000 chemical products. From this list, Volvo has developed two lists—a black and a grey list. The black list includes chemicals that the company has banned from use in its products. The grey list includes a similar list of chemicals for which Volvo is attempting to locate more environmentally benign substitutes. Volvo shares this list with all of its suppliers to ensure none of the components it purchases contain any of the banned substances. (For a copy of Volvo's black and grey lists, please see Figure 4 on pages 18 and 19.)

- As part of its *Green Procurement Standards*, **Canon** includes two lists containing more than 300 chemicals. The lists include 270 chemicals used in company facilities as part of routine plant operations (e.g., research and development, production, cleaning, and maintenance) and 49 chemical substances remaining in its products. Chemicals on the lists are prohibited or are being reduced by the company.

- **Sony** uses a classification system to prohibit the use of certain chemicals. It classifies production process chemicals into four groups based on the degree of hazard posed to human health and the environment. It prohibits the use of Class 1 chemicals, which the company classifies as the most hazardous. Sony plans to eliminate the use of all Class 2 chemicals and reduce its use of Class 3 chemicals 50 percent by March 2001. Class 4 chemicals will continue to be supervised and controlled carefully.

- In an attempt to increase the environmental preferability of its products, **Collins & Aikman** prohibits the purchase of raw materials containing known hazardous or high levels of volatile organic compounds (VOCs). As a result, product VOC emission tests result in no detectable formaldehyde, styrene, 4-PC, or known human carcinogens at product installation, and VOC emissions, including the products' preapplied adhesives, are minimal.

- Other manufacturers focus efforts on avoiding or reducing smaller sets of specific chemicals. **The Body Shop,** for example, avoids the use of polyvinyl chloride (PVC), a common plastic resin, out of concern for the dioxins produced as part of the manufacturing process and for the potential adverse health effects from chemicals routinely added to the plastic to improve performance.

- As part of **Ben & Jerry's** efforts to avoid products linked with dioxin releases, the company avoids chlorine-bleached paper products whenever possible. As mentioned previously, Ben & Jerry's also avoids the purchase of milk from dairy farmers who treat their cows with rBGH. The company is concerned because rBGH has been linked to decreases in the nutritional value of the milk, reduced shelf life, and adverse effects to the health of the cows. Additionally, Ben & Jerry's purchases organic cotton t-shirts for use by "scoop shop" employees and for retail sale because it believes organic cotton farming techniques, which eliminate the use of chemical pesticides, are environmentally preferable to other cotton farming methods.

## Creating Lists of Approved Products

**Several companies have simplified the purchasing process by developing approved product lists.**

One of the many challenges companies face when implementing an environmentally preferable purchasing program is determining which products on the market are environmentally preferable. While one approach is to eliminate the purchase of all products containing certain chemicals or possessing specific adverse environmental attributes, another method is to develop a list of approved products. Some companies have found that developing an approved products list simplifies the purchasing process because employees simply consult the list before making a purchase, which eliminates the need to screen products against a list of prohibited attributes.

- **Canon, Sony, NEC, Tokyo Gas,** and numerous other Japanese companies have created lists of approved products that were developed based upon each product's environmental attributes. Before making a purchase, employees must first consult the list of approved products to determine if the company has established a preference for a particular product.

  **Tokyo Gas,** for example, lists 23 office products it determined to be environmentally superior. The company first focused on the most frequently used office products such as copy paper, stationery, post-it notes, erasers, and pencils and pens, but is currently expanding its list. Like many of the Japanese companies creating similar lists, Tokyo Gas based its environmental product assessments on information provided by GPN. (See page 13 for additional information on GPN.)

- Approved environmental product lists appear to be a less common solution in the United States, although two companies—**Perrigo** and **Ben & Jerry's**—purchase cleaning products from lists that were developed based on the products' environmental attributes.

  **Perrigo** wanted to improve indoor air quality, reduce the number of cleaning products purchased, and minimize the environmental impacts of the cleaning process used in its facility. After reviewing the material safety data sheets (MSDSs) and interviewing the suppliers and manufacturers of numerous cleaning products, the company developed a list of attributes including VOC content, pH level, toxicity, flammability, chemical content, use of regulated materials, reduced packaging, cleaning effectiveness, and price. Perrigo then compared commercially available cleaning products and identified a range of products meeting its environmental, price, and performance requirements.

  As a result of its environmental purchasing effort, Perrigo is saving more than $35,000 annually. The company, for example, significantly decreased the number of cleaning products it needed to purchase. While it previously purchased seven different glass cleaners, Perrigo now purchases only two, which are just as effective as the ones they replaced. Reducing the number of products saves the company money by allowing it to purchase the remaining products in bulk.

  The company saves additional money by consolidating its purchases with a single supplier. The supplier only provides cleaning products meeting Perrigo's environmental health and safety standards. Relying on a single supplier decreases administrative oversight and paperwork by reducing hundreds of monthly cleaning product invoices from multiple suppliers to a single monthly invoice from a single supplier.

## Figure 4—*Volvo's List of Chemicals To Avoid*

VOLVO Environmental care

5.1 Volvo's Black list of chemicals (Equal to Volvo STD 1009,1)

**Substances or groups of substances which must not be used within Volvo**
New products containing listed substances must not be put into use. Phase-out plans with final date of use are required for substances which were not fully phased out when introduced on the list. Exceptions may be made for substances used in processes where legal or safety requirements limit Volvo's possibilities of prohibiting the use. In such situations, precautionary measures shall be taken to prevent injurious effects on humans or the environment. (Valid through 1999).

| Group | Substance name | CAS no.[1] | Example of type or area of use | Risk[2] |
|---|---|---|---|---|
| **Amines** | Phenyl-β-naphthylamine | 135-88-6 | Antioxidant | C |
| | Methylene dianiline | 101-77-9 | Hardener, in paints | C |
| **CFC compounds** | CFC 11 | 75-69-4 | Cooling agent, "freon" | O |
| | CFC 113 | 76-13-1 | Cooling agent, "freon" | O |
| | CFC 114 | 76-14-2 | Cooling agent, "freon" | O |
| | CFC 115 | 76-15-3 | Cooling agent, "freon" | O |
| | CFC 12 | 75-71-8 | Cooling agent, "freon" | O |
| **Fibres** | Asbestos | Several | Insulating material | C |
| **Flame retardants** | Polybromin. biphenyls (PBB) | Several | In plastics, electronics | E, N, C |
| | Polybromin. diphenylethers | Several | PBDEs, plastics, textile | E |
| **Rubber-chemicals** | Aminobiphenyl (+ salts) | 92-67-1 | Dye | C |
| | Benzidine (+ salts) | 92-87-5 | Dye | C |
| | Thiocarbamide | 62-56-6 | In rubbers and plastics | A, C |
| **Halons** | Halon 1211 | 353-59-3 | Fire retardant | O |
| | Halon 1301 | 75-63-8 | Fire retardant | O |
| | Halon 2402 | 124-73-2 | Fire retardant | O |
| **Chlorinated hydro-carbons** | HCFC[3] | Several | Blowing agent, solvents | O |
| | PCB | 1336-36-3 | Insulators, oils, etc | E |
| | Hexachlorobutadiene | 87-68-3 | Solvent | E, T |
| | Carbon tetrachloride | 56-23-5 | Solvent | O, C, T |
| | Methylene chloride | 75-09-2 | Solvent, in fuel | C |
| | 1,1,1-Trichloroethane | 71-55-6 | Solvent | O |
| | Tetrachloroethylene | 127-18-4 | Solvent | C |
| **Metals** | Lead chromate | 7758-97-6 | Pigment | C, A, E, N |
| | Cadmium + Cd-compounds[4] | Several | Pigment | C, E |
| | Mercury + Hg-compounds | Several | In electric equipment | N, E |
| **Lubricants** | Chlorinated paraffins | Several | In oils, fire retardants | E |
| | Mineral oil with PAHs[5] | Several | Base oils, etc | C |
| **Surface active agents** | 4-Nonyl and 4-Octyl phenol | Several | Used as ethoxylates | E |
| | Nonyl- and Octylphenolethoxy-lates | Several | Cleaning agent | E |

