

Strategic Programming For Environmental Management: Sonoco's Take-Back Policy

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The spiraling worldwide demand for environmental protection is thrusting a bewildering set of challenges upon international corporations. The regulatory system that requires U.S. companies to reduce noxious emissions into the air and water and dispose of hazardous waste safely is spreading to other nations as the threats to human health from environmental pollution become better known. Many countries, especially in Europe, are moving beyond the regulation of end-of-pipe emissions to pollution prevention. The global concern with waste disposal, for example, has led to greater pressures on international companies to reduce packaging in consumer and industrial products, recycle materials, and lower waste disposal costs for manufacturers, retailers, and consumers.

At the same time, these corporations face equally serious challenges in responding strategically to the business implications of ever-changing environmental regulations. The parameters of strategic action are often set by external forces, but beyond complying with local laws, corporations have wide latitude in how they adapt to environmental standards. Translating broad corporate "green" policies into environmental management systems requires companies to understand those forces, develop a vision of the future, and articulate operational strategies for achieving it. Some management theorists, such as Henry Mintzberg, argue that strategic planning, as it has been practiced by most corporations, is really *strategic programming*. Companies that understand the differences between planning and strategic thinking engage in a strategy-making process that captures what managers learn from experience and synthesizes that learning into

programs for achieving their "vision" for the future.

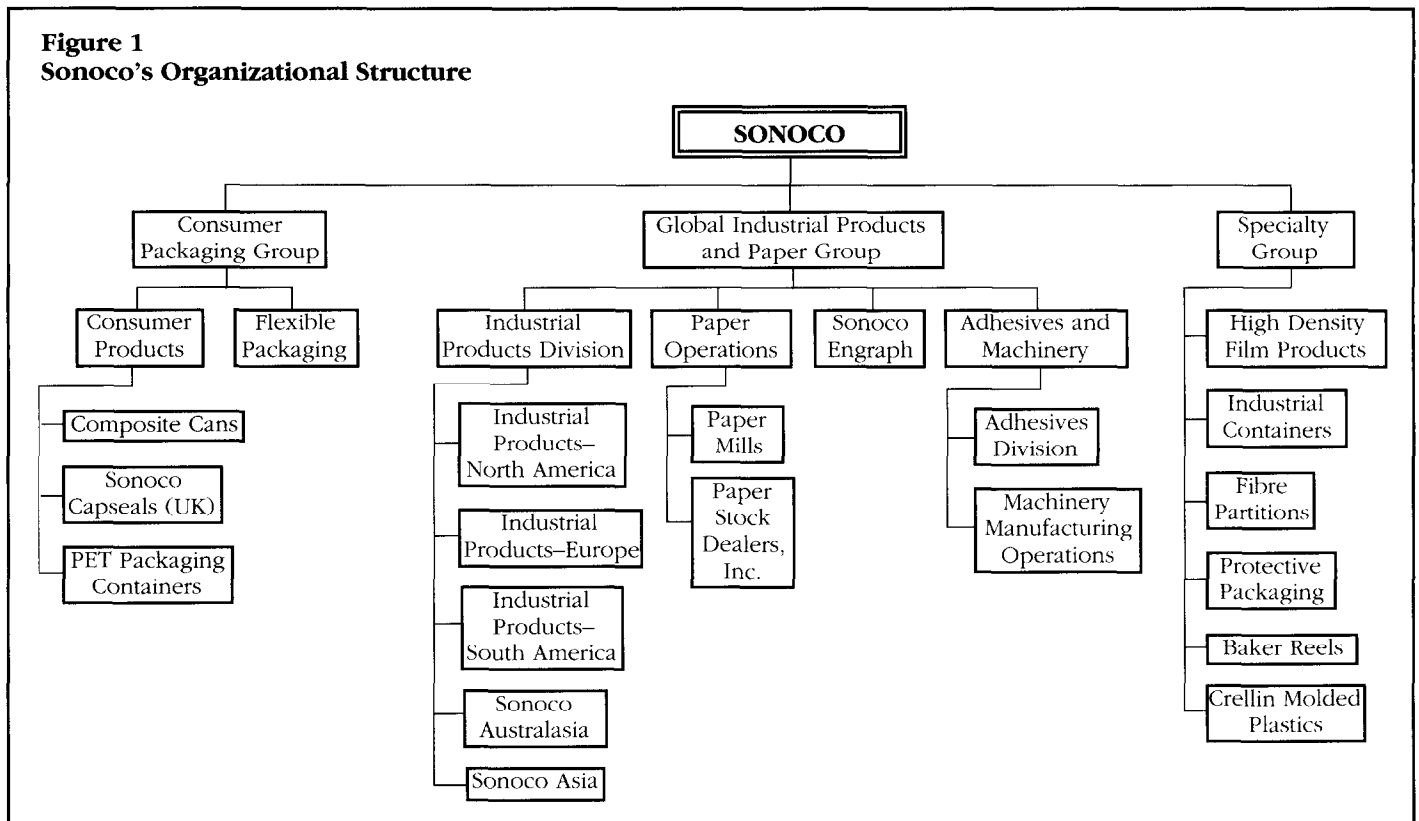
Most firms have both environmental policies and business strategies that must be reconciled if they are to be implemented effectively. Strategic programming elaborates and operationalizes the strategy making process. It involves:

