LEADING BY EXAMPLE

HOW BUSINESSES ARE EXPANDING THE MARKET FOR ENVIRONMENTALLY PREFERABLE PAPER

The Alliance for Environmental Innovation

A Project of the Environmental Defense Fund and The Pew Charitable Trusts

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A Report by

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The Alliance for Environmental Innovation, created in partnership with The Pew Charitable Trusts, works with business to create direct and measurable improvements in the environment and business practices. We live in an age that demands creativity in response to environmental problems. By forging direct, face-to-face relationships with individual businesses, the Alliance blazes a new path toward environmentally sound, cost-effective, sustainable solutions. We seek to catalyze new ways for the business community to address environmental issues. Most important, this approach—working toward win–win, leadership solutions—is a powerful way to achieve important results.

Fred Krupp, Executive Director, Environmental Defense Fund

The Alliance for Environmental Innovation is the product of a unique partnership between two institutions that are committed to finding cost-effective, practical ways to help American businesses improve their environmental performance. It is a powerful partnership. By combining the experience and resources of one of the nation's largest environmental philanthropies with one of the country's most respected environmental organizations, the Alliance has a unique ability to assist businesses to better integrate environmental concerns and criteria into their mainstream operations. Although government will always play an important role in helping to set and enforce environmental standards, it is increasingly apparent that additional efforts, beyond the regulatory system, are needed to encourage and assist businesses to reduce environmental impacts. The Alliance was established for this purpose and represents a potentially important tool for helping both the environmental and business communities achieve common goals in the years ahead.

Joshua Reichert, Director, Environment Program,
The Pew Charitable Trusts

INTRODUCTION

Most businesses use paper. Some use a lot. In the past few years, a number of leading companies have made innovative changes in their use of paper that reduce the environmental impacts of paper manufacture and disposal *and* support their business objectives. In this report, we briefly describe how five companies are expanding the market for environmentally preferable paper. We hope that the examples they have set will make it easier for other companies to do the same.

The companies featured in this report are:

Bank of America Corporation
Ben & Jerry's Homemade, Inc.
McDonald's Corporation
Time Inc.
United Parcel Service

This report does not cover everything these companies have done in the paper arena, but describes their major initiatives and *how* they were put in place.

Environmental Opportunities in Paper Purchasing

The environmental impacts of using paper occur across the paper "life cycle"—from forests, to pulp and paper mills, to points of use, to landfills and recycling centers. With each of these impacts comes an opportunity for positive environmental change, change that in many cases can either cut costs or be cost-neutral and can lead to better purchasing practices. Businesses that use paper do not have to tackle every issue at once; the important thing is to decide where your company can make a difference and then get to work. Opportunities for expanding the market for environmentally preferable paper lie in several areas.

Using Less Paper. The United States produces and consumes about one-third of the world's paper. Also known as "source reduction," using less paper can take many forms.

McDonald's, for example, "lightweighted" its french fry cartons and medium-size bags, eliminating 1,850 tons of paper packaging per year. United Parcel Service (UPS) introduced a two-way reusable overnight-shipping envelope. Every envelope that is reused cuts in half the amount of paper required to package shipments. BankAmerica, prior to its merger with NationsBank, employed information technology to replace printed stock items with electronic communications and "print-on-demand" publications and forms. The bank's contracts with major suppliers of forms provided a financial incentive

for the suppliers to help the bank find ways to reduce the quantity bought. As one purchasing official at the bank noted, "When you cut out paper, you cut out cost."

Recycling and Buying Recycled. Collecting paper for recycling and buying paper with postconsumer recycled content go hand-in-hand. Ultimately, one cannot work without the other. Recycling has many environmental benefits. It creates an alternative source of fiber that reduces the overall demand for wood and lessens the pressure to convert natural forests to tree plantations. At the mill, manufacturing paper from recycled content is generally a cleaner, less resource-intensive process than making paper from wood fiber, since much of the work of separating fibers from wood, bleaching the pulp, and so on was done the first time around. Finally, well-designed recycling programs, especially in the commercial sector, can reduce the costs of trash collection and disposal and extend the life of available landfills.

McDonald's and UPS are buying increasingly larger amounts of recycled paper: McDonald's uses recycled content in almost half of its food packaging; UPS recently increased the recycled content in all its overnight-shipping packages by an average of 22%. Bank of America Corporation has initiated a nationwide paper recycling program, the legacy of parts of both merger partners' earlier paper recycling efforts. Depending on paper prices, the bank can actually earn money by recycling paper.

