

Green Purchasing Initiatives by Yamato Transport Co., Ltd.

Introduction

Yamato Transport Co., Ltd., places great emphasis on concern for the environment, and is committed to the principle that initiatives aimed at environmental conservation are essential to its continued existence as a corporation. Yamato Transport's principal focus on cargo transport operations requires that it possess a large fleet of delivery vehicles, and the firm has taken an industry-leading position in terms of implementing initiatives such as eliminating unnecessary engine idling in its delivery vehicles and phasing in low-emission vehicles within its fleet. In addition to its efforts to reduce exhaust gas emissions and preventing global warming, Yamato Transport is displaying a far-reaching commitment to other relevant environmental initiatives including green purchasing.

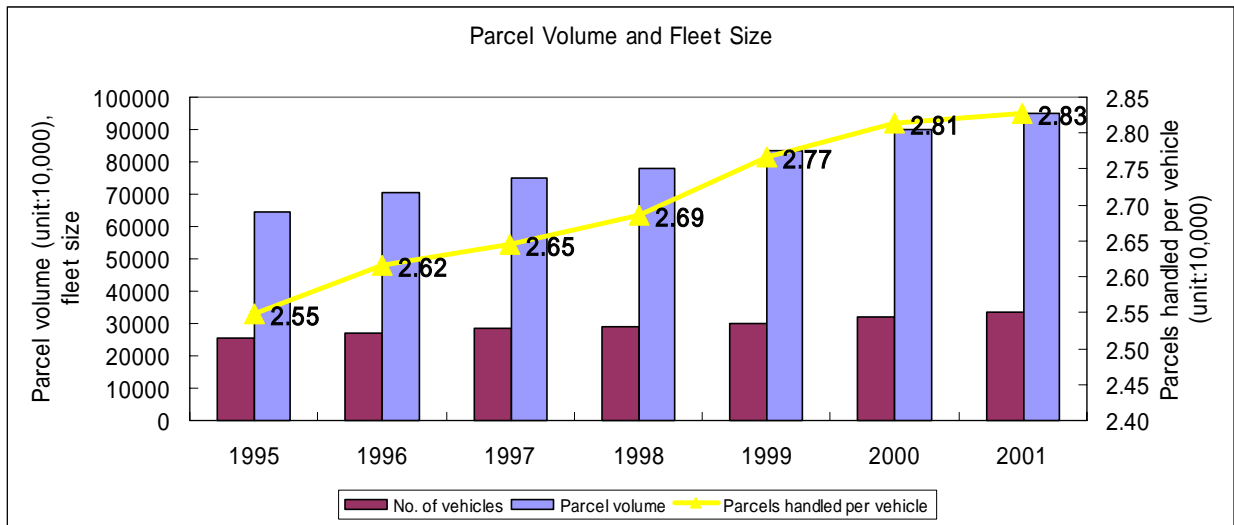
1. Green Purchasing in Transport Operations

A. Environmental Initiatives for Delivery Vehicles

Due to Yamato Transport's focus on transportation-related activities, a major portion of the firm's purchasing by value is devoted to the purchase of trucks and other delivery vehicles. Yamato Transport currently possesses a fleet of 33,511 delivery vehicles, which support the activities of approximately 3,000 offices located throughout Japan. Collection and delivery of parcels is largely accomplished using small freight vehicles, which account for 81% of its fleet (27,216 vehicles), while large and midsize freight vehicles account for 6% of its fleet (1,907 vehicles). The task of reducing the environmental impact of delivery vehicles represents a major issue for both the transportation industry and the community, due to the significant environmental impact of exhaust gas emissions and the contribution to global warming resulting from CO₂ emissions. Consequently, Yamato Transport has placed great emphasis on implementing initiatives designed to reduce the environmental impact of its delivery vehicle fleet.