1. *codification*—clarifying and explicating strategies so that their consequences can be worked out in detail;
2. *elaboration*—articulating policies into plans and actions that specify what must be done to realize each strategy; and
3. *conversion*—making changes in the firm's operations, budgets, and performance controls to attain corporate objectives.

Mintzberg contends that corporate strategic programming should combine formal and informal methods of analysis, thereby drawing heavily on the judgments and experience of operating managers as well as on formal planning tools. The process often evolves through a continuing dialogue in which options are identified, assessed, tested, and reformulated over time. Rather than attempting to produce a one-shot plan, strategic programming continuously builds on the knowledge and experience of managers to develop

This worldwide maker of packaging products is a gleaming example of a firm transforming its "green" values into an integrated waste management strategy.

Figure 1
Sonoco's Organizational Structure



operational approaches for achieving corporate policies.

Our purpose here is to examine the experience of one international corporation, Sonoco, in responding successfully to changing environmental pressures to reclaim and recycle its products in the wake of the "solid waste crisis" in the United States and more stringent environmental regulations in Europe. Although it did not formally set out to do so, Sonoco used a process that closely resembles strategic programming to translate its environmental "vision" into an integrated environmental management and business development strategy.

SONOCO

Headquartered in Hartsville, South Carolina, Sonoco is a worldwide, vertically integrated company manufacturing several major lines of industrial and consumer packaging products. Founded by the Coker family in 1899 as the Southern Novelty Company, the business initially produced a cone-shaped paper carrier for cotton yarn to meet the needs of rapidly expanding cotton mills in the southern United States. By the early 1920s, Sonoco's aggressive marketing established it as a major supplier of high-quality paper cones and tubes. The company grew to about 200 employees and began exporting overseas.

By 1996, Sonoco had diversified its product lines and was operating facilities at more than 270 locations in 29 countries with about 19,000 employees. Currently headed by Charles W. Coker, the founder's great-grandson, the corporation has carved out a leading position in most of its market segments. By the mid-1990s it had achieved an average 40 percent of domestic market share for all of its products. The company receives about 20 percent of its total sales from overseas and continues its international expansion. Sonoco's strategic plan emphasizes the company's mission to be "a customer-focused, global packaging leader, recognized for superior quality and high-performance results." It seeks to satisfy customers by creating value through consistent delivery of products and services that meet their present and future needs.

Organizational Structure

As **Figure 1** shows, Sonoco is organized into three large product groups: consumer packaging, global industrial products and paper, and specialty products. The Consumer Packaging Group consists of two divisions:

1. The Consumer Products Division (CPD) is one of the world's largest suppliers of high-quality consumer packaging, with composite cans its largest product line. Its U.K.-based Sonoco Capseals serves customers in more than 70 countries

with state-of-the-art seals that enhance product protection and identification.

2. Sonoco Flexible Packaging Division, acquired in 1993, produces thin-gauge, high value-added rotogravure printed films in the United States. It also makes blow-molded plastic containers in Greenville, South Carolina.

The Global Industrial Products and Paper Group has 116 plants, 27 paper mills, two forest product operations, and more than 30 paper collection sites. Sonoco is the only company serving the world's tube, core, and cone markets with this unique relationship between industrial products and papermaking. The Industrial Products Division (IPD) is the world's leading manufacturer of high-value tubes and cores, which are used by a variety of the world's industries in their winding and converting processes. Most of this division's 60,000-plus products are highly engineered industrial carriers designed to meet the rapidly changing requirements of the high-speed machinery used in most modern manufacturing. Sonoco Engraph produces high-quality pressure-sensitive labels—one of the fastest growing sectors of the packaging industry. This division also makes paperboard cartons for a variety of markets, as well as glass covers and coasters for the hospitality industry. The Adhesives Division primarily supplies adhesive requirements for Sonoco's own paper-converting operations and serves external customers in a variety of markets. The Machinery Manufacturing operation builds much of the paper converting machinery used by Sonoco plants around the world.