Cleaner Paper Manufacturing

Manufacturing paper requires large amounts of wood, water, energy, and chemicals and creates substantial waste by-products. Pulp and paper mills release harmful emissions into the air from the combustion of wood and fossil fuels and from the pulping, bleaching, and chemical-recovery processes. Paper manufacturing is the fourth largest source of the type of air pollutants that contribute to respiratory problems. Water pollution from pulp and paper mills is also significant. Among the pollutants are large quantities of "conventional" pollutants like suspended solids and oxygen-depleting substances, which can harm or kill fish and other aquatic organisms. Mills that use chlorine or chlorine-containing compounds to bleach pulp release chlorinated organic by-products, which may include dioxins and furans. Where possible, companies can reduce these impacts by choosing white paper bleached using more benign methods or by replacing their white paper with off-white, tan, brown, or gray paper. Many of these alternatives are also available with a large percentage of recycled content.

UPS has committed to eliminating the use of bleached paper in all its overnight-shipping packages. Ben & Jerry's reduced the environmental impact of its pint ice-cream container by switching from a bleached to an unbleached container, which is brown on the inside but maintains its outside appearance because the package graphics are printed on a white clay coating.

When the use of white paper is essential, as is the case for printing magazines and books, companies can purchase paper that is bleached using a manufacturing process that fully or

partially substitutes oxygen or oxygen compounds (ozone, hydrogen peroxide) for elemental chlorine or chlorine compounds (sodium hypochlorite, chlorine dioxide). Time, for example, imports bleached paper for its magazines from a Swedish paper manufacturer that uses a totally chlorine-free bleaching process.

Better Forest Management Practices

Not all paper can be 100% recycled, so no matter how good your company is at "buying recycled," some paper will likely contain virgin fiber (fiber from trees). The wood used to make virgin paper fiber is drawn from approximately 500 million acres of land in the United States, an area almost three times the size of Texas. The way these forests are managed has major consequences for endangered species and other wildlife, streams and rivers, fisheries, the quality of outdoor recreation, and the preservation of natural communities that compose America's "natural heritage," such as ancient forests and coastal wetlands.

While some aspects of forest management can be complex, companies that purchase paper have found ways to collect information from their paper suppliers, seek expert opinions, and buy preferentially from manufacturers that follow the best forest management practices.

Time conducts annual reviews of its suppliers and rewards those that demonstrate environmentally superior performance on a range of activities, including forest management. McDonald's is developing a forestry scorecard that will rate its suppliers based on their forestry management policies and operations.

Techniques for Success: What These Companies Have in Common

The companies described in this report come from a wide range of business sectors. Each has changed its paper use practices in innovative ways that positively affect the environment and their business. The specific improvements they have made reflect the services and products that these firms offer. However, these five companies have several important characteristics in common:

- They are brand leaders that understand that environmental innovation can be consistent with business innovation.
- They have made a commitment to increase their knowledge of the environmental as well as economic and practical issues associated with the manufacture, use, and disposal of paper. To achieve this goal, the firms have worked with experts in the paper industry, other companies that are seeking to purchase environmentally preferable paper, and environmental organizations. As a result, these purchasers have developed a better understanding of their paper suppliers and their purchasing options.
- They have sent clear, consistent signals to their suppliers about the types of environmentally preferable products they are seeking to buy and the importance of environmental factors in their purchasing decisions. In some cases, achieving a

breakthrough has taken years, but once it happened, these companies backed up their words with their purchasing dollars.

For More Information

This introduction provides a summary of complex environmental issues related to the manufacture, use, and disposal of paper. Further research is recommended in order to understand the full range of issues and steps your company can take to change the market for environmentally preferable paper.

Many of the companies included in this report used the *Paper Task Force Recommendations for Purchasing and Using Environmentally Preferable Paper* as a reference guide when changing their paper use practices. The report resulted from research done by the Paper Task Force, which included Duke University, Johnson & Johnson, McDonald's, The Prudential, Time Inc., and the Environmental Defense Fund (EDF). It provides comprehensive details on the impacts of paper on the environment, as well as recommendations for purchasing environmentally preferable paper. The report can be found at http://www.edf.org/pubs/Reports/ptf/index.html or can be ordered by contacting the Environmental Defense Fund at (212) 505-2100.

The Alliance for Environmental Innovation (Alliance), a project of EDF and The Pew Charitable Trusts, has closely followed the progress of the companies profiled in this report. Alliance staff are available to answer questions about the processes that the companies went through and to offer suggestions to your company for moving forward. You may contact the Alliance at (617) 723-2996 or visit our website at http://www.edfpewalliance.org.

Reading the following case studies is a good way to start determining how to establish paper purchasing and use practices in your company that will benefit the environment.

BANK OF AMERICA CORPORATION

Company Profile

Bank of America Corporation, the holding company created by the merger in 1998 of BankAmerica and NationsBank, is the largest bank in the United States. The company serves 30 million households from its 4,535 banking centers in the United States and 2 million business customers across the country. It provides comprehensive international corporate financial services for clients doing business around the world. The company's assets, as of September 30, 1999, were $621 billion.