1) CAS no= Chemical Abstract Service number
2) A=Allergy, C=Cancer, T=Toxic, E=Environmentally hazardous, N=Neurotoxic, O=Ozone depletion, R=Reproductive hazards
3) HCFC used as blowing agent in foams or as solvent is covered by the black list. HCFC as refrigerant on grey list
4) The use of cadmium in batteries is covered by the grey list and other applications by the black list.
5) Oil is considered to contain PAH if standard test (IP 346 method) produces the result "DMSOextract>3%". Applicable to base oils used in lubricants and other chemical products.

## Figure 4 (cont.)—*Volvo's List of Chemicals To Avoid*

VOLVO Environmental care

5.2 Volvo's Grey list of chemicals (Equal to Volvo STD 1009,11)

**Substances or groups of substances the use of which should be limited within Volvo**
Products containing listed substances shall be kept under surveillance and less hazardous alternatives be introduced when technically and economically possible. Before new products containing one or more substances from the list are to be used, an assessment should be made regarding the use of less hazardous products. Exceptions may be made for substances used in processes where legal or safety requirements limit Volvo's possibilities of prohibiting the use. In such situations, precautionary measures shall be taken to prevent injurious effects on humans or the environment. (Valid through 1999)

| Group | Substance name | CAS no.[1] | Example of type or area of use | Risk[2] |
|---|---|---|---|---|
| **Biocides** | Chlorocresol (meta-) | 59-50-7 | In lubricants, paints | E, A |
| | Chlorocresol (ortho-) | 1570-64-5 | In lubricants, paints | E (probably) |
| | Chloromethyl isothiazolinone | 26172-55-4 | In aqueous solutions | A |
| | Methyl isothiazolinone | 2682-20-4 | In aqueous solutions | A |
| | Thiram (TMTD) | 137-26-8 | Also as biocide | A, E |
| | Organotin comp. (trialkyl) | Several | In cooling water | E |
| **Flame retardants** | Brominated (not PBB+PBDE) | Several | In textiles, plastics | E (possibly) |
| | Triphenyl phosphate | 115-86-6 | Also as antioxidant | E |
| **HCFC[3] compounds** | HCFC 141 b | 1717-00-6 | Cooling agent | O |
| | HCFC 142 b | 75-68-3 | Cooling agent | O |
| | HCFC 22 | 75-45-6 | Cooling agent | O |
| **Hardeners** | 2,4-Toluene diisocyanate | 584-84-9 | PUR-foams, adhesives. | A (asthma) |
| | 2,6-Toluene diisocyanate | 91-08-7 | PUR-foams, adhesives. | A (asthma) |
| | TGIC | 2451-62-9 | Powder paints | T (mutagen) |
| **Complex mixtures** | Colophony (rosin) (>1%) | Several | Adhesives, paints | A |
| | Creosote | Several | Distillation product, filler | C, E |
| | Coal tar | Several | Distillation product, filler | C |
| **Solvents** | Benzene | 71-43-2 | Petrol, solvent | C |
| | 1,2-Dichloroethane | 107-06-2 | Additive for fuels | C |
| | 2-Ethoxyethanol | 110-80-5 | Solvent | R |
| | 2-Ethoxyethanol acetate | 111-15-9 | Solvent | R |
| | n-Hexane | 110-54-3 | Solvent | N |
| | Chloroform | 67-66-3 | Solvent | C, R |
| | Limonene (>1%) | Several | Solvent | A, E |
| | 2-Methoxyethanol | 109-86-4 | Solvent | R |
| | 2-Methoxyethanol acetate | 110-49-6 | Solvent | R |
| | Trichloroethylene | 79-01-6 | Solvent | C |
| **Metals** | Arsenic + compounds | Several | Wood preservative | N, C, E |
| | Lead + compounds | Several | Pigment in paints | N, E |
| | Cadmium in batteries[4] | Several | Accumulator | C, E |
| | Chromium ($6^+$) compounds[5] | Several | Surface treatment | A, C, E |
| | Strontium chromate | 7789-06-2 | Pigment | C |
| | Zinc chromate | 13530-65-9 | Pigment | C |
| **Plasticizers** | Butyl benzyl phthalate | 85-68-7 | Adhesives, paints | E |
| | Dibutyl phthalate | 84-74-2 | Adhesives, paints | E |
| | Dimethyl phthalate | 131-11-3 | In hardeners, paints | T |
| **Acids** | Hydrofluoric acid (HF) | 7664-39-3 | Pickling, etching | T |
| **Surface active agents** | DHTDMAC | 61789-80-8 | Softener | E |
| | DSDMAC | 107-64-2 | Rinsing agent | E |
| | DTDMAC | 68783-78-8 | Vehicle care products | E |
| **Additives** | Diphenylamine | 122-39-4 | In lubricants | E, T |
| | Sodium nitrite[6] | 7632-00-0 | Anti-rust agent | C (+ amine) |

1) CAS no. = Chemical Abstract Service number
2) A=Allergy, C=Cancer, T=Toxic, E=Environmentally hazardous, N=Neurotoxic, O=Ozone depletion, R=Reproductive hazards
3) HCFC used as blowing agent in foams or as solvent is covered by the black list. HCFC as refrigerant on grey list
4) The use of cadmium in batteries is covered by the grey list and other applications by the black list
5) With surface treatment of fasteners (chromating), the limit found in Volvo STD 5713,102 applies
6) Nitrite can form carcinogenic nitrosamines if amines are present.

- When **Ben & Jerry's** decided it wanted to use environmentally friendly cleaning products in its more than 170 U.S. "scoop shops," it contacted an outside environmental consulting firm to recommend appropriate, natural, nonchlorinated products. The consulting firm examined many of the same attributes identified by **Perrigo** and recommended a line of cleaning products currently used in all of Ben & Jerry's U.S. franchises.

While using an approved product list makes selecting products significantly easier for many users, some company representatives suggested that lists can quickly become outdated. New products are continually introduced that incorporate additional environmental attributes, enhance existing attributes, improve performance, or reduce costs. In order for a list to be truly effective, it must be updated regularly.

## Establishing Single Environmental Attribute Purchasing Programs

When incorporating environmental concerns into purchasing policies, many companies begin with an emphasis on a single environmental attribute. The "buy recycled" programs adopted by many companies are an example of a single attribute program. They focus on purchasing products with the highest recycled-content levels.[2] Recycled-content is one of the attributes identified in EPA's EPP guidance. Other single attribute programs focus on energy- and water-efficiency, which also are promoted by the EPP Program.