The Specialty Group consists of six distinct packaging businesses, which account for approximately \$750 million in Sonoco sales: the High Density Film Products (HDFP) operation, which produces plastic carry-out bags and agricultural film; the Industrial Container operations, producing fiber drums, plastic drums, and intermediate bulk containers; the Fibre Partitions group, which makes fiber and specialty partitions; Protective Packaging operations, making engineered cushion fiber and corner post packaging forms; the Baker Reels Division, the leading U.S. producer of reels for wire and cable packaging; and Sonoco Crellin, the injection molded and extrusion plastic products operation.

Corporate Performance

By all business standards, Sonoco has a successful record of growth and profitability. Throughout its long history the company has achieved a compound annual sales growth rate of more than 13 percent and a compound annual growth in net earnings of 12.6 percent. Its earnings, dividends, and cash flow have all risen consistently over the past 15 years, and it is the only company in the

packaging industry to be rated A+ by Standard and Poor's.

Since the mid-1980s, Sonoco's stock has split two-for-one three times, and the compound return to shareholders over the past decade and a half has been 18.4 percent. It has positioned itself in the packaging industry with a strong customer-oriented strategy. In 1993, it received more than 70 top-supplier awards from customers.

Sonoco has stayed ahead of its competitors by identifying and adapting to changing trends. "We have preached a philosophy of change," Chairman and CEO Charles Coker points out. "We are always improving efficiencies to keep a high level of productivity. But more importantly, we select niche markets where we can be the No. 1 or No. 2 player." Sonoco's strategy is to avoid commodity packaging businesses where margins are thin and to stick to niche businesses in which it can gain significant market share. Foreign and domestic acquisitions accounted for much of its growth during the 1980s and early 1990s. "Prior to 1992, we tried to position ourselves in as many countries as we could in Europe," explains Thomas Coxe, Sonoco's retired senior executive vice president. "But when the EC became a reality, we realized we had to move into a pan-European strategy to get our efficiencies back." Sonoco continued its acquisitions in Europe and accelerated its expansion into Asia. "Being global is the only way to keep up with customer needs, trends in the market, and technology," Coker contends.

CHANGING ENVIRONMENTAL PRESSURES

Industrial growth after World War II was driven by extraordinary consumer demand for new products, especially those made of plastic, nylon, and light metal. As industry expanded to meet this growing demand, it required vast amounts of packaging materials. By the 1960s, companies such as Sonoco were working closely with manufacturers to package novel and useful products in attractive containers that were designed to be thrown away.

But along with growth in the packaging industry came a new problem: how to manage the increasing amounts of waste produced by consumers. As throwaway consumption increased, solid waste became more visible. Outdated waste hauling and disposal systems and abandoned packaging materials had begun to create unsightly litter in both urban and rural areas.

Public Concern with Waste Disposal

The Solid Waste Disposal Act of 1965 was the first set of national regulations in the United States to try to control this growing problem.

Before 1970, solid waste was considered to be a materials-handling problem. Consumers, suppliers, and even regulators rarely concerned themselves about its environmental impact because there was no immediate threat to public health. In the late 1960s, however, public attitudes were changing. Growing concern about waste disposal had a more immediate impact on both the manufacturing and packaging industries. Among other events, Earth Day 1970 focused attention on the contamination of soil and water supplies from solid waste disposal and landfill leachate. The 1973 Arab oil embargo had a strong impact by raising the costs of energy and shipping. This created incentives for industry to adopt lightweight packaging in which products could be transported less expensively.

Public concern over the environment seemed to grow during the energy crisis and continued after it faded. The packaging industry was subjected to more direct environmental pressures after amendments were made to federal regulations in 1984. These changes were motivated in part by growing public worries over the increasing volumes of solid waste in the nation's 250,000 landfills, most of which were poorly located, inadequately designed, and mismanaged in relation to the large populations they served. During the mid-1980s, increasingly strict waste-disposal regulations were enacted around the country. Regional waste management programs closed thousands of small traditional landfills and replaced them with larger but more expensive disposal sites. These new sites were conservatively engineered storage vessels, more dependable in reducing leachate but requiring close monitoring and higher maintenance costs. Solid waste disposal in landfills consequently became far more expensive.