Environmental Context

BankAmerica undertook a range of environmental initiatives over the past decade. In 1997, the bank became a signatory to the CERES (Coalition for Environmentally Responsible Economies) principles and adopted the CERES reporting format. The commitment to CERES and to environmental initiatives remains in place at the post-merger bank. Its 1999 environmental report will follow a new format designed for financial services companies that are endorsers of the CERES principles. (As a part of its 1998 environmental commitment, Bank of America has put into place, or is working toward, source reduction and recycling processes and goals.)

Achievements

Banking is a paper-intensive business. Between communicating with customers, internal reporting (much of which is required by law), and advertising, the industry uses a very large volume of paper. In 1997, BankAmerica's central purchasing organization bought 23,750 tons of paper. This paper was primarily coated stock for brochures and uncoated freesheet for statements and statement envelopes; ATM receipts; photocopy, fax, and laserjet printer stock; and green-bar computer paper. Over the past decade, the bank has worked aggressively to reduce its paper use, increase paper recycling, and purchase paper with postconsumer recycled content. (Please note that much of the data in this case study refer to the pre-merger, San Francisco–based BankAmerica.)

- *Reduced Paper Use*

Among the key factors in cutting the need for paper across a range of uses are:

Design and analysis of forms and packaging. A management group examined the design and packaging of each form, and asked a threshold question: Does it have to exist? For example, an in-house weekly newsletter sent to 3,000 employees used to be packaged in shrink-wrap plastic with a cardboard backing. By simply eliminating the packaging, the bank reduced expenses by $80,000. Later, part of the circulation of the newsletter was placed on the company's intranet.

Electronic communications. The bank aggressively converted to providing on-line computer reports and manuals rather than distributing hard (paper) copies and expanded the use of e-mail and voice mail to communicate key messages. Information that used to appear on 15,000 hard-copy documents is now posted on the bank's intranet.

Print-on-demand. Manuals, publications, and other inventory products are increasingly available on-line and on CD-ROM for reference or as "print-on-demand" publications. The bank maintained an inventory of 20,000 stock form items and publications in the mid-1990s. (By 1999, Bank of America had consolidated this inventory to approximately 4,000 forms, with the most frequently used 1,500 forms available via print-on-demand. These efforts resulted in a 60% reduction in the combined banks' number of publications and manuals that are printed and stocked.)

Basis weight reductions. The bank also sought to use lighter paper when possible. For example, ATM receipt paper has been converted from 20-pound to 15-pound basis weight. This move alone is estimated to reduce annual expenses by $500,000. And the benefits ripple throughout the system in cost savings for storage, handling, transportation, and labor (rolls last longer in the ATM machines).

Double-sided copying. All new photocopiers purchased by the bank since 1995 were required to have a double-sided copying feature.

More targeted advertising. When BankAmerica conducted direct-mail solicitations, it sent out fewer, more targeted and customized pieces. The bank maintains an extensive electronic "data warehouse" of the names of current and potential customers and uses sophisticated "data-mining" technology. This ensures that good prospects for a given financial product can be identified and that response rates are high. Although not unique to Bank of America, this strategy yields substantial cost savings. The new data-mining technique can increase the direct-mail response rate by 75% by focusing mailings on the 10% of the bank's mailing list that best fits the characteristics of its target market. Because fewer solicitations were made, paper use is cut by 90%, while the return on advertising expenditures is increased.

- *Paper Recycling*

At the core of BankAmerica's environmental commitment is a visible recycling program that, before the merger in 1998, reached into every branch in California, some branches in other states, and more than 40 large buildings that housed the company's corporate offices. In 1997, this program recovered 14,591 tons of paper from bank facilities, saving an estimated $483,000 in trash-hauling costs. (Bank of America announced its new national recycling program in October 1999.)

Depending on the markets for used paper, the bank's recycling program has brought it extra revenue. When recovered paper prices were high in 1995, for example, BankAmerica earned more than $700,000. A year later, falling paper prices led to a loss

of $14,000 (accounting for costs of the collection system and revenue from selling recovered paper). Rather than concentrating solely on the revenue potential of recycling, the bank focused on the savings that accrue from the elimination of paper-hauling fees.

- *Buying Recycled Paper*

In 1997, 75% of all the paper purchased by the bank contained some recycled content, with an average of 20% postconsumer material. This represented a dramatic rise from 1990, when the bank used almost no recycled-content paper in its operations.

Based on its experience, BankAmerica found that, for the recycled-content paper it typically purchases, the cost premium is generally 3 to 4% above the price of virgin paper. Some paper has proved to be readily available at cost parity.

Key Lessons

1. Use the features of centralized purchasing to environmental advantage.

Many of the economic advantages that BankAmerica enjoyed through its paper practices are due to its consolidation of paper purchasing, which maximizes its leverage with suppliers. All purchase orders for paper were contained in a central database that was completed at the end of 1997 and combined with an electronic purchasing system. Compared with the bank's former practice, which dispersed paper purchasing among the branches and regional offices, the centralized purchasing strategy saved the bank approximately $23 million in the first 18 months of its implementation. This relational database now tracks all Bank of America purchases and maintains detailed information on specifications for each product. Goods can still be bought and shipped on a regional basis, and in small or large quantities, but all ordering now goes through the central system.