### Buy Recycled Programs

**Several companies have found "buy recycled" programs easy to introduce.**

Several companies have found "buy recycled" programs easy to introduce because employees and customers recycle at home and have been exposed to "buy recycled" messages since the early 1980s. Additionally, many manufacturers and suppliers promote and supply a wide variety of recycled-content products.

- Since 1990, **McDonald's** and its more than 24,000 franchise restaurants have spent nearly $3 billion on the purchase of recycled-content products. At the time its program was initiated, recycling markets were poorly developed, but McDonald's pledged to spend $100 million on recycled-content products to help strengthen the demand for recovered materials. The company was particularly interested in increasing the demand for postconsumer materials, which include the materials collected by local curbside recycling programs. The company is currently spending $350 million a year for a wide variety of recycled-content products including dining trays, construction materials, chairs, tables, carpeting, insulation, play ground equipment, tiles, napkins and other paper products, and packaging. (See Figure 5 on page 21.)

2. Recycled content is the focus of EPA's Comprehensive Procurement Guidelines (CPG) Program, which identifies products that can be made from recycled materials and recommends recycled-content percentages. For additional information on the CPG program, please visit <www.epa.gov/cpg>.

**Figure 5—*Examples of McDonald's Recycled-Content Product Purchases***

| Representative Recycled-Content Items | Total Percent Recycled Content | Average Percent Postconsumer Content |
|---|---|---|
| 4-Hole Drink Carrier | 100 | 51 |
| Big Mac™ Container | 36 | 31 |
| Carry-Out Bag | 100 | 50 |
| Corrugated Paperboard | 40 | 25 |
| Deluxe Line Sandwich Containers | 36 | 31 |
| Happy Meal™ Bags | 65 | 65 |
| Happy Meal™ Cartons | 100 | 60 |
| In-Store Trays | 50 | 15 |
| Jumbo Fries Container | 36 | 31 |
| Jumbo Roll Tissue | 100 | 40 |
| Napkins | 100 | 30 |
| Roll Towels | 100 | 30 |
| Sandwich Wraps | 20 | 0 |
| Small Generic Carton | 50 | 30 |
| Toilet Tissue | 100 | 30 |
| Tray Liners | 100 | 75 |

(Source: McDonald's Waste Reduction Action Plan, May 12, 1998)

When McDonald's initiated its "buy-recycled" program, the company was unsure how to locate recycled-content products. It placed ads in trade journals and in the national press expressing its desire to purchase recycled-content products. As manufacturers identified themselves and their products, McDonald's entered them into a database. The database includes more than 700 companies, and McDonald's has shared it with more than 250 other organizations seeking to increase their purchases of recycled-content products. The database, however, is no longer maintained for external use.

- While very few companies have programs as large as **McDonald's,** numerous companies are increasing their purchases of recycled-content office supplies as the prices for recycled-content products become more competitive with their virgin material counterparts. **Collins & Aikman,** for example, has a preferential purchasing program for recycled-content office supplies when price and performance are equal to competing products. The company estimates its current recycled-content purchases include approximately 20 percent of its general office products and 75 percent of its paper supplies.

## Recycled-Content Office Supplies

At Sun Microsystems, more than 50 recycled-content office supplies can be ordered by anyone in the company, including:

- Envelopes
- Hanging file folders
- Message pads
- Note books
- Note pads
- Paper clips
- Pencils
- Plastic file dividers
- Post-it® notes
- Rulers
- Scissors
- Three ring binders
- Transparency film

- **Sun Microsystems** is making it easier for employees to purchase recycled-content office supplies by identifying products' recycled-content percentages in its internal electronic office supply catalog. Employees order office supplies as needed from the catalog, and the items are paid for out of the employees' departmental office supply accounts. Although Sun's current office products supplier provides a wide variety of recycled-content office products (see sidebar), it stocks relatively low volumes of the products. The supplier's low purchasing volume prevents it from earning volume discounts and makes the recycled-content products more expensive to its customers. As a result of the price difference, Sun's recycled-content purchases account for only 3 percent of its office supply purchases. For future office supply contracts, however, Sun might factor the ability of the potential office supply vendor to provide recycled-content products into its vendor selection process.

- In 1997, **Herman Miller** provided each of its 7,000 employees with a recycled-content leather toiletries bag as a holiday gift. The bags were manufactured from the company's own furniture manufacturing scraps. The gift helped the company promote its own "buy recycled" program and demonstrate that recycled-content products perform as well as virgin material products.

## Energy- and Water-Efficiency Programs

**In addition to achieving environmental benefits, companies are saving money.**

Recycled-content is not the only single environmental attribute companies are examining. Many companies also are considering energy- and water-efficiency and discovering significant cost savings in addition to the environmental benefits.[3]

- **Anheuser-Busch** is expecting to save 500 million gallons of water, 2 trillion British thermal units of energy, and $60 million per year by 2000 as a result of its emphasis to reduce utility usage and cost. Its purchase of energy-efficient chillers for its SeaWorld of Florida theme park is saving more than 1.5 million kilowatt-hours and about $100,000 in energy costs annually. The company is expecting to save an additional $40 million a year as a result of its purchase and installation of bio-energy recovery systems. (See Figure 6 on page 23 for additional information.) In addition to the cost savings, decreased energy consumption reduces the pollution associated with electricity generation.

- Through its extensive energy conservation program, **IBM** saved $27 million in 1997. The savings resulted from a continued focus on and investments in energy-efficient manufacturing technologies.

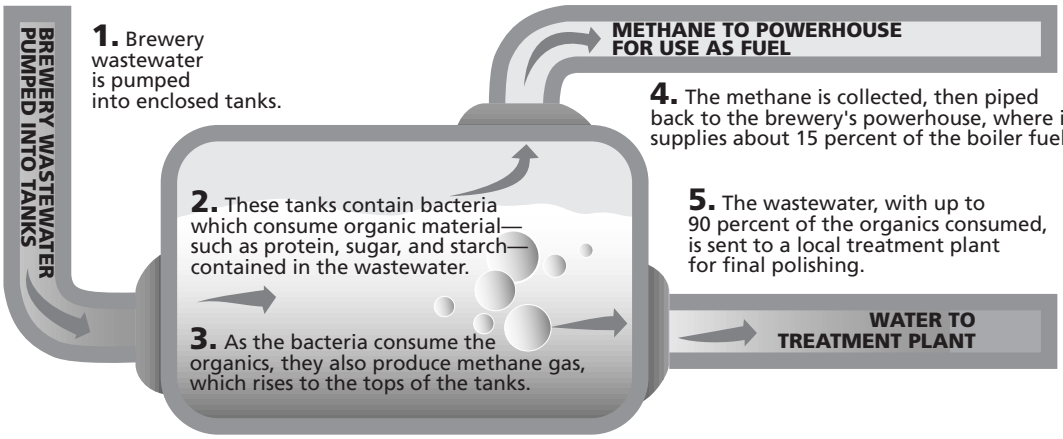
3. EPA's Energy Star Program and the U.S. Department of Energy's Federal Energy Management Program (FEMP) both promote the environmental and cost savings associated with energy- and water- efficiency. As with recycled content, EPA's EPP Program also promotes energy- and water-efficiency as important environmental attributes. For additional information on Energy Star, please visit <www.epa.gov/energystar>. For information on the FEMP program, visit <www.eren.doe.gov/femp>.