The Garbage Barge

Events in 1987 and 1988 convinced the media, the public, and local and state government officials that solid waste, including packaging, posed a critical environmental problem. A single public image drew widespread public attention when, in the spring of 1987, a garbage barge left New York City harbor to dispose of its noxious cargo in a southern port and unexpectedly began a 6,000-mile, 156-day voyage with its 3,000 tons of baled garbage. New York City had put a ban on waste incineration and strict limits on landfill disposal, and was seeking a more desirable place to dispose of its garbage. But for the next six months, the unwanted cargo was rejected by five states and three foreign countries. Intense media attention was drawn to the spectacle of the barge being repeatedly rejected and ultimately returned to the port from which it originated. The waste

was finally incinerated in New York in September 1987 and the ashes buried on Long Island.

Having become a highly visible example of the "Not In My Back Yard" (NIMBY) syndrome, the barge came to symbolize the alleged breakdown of the nation's municipal waste management system. This saga of the nomadic garbage on the evening television news created a negative image of solid waste disposal systems and of the packaging materials that were thought to contribute so heavily to the solid waste problem. Plastic bags and disposable diapers were two well-known products singled out as primary causes of landfill overflow.

Packaging Disposal Problems

Before the 1990s, little was known about packaging, its fate in landfills, or even its quantity in relation to other throwaway materials. Regardless of the scientific and technical uncertainties, it had become evident to packaging companies such as Sonoco that public perceptions alone could force changes in the industry. It was not until 1992 that an EPA report, "Characterization Of Municipal Solid Wastes In The United States," documented the fact that packaging constituted 30 percent of landfill disposal. Most of the waste stream consisted of industrial packaging.

Support for environmental protection grew more intense in the late 1980s and early 1990s. Public opinion surveys indicated that more than 75 percent of all consumers desired more nature-friendly products and environmentally conscious producers and suppliers.

The 1990 Pollution Prevention Act sought to eliminate pollution at its source and promoted waste reduction, reuse, and recycling—the Three Rs—as the preferred methods of environmental management. By the early 1990s, recycling legislation had begun to appear in dozens of cities and states. Manufacturers began to feel a sense of urgency concerning product and packaging disposal legislation widely under consideration by state and local governments.

Changing International Environmental Regulations

Changes in environmental legislation in Europe were also having a direct impact on companies like Sonoco that were expanding into global markets. The reduce-reuse-recycle philosophy was becoming ingrained in consumer behavior on a global basis. The German take-back legislation, *Duales System Deutschland* (DSD), for example, required producers to provide opportunities to recycle their product packaging or to take the packaging back themselves. In the early 1990s, DSD was believed to be an environmental model

for European countries that would be adopted around the world.

The International Conference on the Environment held in Rio de Janeiro in 1992 marked the beginning of the sustainable development movement. Corporations around the world began to focus on the environment as a business issue and to internalize environmental management as part of the business process. Many of Sonoco's customers committed themselves to environmental stewardship, particularly by minimizing waste. Because customer satisfaction was at the core of its business strategy, Sonoco had a strong incentive to assist customers to improve their environmental performance. If its customers considered packaging an environmental problem, Sonoco had to find a solution.

PROGRAMMING A VISION FOR ENVIRONMENTAL MANAGEMENT

Sonoco responded to the rapidly changing environmental pressures of the late 1980s and early 1990s from a strong base of experience with materials reclamation. Like most other international firms, Sonoco's strategic plan included environmental management goals, pledging to "take seriously our responsibility to protect the environment in which we work and live, and conduct our business in accordance with all legal requirements and ethical responsibilities, using scientific knowledge, technical innovation and sound environmental management practices." In response to the waste disposal crisis of the late 1980s, and to protect and expand the company's raw material supplies in the face of rising costs, Charles Coker challenged the divisions to take back from their customers any of the company's packaging products.

Once the chairman had announced the "We make it, we take it back" philosophy, Sonoco faced the tasks of codifying, elaborating, and converting this and other broad environmental policies into an operational strategy. The first step began in August 1991, when Sonoco established a materials reclamation task force. The task force membership reflected a broad spectrum of division and corporate managers: the president of Sonoco's Paper Stock Dealers subsidiary; corporate directors of U.S. and European environmental affairs and U.S. legislative affairs; the Paper Division's manager of paper stock procurement and its director of environmental activities; the regional sales manager of the Industrial Container Division; the Baker Division's manager of recycled reels disposal; the director of new business development for the Crellin Division; HDFP's recycling manager and its director of planning and marketing research; and the Consumer Product Division's planning and environmental affairs

coordinator and its division marketing manager.