Bank staff can search the database at any time to research standards for any item that is purchased: quantity, price, test results, and more. The database also screens out products that do not meet basic environmental standards. Bank of America can also monitor its vendors' environmental commitments more effectively. For example, all new contracts for goods and services now include a special condition for environmental reporting. This includes, where applicable, a description of a supplier's environmental goals, a quarterly report on paper use, and the percentage of recycled content contained in the product.

The consolidation of the bank's paper purchasing enables management to examine employees' criticisms of recycled paper; debunk myths, if necessary, regarding the performance or appearance of recycled paper; and conduct uniform testing to detect actual problems, such as machine-run production time.

2. Create incentives for paper use reduction.

Initiated in 1997, an innovative feature of BankAmerica's centralized purchasing process was its contracts with its two main suppliers of paper forms and office supplies. These contracts financially rewarded the vendors for selling the bank *less* material, with specific

targets of 10% less paper purchasing for forms each year. Responding to these incentives, the suppliers worked with the bank to identify redundant or unnecessary forms.

3. Work with others to expand the market for environmentally preferable paper.
In 1992, BankAmerica, Pacific Gas & Electric Company, and the Natural Resources Defense Council founded the Recycled Paper Coalition (RPC). The RPC began with seven representatives concerned about the price, quality, and availability of recycled paper. Five years later, it had grown to 260 members with chapters in major cities, including San Francisco, Chicago, and Dallas. Bank of America's leadership role in the RPC continues as the scope of the group continues to grow. The coalition has evolved to further expand recycling collection programs, stimulate recycled paper buying, and maximize paper use efficiency. (http://www.papercoalition.org)

BEN & JERRY'S HOMEMADE, INC.

Company Profile

Vermont-based Ben & Jerry's is one of the leaders in the super-premium ice-cream market. Founded in 1978 with $12,000, the company grew to earn $209 million in 1998. Ben & Jerry's produces premium ice cream, frozen yogurt, and ice-cream novelties that are sold nationwide and in parts of Canada and Europe in supermarkets, convenience stores, other outlets, and more than 120 licensed and franchised scoop shops. Ben & Jerry's business strategy consists of three integral missions: making an exemplary product, earning a fair return, and serving its community.

Environmental Context

In 1992, Ben & Jerry's became the first publicly held company to adopt the CERES (Coalition for Environmentally Responsible Economies) principles as part of its environmental management and reporting system. For every gallon of ice cream produced, the company measures and carefully tracks five major areas of environmental impact: dairy waste, solid waste, water use, energy use, and recycling. Packaging is of particular concern, since it generates environmental impacts both in production and in disposal after use.

Achievements

- *Unbleached Pint Container*

In February 1999, Ben & Jerry's became the first ice-cream company to use a clay-coated, unbleached paperboard pint container. The industry-standard pint container is made of white, solid bleached sulfate (SBS) paperboard. In the manufacturing process, paper fiber used to make SBS paperboard in the United States is bleached with chlorine compounds. The manufacture of the unbleached brown (kraft) paperboard used for Ben & Jerry's new container eliminates this chlorine-bleaching process. This provides a number of environmental improvements in pulp manufacturing that include reduced energy and water use, reduced air and water pollution, and reduced solid waste. Unbleached paperboard is also more efficient in its use of wood fiber than SBS paperboard. The new packaging was introduced in the company's top-selling flavor, World's Best Vanilla. Its use will extend to one-third of Ben & Jerry's flavors by the end of 1999 and to the entire line of flavors soon after.

- *Internal Paper Practices*

The elimination of chlorine extends to other paper uses and products within Ben & Jerry's. Since 1995, all letterhead and envelopes have been made from 100% postconsumer recycled paper manufactured without the use of chlorine. More recently, the company's photocopy paper was converted to the same specification. Chlorine-free toilet paper and unbleached paper towels are also used in all offices. Ben & Jerry's scoop shops use unbleached napkins and cake boxes that are 100% recycled (with a minimum of 10%

postconsumer content), and efforts are under way to replace such paper products as cone wraps and cups with chlorine-free alternatives.

Key Lessons

1. Be innovative and persistent.

Ben & Jerry's faced a significant challenge to design and manufacture an environmentally preferable pint container that met functional requirements and complied with the regulations of the U.S. Food and Drug Administration (FDA). The process began when Ben Cohen, co-founder of Ben & Jerry's, learned about the environmental impacts of the use of chlorine compounds to bleach paper pulp while serving on the Board of Directors of Greenpeace. In response to the concerns raised over this issue, the company conducted extensive, in-depth research and consulted with environmental organizations and industry experts on environmentally preferable pulp and paper.