- In 1993, **McDonald's** joined EPA's Green Lights program, which encourages organizations to conserve energy by purchasing and installing energy-efficient lighting wherever it is economically feasible. Since joining, McDonald's has converted 50 percent of its U.S. restaurants, including all of its company-owned and one-third of its franchised restaurants. The average converted restaurant annually saves 30,500 kilowatts of energy, reduces its lighting electricity bill by 40 percent, and prevents carbon dioxide emissions equivalent to taking seven cars off the road. The company's efforts led EPA to recognize McDonald's as the 1998 Green Lights Retail Partner of the Year.[4]

  Through The Energy Efficient McDonald's (TEEM) program, the company is designing and building highly energy-efficient restaurants that use 15 to 20 percent less energy than a typical McDonald's. Each TEEM restaurant involves the purchase of an array of energy-saving technologies including skylights, computer-controlled heating and air conditioning systems, advanced energy-efficiency equipment, and sensors to regulate energy use.

**Figure 6—*Anheuser-Busch's Bio-Energy Recovery System***

In an attempt to simultaneously reduce energy consumption and the quantity of waste solids that must be disposed of, **Anheuser-Busch** began developing a bio-energy recovery system in 1983. The system converts wastewater into energy and reduces the quantity of waste solids by 50 percent. It is expected to save more than $40 million a year by 2000.




*How it Works*

Brewery wastewater, which includes organic materials such as protein, sugar, and starch, is pumped into tanks containing bacteria. The bacteria consume up to 90 percent of the organic material, producing methane gas that rises to the top of the tanks. The methane gas is collected and piped to the brewery's boilers, providing about 15 percent of each brewery's fuel needs. After leaving the tanks, the brewery wastewater requires minimal final treatment. This treatment process reduces the total energy required for wastewater treatment by approximately 75 percent.

4. For additional information on EPA's Green Lights Program, visit <www.epa.gov/greenlights>.

## Considering Multiple Environmental Attributes When Making Purchasing Decisions

**There are multiple environmental concerns with every purchasing decision.**

While many successful environmental purchasing programs emphasize single environmental attributes, such as recycled content or energy efficiency, companies are increasingly examining multiple environmental attributes before making purchasing decisions. Examining multiple attributes allows companies to further define the economic and environmental differences between products and services when making purchasing decisions. Some companies only examine environmental attributes of importance to the company, while others rely on detailed lifecycle assessments to compare products. A lifecycle assessment attempts to measure all of a product's environmental impacts throughout the product's life cycle including raw material acquisition, manufacture, transportation, use, and disposal.

- To encourage employees to examine the environmental impacts of their purchasing decisions, **Warner Bros.** established a companywide purchasing policy emphasizing multiple environmental considerations. As a result of this policy, the company's purchase of environmentally preferable products is increasing. Several departments within the studio are purchasing "environmentally friendly" products including paper, janitorial supplies, construction materials, transportation products, computers, copiers, and printers. The policy asks employees to maximize one or more of the following attributes:

  - Postconsumer recycled-content
  - Recyclability
  - Durability and reusability
  - Reduced packaging
  - Decreased use of toxic chemicals in manufacturing

  (For a copy of Warner Bros.' purchasing policy, see Figure 7 on page 25)

- After examining its parts washing operations from a multiple environmental attribute perspective, **Anheuser-Busch,** over a 3-year period, reduced the associated costs by 30 percent and the associated hazardous waste generation and air emissions by 80 percent. When examining alternative cleaning products, the company developed a spreadsheet comparing product attributes such as pH, flash point, price, and whether the product was solvent- or water-based. It selected products it might not have considered otherwise that benefitted both the company's bottom line and the environment.

- In 1991, **Patagonia** commissioned a lifecycle analysis of its four major fabrics (i.e., polyester, nylon, cotton, and wool) that showed cotton to be more environmentally harmful when compared with the other fabrics. The most environmentally damaging stages in a cotton garment's life cycle, according to the study, are home laundering, farming, dyeing, and finishing. As a result of the lifecycle analysis, Patagonia began purchasing organically grown cotton for use in its cotton products, which significantly reduced the adverse environmental impact of an important segment of its product line. Organic cotton eliminates the use of pesticides or herbicides and requires significantly less water to produce. Although it is more expensive than other commercial cotton, Patagonia believes its customers equate organic cotton with improved quality and are willing to pay a little extra for it. Patagonia also is using the results of additional lifecycle analyses to reduce the environmental impacts of

**Figure 7—*Sales Brochure Providing Environmental Attribute Information***

## WARNER BROS. PURCHASING POLICY

Warner Bros. recognizes that purchasing practices can have a profound impact on the environment. Purchasing environmentally will help create and sustain markets for products and technologies that reduce waste, conserve resources, prevent pollution, and enhance worker health. Warner Bros. has already established itself as a leader in environmental purchasing, and we are committed to continued growth in this area. Please make sure your department adheres to the following policies and plan your purchases environmentally.

I. Purchase "environmentally friendly" products which include one or more of the following attributes:
   A. High recycled post-consumer content
   B. Recyclability
   C. Durability/re-usability
   D. Reduced packaging
   E. Decreased use of toxic chemicals in manufacturing (e.g., chlorine, CFCs)

II. Include the following criteria in the selection of vendors:
   A. Commitment to supply and increase availability of environmentally sound products
   B. Willingness to urge their suppliers to improve their products and go beyond minimum standards
   C. Flexibility in reducing packaging
   D. Environmentally sound practices in manufacturing (pollution, toxins, employee safety)

III. If you find that the cost of an environmentally preferred product exceeds that of a standard product, call Shelley Levin Billik at ext. 4-3470 for assistance, before placing your order.

IV. Foster internal communication and education about environmental purchasing practices which will include, but not be limited to:
   A. Purchasing choices, volume and pricing updates to executive management
   B. Education and information to studio employees and purchasing staff on company purchasing practices (e.g. instruction, newsletters, product labels)
   C. The inclusion of environmental criteria in all bid processes

V. Require construction and demolition contractors to include in the bid process measures for salvaging and recycling of construction and demolition (C&D) waste, proper handling of solid and hazardous waste, and tonnage reports. In addition, Warner Bros. will require that recycled and non-toxic construction materials, as well as energy efficiency features, be incorporated as bid alternates in contracts for new construction and renovation projects.

printed on 20% post-consumer recycled paper

its dyes and the metal and plastic components in its products. It shares the environmental impacts of its products and the company's attempts to minimize them with customers in its catalogs and on its Web site.

- Using its Environmental Priority Strategies (EPS) tool, **Volvo** compares environmental lifecycle impacts of different materials before purchasing them for use in its automobiles. EPS allows the company to measure each component's energy and resource consumption and air, land, and water emissions throughout the component's production, use, and ultimate disposal. Based on the information contained in EPS, Volvo assigns each component an environmental impact index. When designing a new automobile, Volvo computes an Environmental Load Unit (ELU) for each new product design based on the environmental impact indices for each component included in the design. The ELUs enable the company to compare different materials' environmental effects and make its design and purchasing decisions accordingly.

- **Herman Miller** conducts an abbreviated lifecycle analysis on all of its new products to quantify the environmental and economic impacts of its designs. The results of the lifecycle analyses help the company determine what materials to incorporate into its products. As a result of one analysis, the company redesigned a chair to eliminate the use of foam rubber. Instead, Herman Miller designed the chair with a plastic and fiberglass mesh frame, which it determined reduced the product's environmental impact and improved comfort. Lifecycle analyses also have encouraged the company to switch to water-based and powder-based coating systems instead of more traditional painting or staining processes; to increase its use of recycled wood; and to continue its policy of using wood from sustainably managed forests.