Work was organized into five stages: formative, learning, creative, refinement, and review. They closely approximated the strategic programming process of codification, elaboration, and conversion described by Mintzberg (see **Figure 2**). The mission of the task force was threefold: (1) to identify threats and opportunities for Sonoco and its customers from changes in solid waste laws and environmental regulations; (2) to recommend improvements in division and corporate plans for materials reclamation; and (3) to promote effective interdivisional communications and coordinated actions to implement the company's take-back policy.

Codifying and Elaborating Environmental Policies

The task force defined Sonoco's primary goals as (1) minimizing the concerns and inconveniences to its customers of disposing of the company's products and (2) providing its business units with a coordinated and economical materials reclamation system. At the same time, these objectives would give Sonoco a competitive edge and strengthen its image as an environmentally responsible corporation.

**Figure 2
Sonoco Materials Reclamation Task Force Agenda**

TASK FORCE PROCESS	STRATEGIC PROGRAMMING PROCESS
1. <i>Formative Stage</i> <ul style="list-style-type: none"> • Mission • Goals • Objectives • Policies 	<i>Codification</i>
2. <i>Learning Stage</i> <ul style="list-style-type: none"> • External environment • Division strategies/capabilities • Linkage opportunities • Product environmental ratings 	<i>Elaboration</i>
3. <i>Creative Stage</i> <ul style="list-style-type: none"> • Internal solid waste reduction • Public relations • Reclaimed materials • Growth opportunities • Joint facilities 	<i>Conversion</i>
4. <i>Refinement Stage</i> <ul style="list-style-type: none"> • Division problems/opportunities • Multidivisional linkage needs 	
5. <i>Review Stage</i> <ul style="list-style-type: none"> • Quarterly meetings • Next steps 	

From the beginning, those working on the materials reclamation task force saw their function not only as warding off the threats from the "solid waste crisis," but also of identifying and investigating new business opportunities and sources of raw material. They realized they would not only have to coordinate operational changes in individual divisions, but also assess the implications at corporate level for capital spending, governmental affairs, lobbying activities, public relations, and technology staff time and expense.

Early in the process, the task force conducted a "threats/opportunities analysis" for the IPD, the CPD, and the specialty products, semi-bulk packaging, HDPE, paper, and Baker divisions. Among the major threats identified were: (1) negative legislation concerning the disposal of waste material from packaging that would adversely affect

Sonoco's sales; (2) loss of business to alternative packages that were easier or less costly for customers to dispose of; (3) high disposal costs for the company's internal scrap; (4) Sonoco's potential inability to develop practical reclamation systems for some consumer packaging; (5) insufficient supplies of certain reclaimed materials to reuse in making some of Sonoco's products, such as high-density film; (6) the possibilities that the

corporation would be unable to use all of the reclaimed materials, such as paper, in manufacturing other products; and (7) the lack of disposal alternatives for the reels, edgeboard, and molded plastics Sonoco took back.

Although several divisions were quite cautious in their assessment of its feasibility, others saw potential opportunities in the reclamation program. The most frequently mentioned opportunity was Sonoco's potential to gain competitive advantage and market share over firms that did not take back their packaging products. Some divisions saw opportunities in Sonoco's ability to capitalize on recycled content packages and to obtain new and more reliable alternative sources of raw materials. In addition, some divisions identified potential opportunities for acquiring low-cost fuels from reclaimed or waste materials that could be burned in factory power plants. They heralded innovations that would likely come from developing new systems for reclaiming and reusing packaging materials.

The task force assessed the potential cost-efficiency of the take-back policy from both the

company's perspective and that of its customers. The initial estimates were not promising for Sonoco. An evaluation based on the recovered materials value versus internal reclamation costs showed that only the value of recovered plastic grocery sacks would exceed Sonoco's reclamation costs. Even this projection would later prove to be optimistic. The expense of reclaiming fiber partitions, general spiral tubes, metallan cores, fiber drums, plastic drums, and composite cans would outweigh the value of recovered materials.