Improving the Efficiency of Truck Deliveries

Yamato Transport has experienced significant growth in the number of parcels it handles annually, and expects its parcel volumes to continue growing at a rate of 5% annually. For example, the firm processed 647 million parcels in 1995, and the number grew by nearly 50% to a volume of 948 million parcels in 2001. However, Yamato Transport's fleet grew by just 32% during the same 6-year period, from 25,375 vehicles in 1995 to 33,511 vehicles in 2001. The comparatively modest growth of the firm's fleet resulted from management efforts to improve the efficiency of truck deliveries, as opposed to allowing the fleet to grow in proportion to parcel volumes. The firm also was successful in achieving a 10% increase in the delivery efficiency of its fleet during the 6-year period from 1995 to 2001, from an average of 25,400 parcels handled per vehicle in 1995 to an average of 28,300 parcels per vehicle in 2001. The firm's initiatives to limit the growth of its fleet are typical of its commitment to "think first about the necessity," which is the foremost principle of Yamato Transport's green purchasing policy.



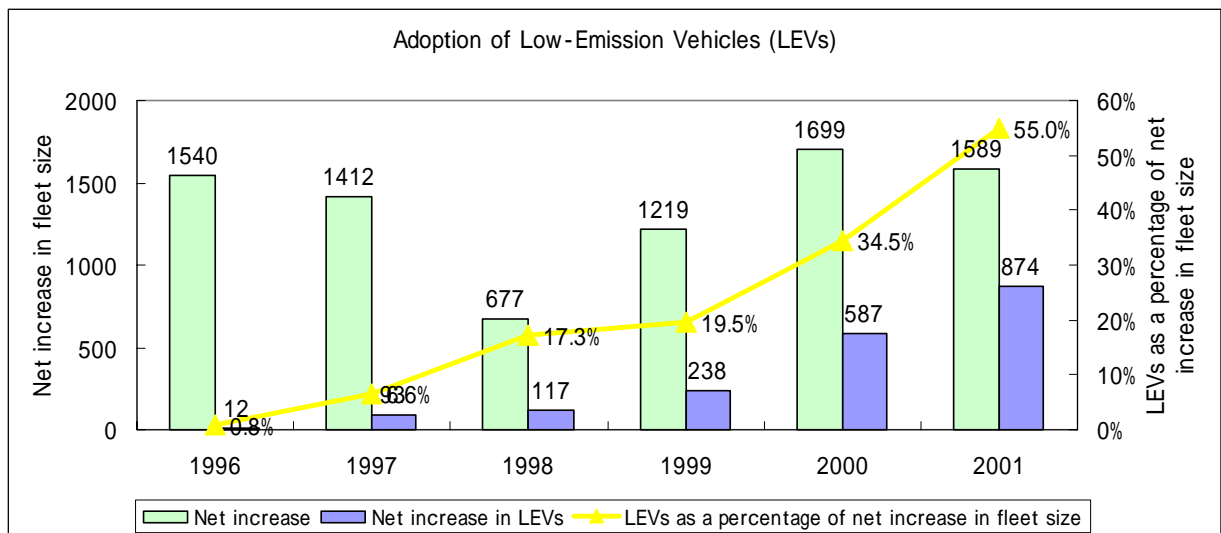
Satellite Centers

Yamato Transport's strategy of using satellite centers for its activities has contributed to the firm's efforts to limit the growth of its fleet size despite increasing parcel volumes. The firm's satellite centers serve as small-scale collection and delivery centers, and are deployed in high-density residential locations and office districts. The satellite centers are generally staffed by seven employees, who use hand trolleys rather than delivery vehicles to collect and deliver parcels to customers. At the satellite centers, subcompact cars are only used occasionally to collect and deliver parcels, and the use of trucks is reserved for the delivery of parcels between the satellite center and larger sales offices. The deployment of satellite centers that use hand trolleys in place of delivery vehicles, as well as their significant deployment in urban areas, has had a major impact in terms of increasing Yamato Transport's delivery efficiency. As of March of 2002, Yamato Transport had deployed satellite centers in 338 locations throughout Japan, with plans to continue adding satellite centers in other locations. The firm has calculated that its current network of satellite centers has eliminated the need for an additional 1,690 vehicles, equating to savings of 54 tons of CO₂ emissions per day, based on an average requirement of five vehicles per sales office. Furthermore, Yamato Transport has also undertaken initiatives to utilize rail and ferry transport since 1987, in an effort to reduce the volume of vehicular traffic used in long distance transport.