- With databases containing information on more than 800,000 products and components, **DaimlerChrysler** examines multiple environmental attributes when making purchasing decisions. The databases include information on toxicity, chemical exposure and release, and recyclability and provide the manufacturer with an opportunity to compare products based on potential environmental hazards and costs. Evaluating environmental information is part of the company's lifecycle cost analysis. The analysis looks at environmental and occupational health and safety impacts as well as recycling considerations balanced against traditional business decision drivers, such as cost and performance, to improve the decision-making process. Once a product has been identified as preferable based on the lifecycle analysis, the database ensures that the preferred product is purchased.

- **Canon** formally announced its multiple attribute green purchasing program in 1997 with the publication of the *Green Procurement Standards* and the *Green Procurement Standards Guidebook*. These books include an index for evaluating purchases based on the potential environmental impacts of both the product and the product's manufacturer. The index rates potential suppliers' corporate environmental structure along 35 parameters in 7 categories and examines 28 product-specific parameters in 11 categories. A product's environmental preferability is based on the overall combined score. Canon established a preference for products with scores above a predetermined threshold. (See box below for additional information.)

## A Multilayered, Multiattribute Approach

When making environmentally preferable purchasing decisions, **Canon** examines the environmental performance of both the product and the product's manufacturer and assigns an overall environmental score. The product-specific portion of the score is based on 28 attributes in the following 11 categories:

- Legal and voluntary environmental regulations.
- Resource conserving features.
- Energy saving features.
- Environmental impacts during use.
- Hazardous chemical substances contained in products.
- Recyclability.
- Proper treatment of used product.
- Minimal packaging.
- Lifecycle assessment.
- Eco-labels.
- Product information disclosure.

The product manufacturer's score is calculated from 35 parameters in the following seven categories:

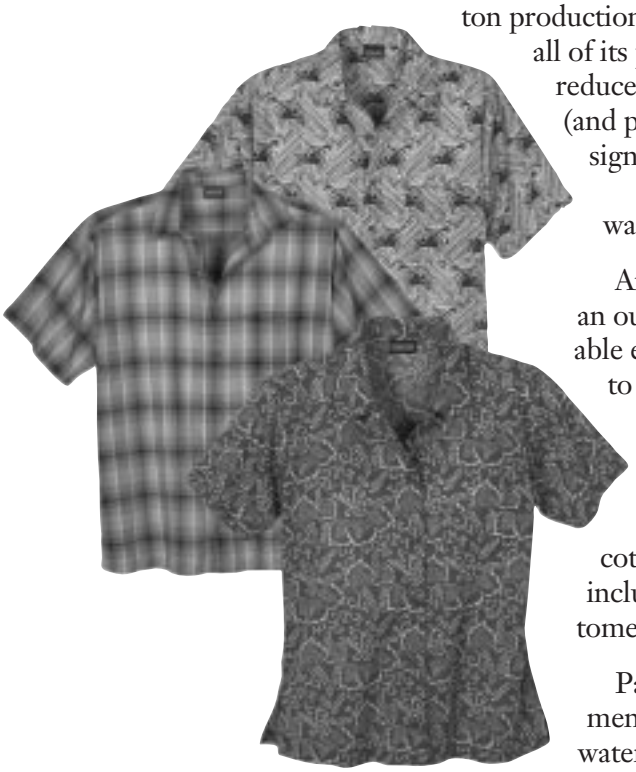
- Corporate environmental philosophy.
- Environmental planning.
- Corporate organization with respect to environmental issues.
- Environmental management systems.
- Environmental evaluations.
- Corporate environmental reporting.
- Employee environmental education programs.

A product's overall environmental preferability score is computed by combining the product-specific and product manufacturer scores.

## Resolving Competing Attributes

Once companies begin examining multiple environmental attributes for the products they manufacture and begin looking for ways to maximize those attributes, they sometimes discover that improving one environmental aspect harms other environmental aspects or adversely affects other important product attributes like price or performance. Consequently, companies must determine which attributes are most important to their customers and to the company. As described below, companies have made these determinations in a variety of ways.

- Following its lifecycle analysis on the environmental impacts of modern cotton production, **Patagonia** debated whether to switch to organic cotton in all of its product lines. While making the switch would significantly reduce the company's environmental "footprint" without reducing (and perhaps even increasing) product quality, organic cotton was significantly more expensive. Some of the extra costs would have to be passed onto the customer or Patagonia would have to wait until organic cotton was less expensive.



*Patagonia believed its customers would appreciate the benefits of organic cotton clothing.*

After a great deal of internal debate, Patagonia decided that as an outdoor company committed to making the outdoors an enjoyable experience, it had to make the switch. Enabling its customers to enjoy the outdoors means ensuring there will always be an outdoors to enjoy. It also was convinced that its customers would understand the environmental benefits of using organic cotton and would be willing to pay a little more to do so. In its catalogs, Patagonia presents its use of organic cotton as part of its overall commitment to quality, which includes helping to preserve a quality outdoor environment. Customers have responded positively to the new product lines.

Patagonia recognized, however, that determining the "environmentally correct" course of action is not always easy. While water-based garment coatings are available to protect color and enhance durability, Patagonia continues to use solvent-based coatings for these purposes. Less VOCs are released and fewer toxins are used with water-based coatings, but they are not yet durable enough to meet Patagonia's performance standards. From an environmental perspective, Patagonia believes the solvent-based coating is more environmentally friendly because of the increased durability it provides. While water-based coatings would improve the environmental performance of the product, the reduction in quality would cause the garment to wear out far sooner than it would have otherwise. Patagonia believes its environmental and performance requirements are interrelated and, therefore, the company has determined it is unnecessary to reduce its performance requirements to meet its environmental objectives.

- **IBM** also balances competing environmental, cost, and performance issues. In the mid-1990s, the packaging department significantly reduced the packaging required to safely ship IBM products, which generated enormous cost savings and environmental benefits by reducing material consumption. IBM published this information in its *Environmental Packaging Guidelines*, which it shares with its suppliers.

To further improve the environmental performance of its products, IBM is increasingly designing its products to be easily disassembled so that equipment can be easily upgraded or recycled if it becomes outdated. As a result, products are less sturdy and require additional packaging during shipping. Although IBM might use additional packaging materials for some new designs, it believes the overall environmental performance of its products has improved. IBM had to balance the positive environmental attributes associated with products that could be easily disassembled and recycled with the potentially negative environmental impacts of increasing its packaging.

In another example of environmental tradeoffs, IBM considered requiring its suppliers to eliminate polyurethane foam from the packaging used to ship components to the company in favor of a biodegradable material IBM thought might be more environmentally preferable. Upon further investigation, IBM determined that the environmental improvement resulting from the switch to the biodegradable packaging material was only marginal. While such an action would have slightly reduced the environmental impacts associated with polyurethane foam, it also would have eliminated the revenue IBM earns from recycling polyurethane. After examining the environmental and cost benefits, IBM decided against the new requirement.