Corporate executives came to the same conclusion when they compared net internal reclamation costs with net selling prices, indicating the financial impracticality of fully absorbing these costs. When they estimated the benefits to Sonoco's customers, however, they found that compared to landfilling costs, the costs of returning materials—even if customers had to pay Sonoco a fee to take packaging back—were quite favorable for plastic drums, fiber drums, and metallan cores. They were far less favorable for composite cans, plastic grocery sacks, and general spiral tubes. Thus, for one of its products (plastic sacks), Sonoco would benefit financially from materials recovery. For at least four products (plastic and fiber drums and cores), Sonoco's customers would benefit. But in all product lines, its willingness to take back its packaging offered customers a service that, even if it were not used, positioned Sonoco as a customer-oriented and environmentally responsible company.

To gain an even broader perspective on the environmental sensitivity of its products, the task force rated 20 of its plastic, tube, reel and paper products on six characteristics: recovered materials content, recyclability, disposableness, reusability, redesign potential, and threat of substitution. The group calculated a weighted average environmental sensitivity rating for each product. Those manufactured exclusively from recycled paperboard rated the highest. Those with the lowest ratings were generally made up of several raw materials, at least some of which were not easily recycled. The task force then assessed the difference between the customers' perceptions of a product's environmental acceptability and reality. Most, but not all, of the products with the highest weighted average ratings on environmental sensitivity received low ratings on customer perception of environmental acceptability, indicating a need to better inform the customers on the products' positive environmental attributes.

The task force inventoried the existing reclamation activities of Sonoco's product divisions and identified areas needing improvement. As noted earlier, recycling and reclamation were not new for Sonoco. It had long used recycled materials in many of its converted paper products, collecting used cores from industrial products

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customers through its Paper Stock Dealers Division for more than 15 years. By the early 1990s, it ranked among the world's leading producers of recycled paperboard, with a capacity of almost 1.5 million tons annually—nearly 80 percent of which was sold internally to its own paper converting operations. As one of the largest global collectors and consumers of recovered paper, Sonoco processed nearly two million tons of this raw material through its paper mills, paper procurement contracts, and Paper Stock Dealers.

After inventorying the environmental activities already under way, the task force identified the potential for interdivisional cooperation and linkages. Among the areas in which it found possibilities for cooperation were developing new joint reclamation centers, expanding existing or developing new Paper Stock Dealers plants, or adding reclaimed material processing capability at product division manufacturing plants. It also suggested that divisions work together to explore new or expanded uses for reclaimed materials in such products as edgeboard, paperboard, and injection molding. Paper Stock Dealers could make its expertise available to other divisions on starting or managing reclamation centers, handling the transportation of reclaimed materials, and toll baling. Similarly, the task force saw opportunities for the corporate procurement staff to help divisions with placing reclaimed material, participating in curb-side recycling programs, and sourcing raw materials.

By early 1992, the task force drafted a set of product reclamation objectives. Although it was concerned with cost-effectiveness, it emphasized customer service and competitive advantage in implementing the materials reclamation mandate. The policy stated:

[E]ach division has the responsibility to provide its customers with convenient, cost-effective reclamation options for its products. These systems should be selected based on providing maximum customer satisfaction and competitive advantage. While implementation timetables may vary, all divisions are expected to complete their product reclamation strategies and any resulting technology and systems development needs before year end.

Conversion: Implementing Environmental Management Policies

Once the task force had codified and elaborated Sonoco's environmental policies, it went on to convert those policies into operational recommendations and procedures. Recommendations focused on strengthening and extending Sonoco's

reclamation activities to as many product lines as possible. Its customer-oriented corporate strategy encouraged divisions to take back products that customers wanted to return even if much of the cost had to be borne by Sonoco. Initially Sonoco hoped to break even on the take-back policy and pay fair market value to customers for reclaimed materials when permitted by total systems costs.

Sonoco had already adopted the "3R" approach recommended by the EPA. Materials reclamation would be a part of that overall approach. In its waste reduction programs, Sonoco sought to make products with fewer materials requiring landfill disposal. It worked with customers to develop two-gallon bag-in-box containers for liquids that used 58 percent less plastic than conventional two-gallon bottles. Its Baker Division designed a Flex Pak Cable Wrap using recycled materials to replace wood and steel shipping packages for cable. Company researchers used state-of-the-art computer technology to design new paperboard spiral tubes with minimum wall thicknesses to reduce material inputs.

Sonoco also extended its already extensive recycling activities. As the "waste disposal crisis" became more serious and the cost of virgin paper began to rise, the company began using more recycled paper in a larger variety of products—from composite cans for foods to solid fiber partitions for fragile product protection, cones for winding textiles, and spiral tubes. It recovered plastic grocery bags and industrial textile carriers and reprocessed them into resins that could be used to remake those and other products. Its plastic grocery bags, for instance, contained up to 30 percent of post-consumer recycled material. Most of its composite cans were made with more than 50 percent post-consumer recycled materials, providing economic and marketing advantages over competitors' packages.