Delivery Vehicles

While improvements to Yamato Transport's delivery efficiency can be linked to a reduction in the amount of exhaust gas emissions and CO₂ emissions when calculated on a per vehicle basis, the actual increase in Yamato Transport's fleet size has the potential for greater environmental impact. The firm is attaching great priority to the implementation of environmental initiatives in its delivery vehicles, resulting in the adoption of low-emission vehicles (LEVs) and hybrid vehicles at a faster rate than was originally planned. For example, Yamato Transport originally planned to have 2,400 LEVs in service by 2010, but will achieve this goal in 2002, eight years ahead of schedule. As of March of 2002, the firm had 1,951 LEVs in service, which accounted for 5.8% of its overall fleet. In addition to low-emission vehicles, Yamato Transport has aggressively promoted the use of vehicles that run on liquefied petroleum gas (LPG), as a substitute for diesel vehicles. LPG vehicles have proven to be both a practical and acceptable alternative to petroleum cars, and were chosen by Yamato Transport based on an overall analysis that took into account the widespread availability of LPG fuel. Other environmental initiatives by the firm include plans to adopt hybrid vehicles and create its own infrastructure for the supply of fuel, as well as the planned use of "Eco Cool" vehicles that are capable of maintaining refrigerated cargo temperatures even while their engines are turned off.



B. Green Purchasing of Materials Used in Transport Operations

Yamato Transport established its own environmental labeling program in 1994, in an effort to draw attention to the purchasing of ecologically conscious products and raise awareness about environmental issues among its customers. The firm has created its own standards for environmental labeling, which prescribe the criteria for selecting products for green purchasing.

Standards for Environmental Labeling

- (1) Low environmental impact from product use
- (2) Significant positive impact on the environment from product use
- (3) Low environmental impact from disposal subsequent to product use
- (4) Other significant contribution to environmental conservation

Yamato Transport Environment Mark



The design for the Environment Mark was created by the firm’s own employees, as part of a design contest that was implemented in order to draw attention to environmental protection issues and generate interest in the new environmental labeling program among employees. As of March 2002, Yamato Transport had approved its environment mark for use with 90 items, ranging from sales pamphlets to packaging materials available for purchase. The firm currently sells 23 packaging products to customers, 12 of which feature the Yamato Transport Environment Mark. In addition, Yamato Transport is making every effort to encourage its customers to purchase ecologically conscious products, and has also created Yamato Transport Environmental Labeling Guide. The guide was published in April of 2002 and has been distributed to each of Yamato Transport’s offices in an effort to ensure that green purchasing policies are uniformly applied to the firm’s suppliers. The guide contains guidelines based on various reference sources including the Eco mark certification criteria established by the Japan Environment Association (JEA) and guidelines from the Sanitation Department of the Tokyo Metropolitan Government concerning the use of recycled products by businesses.

Reference 1

Yamato Transport Environmental Labeling Guide: Requirements for Green Products

Product		Guidelines
Office paper	Copy paper	Min. 70% recycled fiber content, approx. 70% brightness
	Form paper	Min. 50% recycled fiber content
Paper for printing	Publications including reports	Min. 70% recycled fiber content, approx. 70% brightness
	Waybills, forms	Min. 50% recycled fiber content
	Pamphlets, catalogs, leaflets, posters, calendars, publications including corporate magazines	Color printing with photographs: Min. 40% recycled fiber content Color printing, no photographs: Min. 50% recycled fiber content Black & white printing, no photographs: Min. 70% recycled fiber content
General office supplies	Envelopes (white), business cards	Min. 70% recycled fiber content
	Envelopes (non-white), personal organizers, notebooks, letter paper/pads, files, data binders	Min. 50% recycled fiber content
Paper for sanitary use	Toilet paper, tissue paper	Min. 100% recycled fiber content
Materials	Cardboard boxes	Min. 50% recycled fiber content
	Shopping bags, wrapping paper	Min. 30% recycled fiber content
Other	Pens	Uses recycled plastic
	The following criteria shall apply for products not described above: 1. Product or system that conserves resources or is anticipated to reduce the environmental impact. 2. Product or system expected to draw attention to environmental conservation within the company and the community.	