- When **Ben & Jerry's** was evaluating paper for its corporate letterhead, it wanted to use the most environmentally preferable paper available. Many people encouraged the company to use a 100 percent recycled-content paper with high postconsumer content or a tree-free paper made from hemp or kenaf. Others promoted the use of totally chlorine free (TCF) paper, which eliminates the use of chlorine compounds to bleach the paper. Ben & Jerry's determined that eliminating chlorine, which has been linked with dioxin contamination, was the most important environmental issue associated with paper production. At the time of the decision, TCF paper was not available containing recycled-content and was not yet used by tree-free paper manufacturers. As a result, Ben & Jerry's selected a TCF paper over the other "environmentally friendly" alternatives.

- In the past at **Sun Microsystems,** each corporate headquarters employee could order personalized corporate stationary that included the employee's name, title, address, and phone number. It was traditionally available only in quantities of 500 sheets or more. Sun recently modified this process and now uses a standard letterhead for each Sun location. Employees are no longer able to purchase customized stationary and can order smaller amounts of stationary at one time. This significantly reduces the waste and costs previously generated when an employee moved or changed positions. When the company reevaluated its corporate letterhead, it decided not to purchase recycled-content paper for purely aesthetic reasons. Although various recycled-content options are available, Sun decided to continue using a specific high-grade paper that does not contain recycled content.

- During **PSE&G's** investigation of environmentally benign cleaning solvents, it examined several nonhalogenated, or less toxic, solvents. Among the products it compared, the nonhalogenated solvents were all more flammable. In the environment in which the solvents were to be used, flammability was a greater concern than toxicity. PSE&G, therefore, selected a less-flammable solvent over competing products with other favorable environmental attributes.

- As part of its social and environmental objectives, **The Body Shop** attempts to avoid the use of animal-derived ingredients and petroleum-based and synthetic chemicals whenever possible. Every product, however, must meet stringent performance requirements, which sometimes requires the use of chemicals it would otherwise avoid. For example, The Body Shop uses synthetic musk and whale oils because it believes the synthetic alternatives are more environmentally preferable than the natural alternatives, which would involve destroying the animals from which the oils would be collected.

  The Body Shop also compared the environmental impacts associated with biodegradable and recyclable product packaging. While biodegradable packaging sounded environmentally preferable, the company determined that most biodegradable products will only degrade in very specific conditions and that those conditions are not likely to occur in modern landfills. Other biodegradable products degrade into potentially hazardous constituents. After examining the available biodegradable packaging alternatives, the company decided not to use biodegradable packaging but to continue providing its products in refillable and recyclable containers.

## Working Closely with Suppliers to Enhance Environmental Performance

**Suppliers provide additional opportunities to improve a company's environmental performance.**

In order for many companies to implement environmentally preferable purchasing activities, they must work closely with suppliers to ensure they adequately understand the company's performance, price, and environmental requirements. Numerous companies now survey suppliers to assess their ability to help the company achieve its environmental objectives.

- **The Body Shop's** Ethical Audit and Environmental Departments developed a ratings system to evaluate existing and potential suppliers. Suppliers are evaluated on a number of environmental and social justice criteria and rated on a scale from one to five stars. Vendors with higher ratings receive a larger percentage of The Body Shop's business. **Anheuser-Busch, Ben & Jerry's, Canon, Collins & Aikman, Herman Miller,** and **Sony** have similar evaluations in place although each uses slightly different performance measures.
- **Volvo** has a set of supplier requirements for its more than 500 worldwide suppliers. (See Figure 8 on page 31 for additional information.) In addition, Volvo requires each supplier to complete a detailed environmental self assessment to ensure they are familiar with and are in compliance with Volvo's environmental policies.

"We expect an environmental commitment from absolutely everyone who is interested in selling their products to us."

—Lena Gevert, Volvo Cars purchasing department

**Figure 8—*Environmental Requirements for Volvo Group Suppliers and Contractors***

The Volvo Group Environmental Policy presents the commitment to environmental work within the Volvo Group. Environment together with Quality and Safety is a core value for Volvo.

Suppliers of production materials, equipment, services and consumption goods play a vital part in the development and production of Volvo products. A true holistic approach means that Volvo commitment on environmental care must be reflected in the supplier network.

All suppliers and contractors must have knowledge of the Volvo Group Environmental Policy coupled with internal working procedures including the following aspects:

- an environmental management system. Suppliers of production materials and major contractors must be certified—or have a time plan for certification—according to ISO 14001 or EMAS. All other suppliers and contractors must be able to report on their environmental work, including organization, fulfillment of legal demands, and environmental results.
- objectives and action plans for the reduction of environmental impact. Best industry standard should be the ultimate objective.
- follow-up of development activities regarding environmental care within its industry and maintain an open dialogue with Volvo concerning achievements and trends.
- environmentally related data from production and products must be available for Volvo to enable environmental assessments.
- chemicals or materials involved in products or services delivered to a Volvo company must fulfill the requirements stated in the Volvo "black" and "grey" lists. Any presence of listed chemicals must be accounted, and have phase-out plans.
- planning and choice of packing materials, and handling of excess and rejected materials in such a way that the total environmental impact is minimized for the delivered products and services.
- consideration of recyclability and the use of recycled materials when selecting materials and design solutions.

These requirements are part of the Volvo Group Purchase Agreement for production material. Any deviations must be documented. The application for other suppliers and contractors are clarified in the attachment. Each Volvo company is responsible for the implementation and follow-up.

Authorized 10 September 1998

AB Volvo

Arne Wittlöv

Executive Vice President, Chairman of Global Issue Board Strategic Sourcing

- **DaimlerChrysler** requires its suppliers to disclose their material content in self-disclosure certifications. These statements and the data are reviewed by the company. After comparing analyses, each vendor is assigned an environmental rating. The environmental rating is part of the total rating of the supplier. In this way, environmental issues are part of the total evaluation of the supplier and become part of the normal business decision-making process. As a general rule, the higher the rating, the more likely it is the supplier will continue to receive significant business.

**Suppliers are partners in the production process.**

Companies also are redefining their relationships with their vendors. Many companies do not perceive their vendors solely as product suppliers but as partners in the production process. As a result, companies and their vendors are working together to save money and improve environmental performance.

- In an attempt to further promote environmentally conscious manufacturing and purchasing practices, **Herman Miller** holds semiannual conferences for its employees and invites all of its suppliers. The conferences include nationally recognized experts in waste minimization, pollution prevention, lifecycle analysis, environmental design, and packaging.
- **PSE&G** and **Perrigo** both developed similar relationships with their chemical suppliers. The supplier for each company tracks the companies' on-site chemical inventories to maintain proper inventory levels. If an employee mistakenly orders a product that is already on site, the vendor will alert the employee rather than delivering additional product.

  Perrigo took an additional step by establishing financial incentives for its suppliers to reduce the quantities of chemicals purchased. The company shares the cost savings resulting from decreased chemical purchases with the chemical suppliers. As a result, it is in the suppliers' financial interest to minimize sales. This, in turn, saves additional money for the company because it no longer pays to acquire unneeded chemicals and it significantly reduces the costs to dispose of outdated overstock.
- When **Collins & Aikman** was trying to reduce the volume of VOCs in its carpet products, it worked closely with several suppliers. In an attempt to meet the more stringent environmental requirements, a few suppliers completely reformulated existing products or modified manufacturing processes. Working closely with its suppliers provided Collins & Aikman with opportunities to improve its products' environmental attributes and the environmental performance of the company and its suppliers in ways that it might not have achieved otherwise.
- To increase its recycling rate and decrease its waste volume, **Anheuser-Busch** worked closely with its suppliers to establish a standard for the plastic strapping used to bind shipments of incoming materials. Prior to this effort, the company was unable to recycle the strapping material in any significant volume because of the wide variety of colors and plastic resins each supplier used. Recognizing that it was buying not only the product, but also the strapping, Anheuser-Busch worked with its suppliers to establish two, color-coded, single-resin plastics for use in strapping materials. The color-codings indicate resin type so that the resins can be easily separated for recycling. As a result of its effort and the cooperation of its suppliers, Anheuser-Busch is currently recycling more than 700 tons of plastic strapping a year. This program and

others have significantly increased the company's recycling rate and decreased its waste disposal volume and costs.