By 1992, Sonoco was using recycled materials in more than 90 percent of its products and depending on them for over two-thirds of its total raw material requirements. Its paper-making mills throughout the world were using more than 1.5 million tons of recovered paper a year. It was reclaiming 16 million pounds of plastics annually. And it was using substantial amounts of non-reusable wastes each year in its boilers as a cheap fuel source.

Sonoco also extended its reuse activities. It designed reusable plastic drum containers for bulk foods and industrial materials and worked closely with local drum reconditioners to implement its reuse programs. For pharmaceutical, chemical, and food products customers, Sonoco developed bottle replacements for semi-bulk containers. It expanded its line of reusable textile cones, extended the life of wooden reel surfaces, and refurbished plastic film cores for many uses.

The "solid waste crisis," Sonoco's take-back policy, and increasing customer demand for material reclamation led to a flurry of new company-wide activities. The Consumer Products Division established a pilot program in Charlotte, North Carolina to determine the practicality and cost-efficiency of collecting composite materials in the city's curbside collection program and county drop-off sites for repulping into raw materials. The Paper Division explored the possibility of creating joint ventures with national or major regional waste haulers to obtain stabler supplies of needed recovered paper on more favorable terms. It also pursued a joint venture with a Canadian firm that was operating MRFs (materials recovery facilities), from which Sonoco could obtain recovered paper at competitive prices. Sonoco already operated MRFs in association with three southeastern cities in the United States to process and market plastic, paper, metal, and glass. The IPD modified the shredders and balers in most of its plants (originally purchased for internal scrap shredding) to handle external scrap from the reclamation program.

Growing demands from fiber drum users for a reclamation program led Sonoco to develop a pilot project that operated a mobile shredder and baler (mounted on a truck) in the southeastern U.S. to pick up both its and competitors' drums from customers. A second pilot project allowed Sonoco customers to ship their drums to companies that would clean, shred, and bale them for a fee. The Paper Stock Dealers subsidiary picked them up and delivered them to Sonoco mills for recycling. The fees paid by customers were well below the cost of other disposal options. Likewise, the Industrial Container Division launched an 18- to 24-month trial for a local reconditioner in the Chicago area to pick up plastic drums from customers for a fee and resell them as reconditioned packages. The Baker Division developed returnable reels that could be more easily disassembled after they wore out. It also devised a return infrastructure that could track, transport, repair, or dispose of reels. HDFP developed a plastic grocery bag collection network for more than 8,000 supermarkets and continued to add locations where customer demand existed and cost efficiencies were acceptable.

Because Sonoco's European customers had to comply with new German packaging laws and because other European countries were adopting more stringent waste disposal legislation, the task force recommended a pan-European recovered paper depot system in Sonoco's IPD-Europe Division to receive and collect reclaimed products from their customers' customers. The depots were to be located at existing Sonoco converting plants and paper mills or run by multi-location waste companies that agreed to guarantee service

and sell the scrap to Sonoco, which distributed the materials to its mills at relatively low transportation costs.

In late 1992, the task force's mission shifted from strategic programming to an implementation review and assistance role. It reviewed each division's plans and recommended ways of strengthening interdivisional coordination. Ultimately, Sonoco learned a great deal about which product groups could successfully reclaim materials. By 1995, the industrial product groups were reclaiming about 30 percent of the volume of products sold; the Crellin product group, about 16 percent. The Baker Division and HDFP could only recover about 5 percent each. HDFP found that potential contaminants in the recovered plastics made it difficult to reuse them for food containers or bags requiring the resin's use in other product applications. CPD at first could not easily reclaim most of its products because of the difficulty of collecting packaging from individual users and because of the high cost of segregating materials from household waste collections. However, it was later successful in establishing a partnership with the Steel Recycling Institute that allowed the division's composite cans to be collected and processed with steel cans.

IMPACTS OF SONOCO'S TAKE-BACK POLICY

Sonoco's task force encouraged and assisted the company's divisions to explore and experiment with new ways of meeting customer demand for material reclamation. Some of the experiments were successful; others proved to be infeasible or too expensive. Despite diminishing environmental regulatory pressures in the mid-1990s to reclaim packaging materials, Sonoco continued many of its programs to satisfy its customers. Combining customer service with environmental protection brought a number of industry and public awards to its divisions and plants across the country.