In early 1997, Ben & Jerry's undertook a project with the consulting firm McDonough Braungart Design Chemistry (MBDC) to examine every aspect of the industry-standard pint container in terms of its life-cycle impact on the environment. When the container did not meet MBDC's environmental sustainability index, Ben & Jerry's worked with its consultants to come up with alternative designs and find sources of paper, coatings, inks, and adhesives that were more environmentally preferable. The company evaluated many options for improving the pint container. Once it had decided that eliminating chlorine bleach from the manufacture of the pint container would be the most fruitful environmental effort, it worked to find a consistent, reasonably priced supply of such paper that could hold ice cream at low temperatures. Faced with so many factors to consider and investigate, it is vital to "be persistent, don't give up, and be creative in solutions," says Andrea Asch, Manager of Natural Resources at Ben & Jerry's.

2. Engage your supplier.

To meet the functional challenges of finding alternative paperboard, Ben & Jerry's knew that it was essential to bring its supplier, the Sweetheart Cup Company, into this investigative process. Sweetheart staff helped Ben & Jerry's identify alternative paperboard options and accompanied Asch on visits to pulp and paper mills. Compared with other major users of paperboard containers, Ben & Jerry's uses a small quantity of paperboard (100 million pint containers per year), making it more difficult to find a steady supply of chlorine-free paperboard in North America at a reasonable cost. After visiting mills and paper suppliers' forest operations, Ben & Jerry's found a clay-coated, unbleached paperboard at Riverwood International's mill in Louisiana. The paperboard from this mill is typically used in applications that require high strength, such as cartons for cases of beer and soda cans, and is considerably stiffer than the solid bleached sulfate paperboard of the same thickness. The difference in stiffness presented significant challenges in forming the rolled portions (the lip) of the pint ice- cream container. The participation of Sweetheart was therefore essential in adjusting its package-converting equipment to handle the unbleached paperboard.

3. Use projected medium-term cost savings to offset initial start-up costs.
Product development always incurs initial costs. Ben & Jerry's, however, has not passed its start-up costs on to its customers in the form of higher prices. The company realizes that as the manufacturing of the container becomes more efficient and the volume of containers produced increases, the cost will decrease and savings will be passed on to Ben & Jerry's.

4. Involve your customers.
Switching from a bleached to an unbleached paperboard means a switch in color from white to brown. The new pint container looks the same on the outside, due to the white clay coating, which allows the original graphics to be printed, but is brown on the inside. To make sure that its customers would be comfortable eating ice cream from a brown container, Ben & Jerry's conducted a series of focus groups, which demonstrated that core customers had a positive response to the new container. Since the official introduction of the pint container, Ben & Jerry's has not received negative feedback or experienced a loss in sales.

McDONALD'S CORPORATION

Company Profile

With 24,500 restaurants in 115 countries and sales approaching $36 billion in 1998, McDonald's is the largest food-service retailer in the world. McDonald's operates nearly 12,450 outlets in the United States that account for 50% of the company's systemwide revenue. The company has a 42% share of the nation's fast-food hamburger business. Approximately 80% of McDonald's U.S. restaurants are owned and managed by franchisees.

Environmental Context

In the late 1980s, McDonald's faced rising public concern and direct pressure from environmental advocacy and community groups about the amount of packaging and waste from its restaurants. In response, McDonald's embarked on two initiatives that allowed the company to respond to its customers' changing interests, while differentiating itself from its competitors.

In 1990, McDonald's established McRecycle U.S.A., a program in which the company committed to spend at least $100 million annually—25% of its yearly construction and renovation budget at the time—on recycled products to be used in building and renovating its U.S restaurants and in packaging its products. The program has continued uninterrupted since its inception, and the company recently reported spending an accrued $3 billion, an amount that far surpasses its original commitment.

Also in 1990, McDonald's and the Environmental Defense Fund established a groundbreaking partnership to reduce packaging and waste. The partnership led to the creation of the Waste Reduction Action Plan (WRAP), which contained 42 discrete initiatives that the company agreed to implement in order to improve the selection of its packaging materials and enhance the reuse, recycling, and composting of its packaging and other restaurant wastes. Building on the original 42 initiatives, McDonald's has completed more than 100 additional environmental initiatives in the past eight years. Some of the more visible outcomes of the original WRAP were the introduction of brown unbleached paper bags and the replacement of the polystyrene clamshell sandwich container with lighter-weight paper packaging.

Achievements

The following achievements focus primarily on McDonald's most recent initiatives to improve the environmental profile of its paper, including reducing the amount used and thrown away.