- **Ben & Jerry's** worked closely with one of its suppliers to reduce the packaging associated with its berry shipments. It encouraged the supplier to use containers that can be shipped back to the supplier, cleaned, and used again.

  Taking this concept one step further, Ben & Jerry's worked with one of its paper suppliers to develop its ECO-pint ice cream containers. According to the company, the unbleached paperboard containers eliminate the adverse environmental impacts associated with chlorine bleaching and the resulting dioxin emissions. (See below for more information.)

- Like **Ben & Jerry's**, **Anheuser-Busch** encourages its suppliers to ship materials in reusable totes. The totes save both Anheuser-Busch and its supplier money and eliminate the cost and potential liability associated with the disposal of empty drums and other single use containers.

## Ben & Jerry's ECO-Pint Packaging

Ben & Jerry's, the Vermont-based, all natural ice cream manufacturer, has joined the ranks of companies offering its products in packaging the company considers environmentally preferable. Beginning in February 1999, the company began distributing its top-selling World's Best™ Vanilla in its new unbleached paperboard ECO-Pint.

For more than 2 years Ben & Jerry's has been working to ensure its new ECO-Pints meet the company's environmental and commercial demands, as well as Food and Drug Administration requirements. When the company first decided to pursue this project, chlorine-free pulp could only be found in Europe and importing it was prohibitively expensive. The company, however, encouraged a U.S. paperboard mill to manufacture the chlorine-free packaging material.

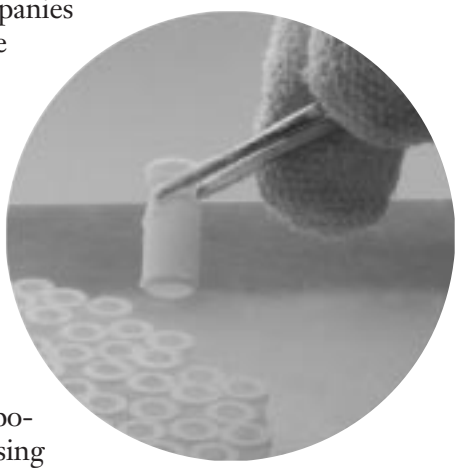
ECO-Pints are constructed from unbleached brown (kraft) paperboard with an exterior clay coating on which the company logo is printed. Ben & Jerry's plans to convert a significant number of its containers to the ECO-Pint by the end of 1999.

According to the company, standard paper manufacturing uses chlorine compounds as a bleaching agent. The bleaching process can discharge millions of gallons of wastewater containing chemicals such as dioxins, which are carcinogenic and highly toxic. Avoiding products that are produced using chlorine is part of Ben & Jerry's ongoing environmental purchasing program.

The company hopes the ECO-Pint will become the industry standard for ice cream containers and is sharing its information on unbleached packaging materials with any interested parties. For more details, visit the Ben & Jerry's Web site at <www.benjerry.com>.

# Conclusions

This report describes a wide variety of approaches private sector companies are using to implement environmentally preferable purchasing. The practices of companies described provide insights and lessons that might be valuable for others interested in environmental purchasing. The following conclusions can be made based on the information in this report:



## Private Sector Companies Are Increasingly Adopting Environmentally Preferable Purchasing Practices

This report includes numerous examples of companies voluntarily incorporating environmentally preferable purchasing principles into their purchasing policies because it makes good business sense. More than 368,000 consumers refer to Green Seal's *Choose Green Reports* and more than 1,800 Japanese organizations have joined GPN. Other business groups, including Business for Social Responsibility (<www.bsr.org>) and the Alliance of Motion Picture and Television Producers, are developing materials promoting environmental purchasing to their members. These numbers and trends illustrate increasing interest in environmentally preferable purchasing initiatives.

## Environmental Purchasing Has Economic and Environmental Benefits

Applying environmentally preferable purchasing principles has saved companies money. Examining environmental impacts throughout a product's entire life cycle can help companies identify opportunities to reduce costs. It also can provide companies with cost-neutral opportunities to improve environmental performance.

Additionally, companies employing environmentally preferable purchasing principles are significantly reducing their energy- and water-consumption, decreasing their use of limited natural resources, reducing waste, and minimizing the use of potentially hazardous substances. All of these actions benefit the environment and also might benefit a company's bottom line.

## Companies Are Actively Promoting Environmental Purchasing

Companies are increasingly promoting the environmentally preferable attributes of their products. They also are encouraging customers to consider environmental attributes when making purchasing decisions. **McDonald's** encourages consumers to "buy recycled" by providing information on tray liners and other paper products used in its stores. **Volvo, Collins & Aikman,** and **Patagonia** all routinely provide environmental information on the products they sell in their sales literature.

## Different Companies Can Reach Different Environmental Purchasing Decisions

Different companies can reach different purchasing decisions even when faced with the same set of environmental information. Environmentally preferable purchasing is a process; it is not an outcome. Consequently, the results might not be the same for every company. All businesses face different price and product performance requirements and different local environmental concerns that can lead companies to make different determinations about the environmental preferability of their purchases.

## Environmental Purchasing Will Continue To Expand

While many companies and individual consumers already recognize and enjoy the benefits of environmentally preferable purchasing, many more are just now learning about them. As additional companies and individuals learn the important advantages it offers, environmentally preferable purchasing will continue to expand. Increasing numbers of purchasers will demand products that provide superior performance at a reasonable cost and with minimal adverse environmental impacts.

In addition, as more and more entities adopt environmentally preferable purchasing practices, it becomes increasingly easier for others to do so. By promoting environmentally preferable purchasing throughout the federal government, EPA is making it easier for nongovernment entities and individuals to identify and purchase environmentally preferable products. The process works both ways because the environmentally preferable purchasing interests and practices of private sector companies also are making it easier for federal agencies to purchase environmental products. The U.S. Department of Interior, for example, will begin pilot testing biodegradable plates and soup bowls it deems environmentally preferable. This would have been less likely without the purchasing power and interests of private sector companies with similar concerns stimulating the demand for and availability of such products. As a result, the economic and environmental advantages of environmentally preferable purchasing will continue to expand.

"Our environmental purchasing efforts and the efforts of others are helping to expand markets for environmental products and are making it easier for others to purchase such products. Hopefully, as more and more companies adopt similar initiatives, the number of "environmentally friendly" products will continue to increase and it will be even easier for everyone to find competitively priced environmental products."

— Bob Langert, McDonald's Corporation, Director of Environmental Affairs

# Appendix: Description of Participating Companies

The companies that participated in this case study represent a broad spectrum of companies from a variety of industries. This appendix provides a brief overview of each company and provides Web site addresses to obtain additional information.