C. Other Initiatives to Reduce Environmental Impact

Initiatives aimed at reducing the environmental impact caused by the transport of goods and materials are critical to both the transportation industry and corporations in other sectors. Yamato Transport is involved in various environmental initiatives that, while not directly related to green purchasing, are nonetheless aimed at reducing the environmental impact of its transportation activities.

Elimination of Unnecessary Engine Idling

In addition to the adoption of low-emission vehicles in its delivery fleet, Yamato Transport further recognizes that the reduction of exhaust gas emissions requires a shift in the attitudes and actions of its drivers. In September 1985, Yamato Transport implemented an industry-leading initiative requiring its drivers to be tethered to their ignition keys at all times, thus forcing drivers to turn off their engines when stopping their vehicles to handle parcels. The ignition key tether system has been adopted by both Yamato Transport and its group companies, and helps to conserve energy otherwise consumed by engine idling, while also reducing the risk of vehicle theft.

In July 2001, the firm conducted a 6-month trial period to investigate the effectiveness of the ignition key tether system. Engine hour meters were attached to each of Yamato Transport's primary delivery vehicles in order to monitor the extent to which drivers were shutting off their engines. The resulting data indicated that driver's were shutting off their engines for a total of 5.0 hours during an average 8-hour day of parcel collection and delivery, resulting in an average operating rate of just 38%. When the firm calculated in terms of CO₂ emissions based on this result, the fleet reduced a total of 86,870 tons of CO₂ emissions in FY2001. Yamato Transport is also actively involved in sharing information with its 1,000 partner companies in the transportation industry, in an effort to promote the adoption of ecologically conscious initiatives such as the elimination of unnecessary engine idling and deployment of low-emission vehicles.

Parcel Delivery Notification Service

Yamato Transport began an e-mail based parcel delivery notification service in February 2002. In addition to its convenience for customers, the service helps to reduce the possibility of extra delivery trips that result when a customer is unavailable to receive a parcel shipment, thus helping to reduce the environmental impact of Yamato Transport's delivery vehicles.

2. Green Purchasing of Products Used for the Workplace

Since 1999, Yamato Transport's annual Policies for Environmental Protection have prescribed green purchasing as a leading environmental initiative to be undertaken by the firm. In its Policies for Environmental Protection 2002, Yamato Transport makes a commitment to actively promoting green purchasing and aggressively educating its workforce in the importance of green purchasing, while promising to actively pursue a policy of reducing atmospheric pollution and global warming.

For FY2002, Yamato Transport has established a target of achieving a 60% green purchasing rate for all 101 products specified for green purchasing in the 2001 standards of Japan's Green Purchasing Law. Of the 14 product categories outlined in the Green Purchasing Law, the firm has already surpassed its target in the category of stationery and paper products as a direct result of previous initiatives to promote green purchasing. The firm is currently working to meet its green purchasing targets in all 101 products designated for green purchasing during FY2002.

A. Formulation of Purchasing Standards

Green purchasing at Yamato Transport is implemented using the firm’s own guidelines, which are designed to comply with Japan’s Green Purchasing Law. The corporate guidelines for green purchasing are prescribed in the firm’s Green Purchasing Guide, which was formulated in April of 2002 for the purpose of ensuring uniform implementation of green purchasing within Yamato Transport. The guide is available on the firm’s corporate Intranet and can be accessed by any of its employees. The guide describes the concept of “thinking first about the necessity” as being the first principle of green purchasing, and also stresses that ecologically conscious purchasing should be implemented by each of the 100,000 employees employed by Yamato Transport and its subsidiaries. The guide contains separate sections focusing on the Green Purchasing Law as it relates to eight product categories, including: (1) stationery; (2) printed materials; (3) paper products; (4) furnishings and accessories; (5) office equipment; (6) electrical appliances; (7) lighting; and (8) construction equipment, construction work and services. The guide states that the firm’s employees should evaluate the overall cost of purchasing beyond the basic cost of a product, by considering additional factors such as the operation cost, maintenance cost, and disposal cost. The guide further stresses that potential purchases should be reviewed to identify unnecessary features and describes how purchasing personnel can collaborate with other departments in order to negotiate pricing as a group.