- *Source Reduction*

Source reduction has been the highest environmental priority for McDonald's because it reduces both environmental impacts and costs. From 1991 to 1998, the company's source reduction efforts eliminated a total of 26,500 tons of packaging material, over 95% of which came from changes in paper packaging. The amount of packaging eliminated through its source reduction efforts represents a small percentage of total McDonald's packaging. But because McDonald's is a large company, the overall reduced tonnage is still significant. In 1997, McDonald's eliminated 1,850 tons of paper packaging by "lightweighting" its french fry cartons and medium-size bags, and 150 tons of plastic by "lightweighting" its reusable, in-store serving trays. The following year, McDonald's decided to shift the Quarter Pounder with Cheese from a micro-flute, corrugated clamshell container to a thin paper-based wrap, which (when fully implemented later this year) will eliminate 1,250 tons of packaging. These source reduction initiatives, in 1997 and 1998, have saved the company $12.2 million.

- *Recycled Content*

McDonald's has significantly increased the recycled content of its packaging materials. Currently, 48% (by weight) of McDonald's paper packaging is made from recycled fibers, 28% of which is postconsumer. For example, Happy Meal cartons and drink carriers are made with 100% recycled content, 60% and 51% of which is postconsumer, respectively.

- *Forestry Practices*

McDonald's has extended its commitment to purchase environmentally preferable paper by exploring methods to encourage improved forest management practices among its paper-packaging suppliers. The company is developing a "forestry scorecard," which will evaluate and compare its suppliers' operations. McDonald's hopes to use this tool to identify those suppliers that use better forest management practices and to make more educated choices regarding its business partners.

Key Lessons

1. Develop and use an independent base of knowledge.

McDonald's frequently receives feedback from suppliers that packaging changes, especially those involving increases in recycled content, are uneconomical. Markets for recycled paper are complex and ever-changing. McDonald's found that the biggest barrier to packaging innovation is suppliers' lack of knowledge about the options that are technically possible and available. Because of this, McDonald's enlists its own staff and outside technical experts to examine all possibilities for environmental improvement. Being better informed also helps McDonald's defend its packaging changes and challenge the practices of its suppliers.

2. Use market research to support improvements.

Market studies conducted by McDonald's have repeatedly found that its customers respond favorably to its use of packaging made with recycled content. Although off-white or brown colors are not always enthusiastically embraced by product developers or packaging

designers, they make little difference to customers, whose aesthetic concerns are effectively overcome by explaining the environmental preferability of the change. When packaging that is both brown and recycled (such as McDonald's carry-out bags) is tested with consumers, describing the environmental advantages generally leads consumers to respond favorably to the packaging change.

3. Balance short-term costs with long-term objectives.

McDonald's follows a general policy of not paying a premium for environmentally preferable packaging, although modest deviations are acceptable when it is clear that the mark-up is only temporary or has associated economic benefits. For example, McDonald's has found that to fully implement certain source reduction initiatives, such as a reduction in the basis weight of paper used in a packaging item, converters and suppliers need time (generally between six months and two years) to make the adjustments needed to produce the lighter packaging without sacrificing quality.

4. Measure and report on your progress.

Each year, McDonald's catalogs its achievements and progress toward environmental goals in a publicly issued WRAP status report. By including details such as time lines, current status, and next steps, the report allows environmental management staff to keep priorities on track while providing documentation of past efforts and achievements.

TIME INC.

Company Profile

Time Inc. (Time) is the magazine- and book-publishing division of Time Warner Inc. and accounted for 16% of Time Warner's $26.8 billion in total revenues in 1998. As of April 1999, Time published 30 magazines, including *Time, People, Sports Illustrated, Fortune, Life, Entertainment Weekly, Southern Living,* and *Sunset*. In 1998, Time's magazine titles generated 21% of total U.S. consumer-magazine advertising revenues.

Time's book-publishing companies include Warner Books and Little, Brown and Company, making Time the third largest book publisher in the United States in 1998. Time is also a leading direct marketer of books through Time-Life Books and Book-of-the-Month Club.

Environmental Context

In traditional publishing, paper is the medium that carries the product. Time's broad array of magazines and books makes it one of the largest purchasers of paper in the nation, with approximately 500,000 tons purchased in 1998. The amount of paper bought by the Time paper-purchasing group has grown substantially in the 1990s, more than doubling since the beginning of the decade. Much of this increase is due to the success of Time's magazines, including new titles and expansions of existing titles, such as *Teen People, People en Español,* and *Sports Illustrated for Kids, In Style, This Old House,* and *Martha Stewart Living*. In addition, major paper purchasing through the Time Warner companies is in the process of being consolidated in the Time paper-purchasing group. The major types of paper used by Time are, in order of volume purchased, coated groundwood (for magazines), coated freesheet (for magazine covers and "glossy" books), specialty uncoated freesheet and uncoated groundwood (for books).

At Time, one person holds the position of Director of Paper Purchasing and Director of Environmental Affairs. This is an unusual arrangement, since most service and retail corporations place the environmental affairs position in an externally facing department, such as communications, government relations, or marketing. Time combines these functions in order to ensure that business and environmental concerns are appropriately balanced and to send a clear signal to its suppliers about its environmental priorities.