The implementation of Sonoco's take-back policy allowed the company to retain or expand its markets for several products and develop new business opportunities. Its extensive public relations and government affairs efforts to turn public opinion toward plastic bags as recyclable and reusable products, for example, made it the leading player in the rapidly growing "T-shirt" plastic grocery bag market. In 1995, Sonoco collected nearly 10.5 million pounds (775 million units) of plastic grocery bags.

Sonoco was not only successful in ensuring a stable and growing supply of reclaimed plastic and paper materials when the price of virgin materials soared in the mid-1990s. It also became a seller and exporter of recycled materials and an increasingly important player in the materials

reclamation business. In 1995 alone, the Baker Division recycled nearly 62,000 wood reels that would have required felling more than 21,000 trees to replace. HDFFP reclaimed more than 5,200 tons of plastic grocery bags and 39,000 tons of regrind, an in-plant plastic material that was re-used in manufacturing new products.

The corporation's take-back policy allowed divisions and plants to continue environmentally related experiments and expand business opportunities. In 1995, for example, Sonoco's paper mill in Richmond, Virginia formed a joint venture with the City of Richmond and an environmental company to recycle accumulated sludge into high-grade compost for resale. Sonoco expanded its paper reclamation networks through purchases of new paper stock operations in Virginia and Maryland through its wholly owned subsidiary, Paper Stock Dealers.

In Europe, Sonoco formed an environmental management committee to respond properly as individual countries within the EU implemented their own packaging legislation and extended its reclamation network using existing IPD sites and paper mills. In 1996, many of its European sites were preparing to obtain certification of their environmental management systems under British Standard 7750 or ISO 14000 guidelines.

Sonoco's experience in responding to environmental and customer needs not only illustrates how an international corporation can manage environmental issues in an effective and profitable way, but also how it can use strategic programming to integrate environmental and business objectives. Wielding its take-back philosophy, Sonoco exploited its corporate culture to the fullest and found myriad ways to implement its vision and address the threats and opportunities involved. The threats came from a growing public perception that packaging contributed seriously to solid waste disposal problems in the U.S. and Europe. The opportunities emerged from Sonoco's long tradition of using recovered materials.

Implementing Sonoco's take-back policy attained two important strategic objectives: it buffered the company from potential threats, and it bridged its business strategy and environmental concerns in ways that strengthened its market position. Sonoco combined managerial experience and know-how with more formal analysis. It carried out a comprehensive assessment of the company's position with regard to environmental threats, business opportunities, and internal capacities to implement the take-back policy. But it also tested new ideas through pilot projects and experiments. Its experiences lend insight into some of the corporate characteristics that contribute to the success of strategic programming:

- a strong and consistent vision from top leadership, reflected in the chairman's "We make it, we take it back" philosophy;
- a long tradition of complying with environmental regulations and using recycled materials;
- the ability and willingness of top management to allow the materials reclamation task force to reconcile the chairman's broad vision with the differing needs and economies of the individual divisions;
- an understanding by management and task force members that with no universally applicable solutions to the problems posed by environmental challenges, specific approaches suitable to each product line and division would have to be fashioned through careful analysis and by building on knowledge and experience within the company;
- management's realization that each division faces different threats and opportunities and different inherent capabilities to reclaim materials on a significant scale;
- no rigid *a priori* cost limitations placed on divisions in seeking ways of managing environmental pressures and meeting customer demands—despite the ever-present concern of cost-efficiency;
- each division seeking a way to implement corporate environmental policies—including materials reclamation—as a service to customers, a means of protecting existing business, and a way of diversifying and expanding market share; and
- the recognition by various divisions that interdivisional cooperation could lead to economies and opportunities for each of them as well as for the whole corporation.

The success of Sonoco's reclamation program depended, of course, on using and developing economically viable operating mechanisms. Logistics, for example, was critical to making the materials recovery plan work. Sonoco had always located its manufacturing operations close to customers, which made recovering useful packaging materials easier and less costly. But the take-back policy also required Sonoco to enhance and enlarge its logistics network. This made its facilities even more accessible to existing customers, more attractive to potential new customers, and more efficient in materials recovery and distribution.

Through strategic programming and continuous attention to changes in environmental and

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customer needs, Sonoco was able to buffer itself from potentially negative environmental pressures and bridge the company's business interests with environmental requirements and changing customer demands. By integrating company objectives and environmental mandates, Sonoco found innovative ways to enhance its environmentally responsible reputation, create more valuable packaging systems, and attain a stronger market position. □

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