ANHEUSER-BUSCH COMPANIES

Anheuser-Busch Companies, Inc., is the world's largest beer brewing company with more than 100 production, entertainment, and service facilities, more than 24,000 employees, and yearly gross sales of almost $13 billion. In operation since 1852, Anheuser-Busch has led the brewing industry in sales since 1957. Worldwide, Budweiser is brewed in more than 10 countries and distributed in more than 80. For additional information, please visit <www.anheuser-busch.com>.

BEN&JERRY'S
VERMONT'S FINEST • ICE CREAM & FROZEN YOGURT

Ben & Jerry's is a leading maker and distributer of quality all-natural ice cream products. Ben & Jerry's was founded in 1978 by childhood friends Ben Cohen and Jerry Greenfield with an initial investment of $12,000. Today, Ben & Jerry's employs more than 800 people with net annual sales exceeding $200 million. Ben & Jerry's ice cream products are distributed in all 50 states with more than 120 "scoop shops" in 20 states and Washington, DC. Internationally, Ben & Jerry's scoop shops can be found in Canada, Israel, and the Netherlands. For additional information, please visit <www.benjerry.com>.

THE BODY SHOP
*Skin & Hair Care Products*

The Body Shop is a maker of high-quality skin and hair care products. It strives to use natural ingredients in all of its products. The Body Shop originated in the United Kingdom and currently has more than 1,500 branches in 47 markets throughout the Americas, Europe, and Asia. The Body Shop ranks second in specialty cosmetics retail sales. For additional information, please visit <www.the-body-shop.com>.

Canon

Canon is a worldwide leader and provider of home, office, and industrial technology products. Canon's dedication to chemistry, electronics, and optical and mechanical sciences research has made them a leading technology supplier. Canon Group Companies employs more than 10,000 people at more than 20 companies throughout North, Central, and South America and the Caribbean. It is a multibillion dollar corporation providing its customers with the industry's latest electronic products. For additional information, please visit <www.canon.com>.

COLLINS&AIKMAN
*floorcoverings*

Collins & Aikman manufactures innovative, durable, and quality floor covering products engineered to perform well in high-traffic environments. The company was founded in 1964 and has since become a well-known, well-respected leader in the floor covering industry. Collins & Aikman is not only committed to producing quality products, it also is committed to providing its employees with a safe and healthy working environment. For additional information, please visit <www.powerbond.com>.

HermanMiller

Herman Miller is the second largest manufacturer of office furniture in the United States and has been nationally recognized for its environmental stewardship and its innovative designs. In fact, some of its products have become permanent exhibits in major museums such as the New York Museum of Modern Art and the Smithsonian Institute. In 1998, Herman Miller generated revenues totaling $1.72 billion and currently has 6,500 employees spanning 40 countries. For additional information, please visit <www.hermanmiller.com>.

DAIMLERCHRYSLER

DaimlerChrysler, a maker of automobiles and transportation products and services, is the resulting union between North America's Chrysler Corporation and Western Europe's Daimler-Benz. The merging of the two industry giants in 1998 produced the third most profitable company in the world with total revenues of EUR 131.8 billion in the first year alone. The company currently has 441,000 employees with manufacturing plants across 34 countries. For additional information, visit <www.daimlerchrysler.com>.

IBM

IBM was founded in 1911 to manufacture clocks, scales, and punch card tabulators. Today, IBM is a multinational information technology company providing high-quality advanced computer products throughout the world. As the world leader in new patents, IBM is continually at the forefront of research and development. IBM currently employs more than 265,000 people in more than 150 nations with total revenues exceeding $78 billion. For additional information, please visit <www.ibm.com>.


McDonald's is the world's leading food service retailer with more than 24,000 restaurants in more than 110 countries. In 1997, the 12,380 U.S. McDonald's franchises and company-owned restaurants earned more than $17 billion. Approximately 85 percent of the McDonald's restaurants in the United States are owner-operated franchises. For additional information, please visit <www.mcdonalds.com>.


NEC is recognized as a worldwide leader in high technology and offers a wide range of products and services in communications, computer peripherals, semiconductors, and personal computers. In 1998, NEC generated more than $37 billion in revenues and currently has 152,000 employees, 118 manufacturing plants in 20 countries, and more than 15,000 products. For additional information, please visit <www.nec.com>.


A manufacturer of durable and high-quality outdoor apparel, Patagonia was named one of Fortune 500 magazine's "100 Best Companies to Work for in America" in 1998 and 1999. Patagonia has approximately 1,000 employees and 18 retail stores worldwide with offices in North America, Europe, and Japan. In 1998, the company generated more than $165 million in revenue. For additional information, please visit <www.patagonia.com>.


Perrigo is the leading manufacturer of generic and "store brand" pharmaceuticals, personal care, and nutritional products in the United States. The company has more than 11 manufacturing facilities across the country occupying a total of 2 million square feet. In 1998, the company generated revenues of more than $903 million. For additional information, please visit <www.perrigo.com>.


Public Service Electric and Gas Company (PSE&G), a subsidiary of the Public Service Enterprise Group, is one of the top ten largest combined electric and gas companies in the United States. PSE&G is New Jersey's oldest and largest regulated utility. It is the major supplier of electricity and gas in New Jersey, servicing 2.2 million customers in more than 300 urban, suburban, and rural communities. For additional information, please visit <www.pseg.com/pse-g>.

SONY

Sony Corporation is a leading manufacturer of audio, video, communications, and information technology products for the consumer and professional markets. It generated more than $52 billion in revenues worldwide in fiscal year 1998. It also is one of the leading music, motion pictures, television production, and computer entertainment companies in the United States, employing more than 25,000 employees. For additional information, please visit <www.sony.com>.

Sun microsystems

Sun Microsystems Inc., is a leading provider of high-quality hardware, software, and services for establishing intranets. The company was founded in 1982 and has grown to a Fortune 500 company with more than $9.5 billion in revenues, 26,000 employees, and operations in 150 countries. For additional information, please visit <www.sun.com>.

TOKYO GAS

With more than 12,000 employees and more than 218,000 miles of gas lines, Tokyo Gas is Japan's largest distributor of processed, centrally supplied natural gas. The company serves more than 8 million customers in Japan and generated more than $1 billion in revenues in 1998. For additional information, please visit <www.tokyo-gas.co.jp>.

VOLVO

Volvo maintains a strong share of the U.S. automobile market and is one of the world's leading manufacturers of heavy commercial vehicles such as trucks, buses, construction equipment, and propulsion systems for marine and industrial applications. The company has more than 70,000 employees with assembly plants located in Europe, North and South America, Asia, and Australia. Approximately 90 percent of sales are outside of Sweden, where its' corporate headquarters are located. For additional information, please visit <www.volvo.com>.


Warner Bros., a subsidiary of Time Warner, is a media and entertainment company with interests in filmed entertainment, television production and broadcasting, recorded music, and cable television programming. It also operates a chain of specialty retail stores worldwide. For additional information, please visit <www.wb.com>.

We want to hear from you! Please tell us about your environmentally preferable purchasing activities and efforts. We are collecting and sharing information, tools, and hints about what works and what doesn't, as environmentally preferable purchasing evolves and expands. Please contact the EPP program by e-mail, regular mail, or fax:

Environmentally Preferable Purchasing Program

U.S. Environmental Protection Agency

401 M Street, SW. (7409)

Washington, DC 20460

e-mail: epp.pilot@epa.gov

FAX: 202 260-0178

United States
Environmental Protection Agency
(7409)
Washington, DC 20460