Time's visibility on paper issues has led to interactions with a number of environmental organizations over the past decade. From the early to the mid-1990s, Time was one of several companies targeted by Greenpeace. Greenpeace has conducted an extensive campaign to end the use of chlorine and chlorine compounds in industrial processes, such as pulp bleaching, and in consumer products, such as toys and medical equipment made

from polyvinyl chloride plastic (PVC). From 1993 to 1995, Time participated in the Paper Task Force, a cooperative effort by industry, academia, and the Environmental Defense Fund to develop recommendations on purchasing environmentally preferable paper. Since the Paper Task Force concluded its work, its report has been one of the key criteria used in formulating Time's paper-purchasing strategies. In the mid-1990s, activist groups sponsored three shareholder resolutions asking Time to develop a plan to shift to the use of totally chlorine free (TCF) paper. The resolutions were not approved, but the effort brought further attention to the issue inside the company.

Achievements

- *Environmental Reviews of Suppliers*

Time has conducted detailed environmental reviews with all its major suppliers, covering recycling, pulp and paper manufacturing, and forest management. Time encourages its suppliers to pursue proactive environmental initiatives. As the volume of the paper it purchases has grown in concert with the overall expansion of the publishing activities of Time Warner, Time has allocated increasing tonnage in paper purchasing to its suppliers with the best environmental performance. These suppliers have continued to meet Time's performance, service, and pricing requirements. Three companies that were not major Time suppliers in 1992 are now among the company's top six suppliers.

In 1998, approximately two-thirds of Time's paper purchases came from mills that used oxygen delignification or extended delignification in the manufacturing of bleached kraft pulp, which is one component of coated paper. These technologies are the foundation for progress toward the "minimum impact mill," and Time's purchasing from mills with these technologies is significantly higher than the industry average. Time encourages suppliers that have average or below-average environmental performance to improve their efforts, and the company has stopped purchasing paper from a few mills that persist in operating in ways that unduly harm the environment. In addition, all of its coated paper suppliers are using elemental chlorine free (ECF) processes.

- *Totally Chlorine Free (TCF) Paper for Magazines*

Time is currently importing between 15,000 and 25,000 tons of lightweight coated groundwood paper from SCA, a Swedish paper manufacturer, and is testing paper from two other Scandinavian suppliers. The SCA paper has several environmentally positive features:

- The bleached kraft pulp is produced at a mill that is highly advanced on the technology pathway toward the "minimum impact mill." The bleaching process is totally chlorine free and produces low emissions.
- The paper does not contain any titanium dioxide, a brightening and opacifying agent.
- The paper is made from a mix of mechanical pulp and bleached softwood kraft pulp that has a higher proportion of mechanical (groundwood) pulp than paper produced for the same magazines in the United States. Compared with bleached

kraft pulp, mechanical pulp uses wood fiber from trees more efficiently, releases fewer pollutants during its manufacture, and costs less.

- The company is using a third party organization to certify that it is practicing forestry in a sustainable manner.

- *Non-wood Fibers*

Time is also testing kenaf, a non-wood annual crop fiber, on a limited basis, in magazine reply card stock. The kenaf fiber is grown in southern Texas and is blended with kraft pulp in a ratio of 10% kenaf:90% wood fiber. Time is investigating this fiber source, gathering data, and providing a market opportunity for producers in order to explore the potential of non-wood fibers.

· *Recycled Content*

Time has actively explored the purchase of paper with postconsumer recycled content and was a major force behind the construction in 1993–1994 of a mill in Duluth, Minnesota, that produces 300 tons of deinked pulp a day. The mill is now owned by one of Time's largest paper suppliers. Time is committed to purchasing paper with recycled content if it becomes available at a competitive price and is financially viable for both producers and purchasers through the ups and downs of the paper industry's economic cycle. Time has found that for lightweight coated papers, the major grade that it purchases, the current technology and recycling infrastructure cannot meet these conditions. In Europe, one of Time's suppliers is building a mill that will recycle old magazines to make new lightweight coated groundwood paper. This technology may overcome the higher costs incurred by paper producers when recycled pulp made from office paper is partially substituted for inexpensive groundwood pulp in the coated-paper sheet, which is the typical practice for producing coated groundwood paper with recycled content in the United States. One grade for which Time continues to maintain a recycled content specification is reply card stock, which is usually manufactured from virgin kraft pulp.

Key Lessons

1. Integrate environmental and business strategies.

Time has learned that business and environmental ends are often mutually reinforcing and should be considered in combination. For example, one of Time's long-term strategies for purchasing paper is to work with suppliers that are innovative, have state-of-the-art technology, and maintain low production costs. This allows Time to support the development of new paper products that often have both business and environmental advantages, such as magazine paper with lower basis weight and greater bulk (i.e., paper that is lighter and thus requires less fiber to produce and is less expensive to mail, but makes the magazine feel "thicker" overall). Another example is Time's strategy to encourage the development of new production capacity and new sources of fiber, which tends to lower paper costs over time. Exploring the development of non-wood fibers is consistent with this business goal and offers the potential of reduced environmental impact.

2. Do your homework – encourage *and* reward leadership and innovation.

Time maintains very close, long-term relationships with its suppliers. Time conducts one to five business reviews a year, depending on the volume of paper it purchases from a supplier. Most of these meetings occur at the mill rather than at company headquarters. Time undertakes environmental reviews with its suppliers on an annual basis. These reviews include more than 50 questions and significant data collection related to the suppliers' environmental performance. The questions are based primarily on the recommendations of the Paper Task Force. Time shares with its suppliers the conclusions reached from both its business and environmental evaluations.

Although the pricing power of paper producers varies through economic cycles, over the long term, Time has substantial leverage with paper producers because the amount of paper that the company purchases is large and growing. This ensures that paper suppliers respond to Time's request for environmental information. What ultimately makes a difference, however, is that when its quality, service, and pricing requirements are met, Time is expanding its business with the suppliers that demonstrate a commitment to the continual improvement of their operations to benefit the environment.

3. Be persistent.

The decision to import paper from Scandinavia, for example, is the result of a ten-year process at Time of investigation, evaluation, and travel to the sites where the paper is made. Along the way, numerous issues were resolved. Initially, the paper was not strong enough; it failed several trial runs on high-speed printing presses. Eventually, by working with SCA and with Weyerhaeuser, which markets the paper in the United States, Time was able to purchase a product that meets its requirements at a competitive price.

UNITED PARCEL SERVICE

Company Profile

United Parcel Service (UPS), established in 1907, is the world's largest package delivery company, delivering 12 million parcels every day. UPS provides services to more than 200 countries and territories and employs more than 330,000 people worldwide. Its revenues for 1998 were $24.8 billion on a total volume of 3.14 billion packages. An increasing portion of this volume is next-day air business, which grew by 14.1% in 1998.

Environmental Context

In late 1997, the Alliance for Environmental Innovation invited UPS to participate in a study that examined the potential for environmental leadership in shipper-provided express packaging. At this time, UPS had already begun work on what would become the industry's first two-use reusable envelope. The Alliance issued a report based on its examination of the packaging offered by five express shipping companies, including UPS, and challenged the companies to make changes in their packaging. UPS embraced this challenge and decided to work with the Alliance to review and environmentally improve the entire spectrum of its express packaging.

Achievements

Paper-based packaging constitutes 63% of the express delivery packaging that UPS purchases and gives to its customers. In the past year, UPS made changes that will dramatically reduce the amount of natural resources needed to make its paper and plastic express packaging. The changes increased UPS's competitive advantage in certain markets, enhanced its brand equity, and will save the company more than $1 million annually.

- *Source Reduction*

In March 1998, UPS introduced the industry's first two-use reusable express envelope. The reuse of this envelope cuts in half the quantity and costs of material used, the pollutants released during its manufacture, and the waste generated by its disposal.

- *Recycled Content*

UPS increased the overall use of postconsumer recycled content in its packaging by an average of 22%, including increases from 73% to 80% in the Express Letter, from 46% to 78% in both the Express Box and the Tube, and from 0% to 15% in the plastic PAK.

- *Unbleached Packaging*

UPS committed to eliminating the use of bleached paper in all its packaging. This is a significant environmental step that will reduce the consumption of energy and water and the discharge of toxic chlorinated organic compounds during its manufacture.

Key Lessons

1. Be receptive to partnership opportunities.

UPS decided to work with an outside environmental organization for the first time by agreeing to participate in a project with the Alliance for Environmental Innovation. A key to the success of the partnership was the complementary expertise and experience that UPS and the Alliance each provided. The project team maintained an open mind in considering a broad range of options to improve the company's packaging. This, coupled with the project goals that were developed at the outset, established a clear direction and a flexible working environment.

2. Work with your suppliers to innovate.

The UPS–Alliance project team faced the challenge of creating environmental improvements to UPS's packaging without adversely affecting cost, performance, or appearance. The project team worked closely with UPS's current suppliers to identify packaging options and to develop the most promising ones. In addition to responding to the recommendations of the project team, some suppliers developed creative designs and technological innovations on their own. In some cases, they revised their manufacturing processes to create packaging that was both functionally and environmentally superior to that currently available.

3. Understand the business benefits of a proactive environmental stance.

UPS believed from the beginning that making environmental improvements to its packaging could benefit its customers and its business in a tangible way. For example, UPS knew that for certain customers—such as lawyers and mortgage brokers—the reusable envelope offered specific business benefits by facilitating document returns. This understanding led to a high-level commitment to the goals of the project, which was a key element in implementing the entire range of environmental improvements. Because the project resulted in business as well as environmental successes, it has paved the way for subsequent initiatives at UPS.