For purchasing of printed materials, the guide states that employees should provide printing companies with a written request for green purchasing compliance, in order that suppliers can gain a better understanding of Yamato Transport’s green purchasing practices. The guide also specifies that printing companies should be asked to provide the firm with MSDS sheets and a written report on the status of their green purchasing compliance. Yamato Transport clearly recognizes that the cooperation of suppliers is critical to the promotion of green purchasing initiatives, and understands the necessity of working collaboratively with its ever-diversifying group of suppliers.

Green Purchasing Performance

Category	Green purchasing	Non-green purchasing	Overall purchasing	Green purchasing rate
Office supplies by quantity	669	106	775	86.3%
Paper products by weight (kg)	3941	2458	6399	61.6%

B. Management of Green Purchasing Performance

Yamato Transport and its group companies routinely monitor green purchasing performance for two categories of green purchasing products, consisting of: (1) products whose green purchasing performance can be tracked using existing systems and practices; and (2) products that account for a significant portion of purchase by value. The firm presently measures its green purchasing performance based on a green purchasing rate calculated not by value but by quantity of items procured, so as to eliminate the variable of pricing differences in products. Starting in April 2003, Yamato Transport adopted an office supplies purchasing system for deployment at its headquarters, business units, regional offices, sales offices, and subsidiaries. The system enables Yamato Transport to gather relevant green purchasing data and easily monitor its green purchasing performance, and to compare the green purchasing performance of its regional offices and sales offices. Furthermore, the firm expects that the new system will serve as an impetus for information sharing among the Implementation Committees and Subcommittees working under its Global Environmental Committee. The Group-wide deployment of the system will also decrease costs by allowing purchasing managers to pool their purchasing needs with other departments to better negotiate prices for bulk purchasing, rather than procuring supplies within departmental budgets.

3. Promotion of Green Purchasing through Merchandise Sales

A. Waybill Recycling and Development of Private Brand Products

Yamato Transport has implemented a system for collecting waybills and other paper waste for recycling into toilet paper. Waybill and other paper waste is collected from its offices and group companies throughout Japan and brought to one of four paper-recycling plants for processing. The end product is a coreless toilet paper roll made from 100% recycled fibers, which is sold under the “Tokusen Shijo” (Special Market Selection) private brand developed by Yamato Transport. The toilet paper is sold nationwide and delivered door-to-door using Yamato Transport’s courier service, and qualifies as an ecologically conscious product under the purchasing guidelines established by the Green Purchasing Network (GPN), an organization that promotes green purchasing. During FY2001, Yamato Transport sold approximately 3.89 million cases of toilet paper, equivalent to 23.3 million rolls.

<p><i>Reference</i></p> <p>Green Purchasing Network Guidelines for Purchasing of Toilet Paper</p> <ul style="list-style-type: none">-Made from 100% recycled fiber content-Low brightness-Other prerequisites: Coreless, single-ply

B. Catalog Sales of Ecologically Conscious Office Products

Yamato Transport is also involved in catalog sales of office products through its “Cat Work” sales venture. The Cat Work catalog sales service primarily focuses on customers located in outlying urban areas, and provides door-to-door delivery of a broad selection of office products from various manufacturers. Customers select the products from printed catalogs or from a partial online catalog. The Cat Work catalogs promote green purchasing among customers by using a “Cat Work Green Mark” label to identify products that comply with Japan’s Green Purchasing Law. The label gives customers a way to easily identify and choose ecologically conscious products for their purchases.

C. Refurbishing and Remarketing of Unwanted Products from Moving

Yamato Transport collects unwanted furniture and household appliances as part of its moving services, which are in turn refurbished by a subsidiary and then displayed for resale as affordable refurbished products. During FY2001, the firm achieved a 65.2% recycling rate, based on sales of 4,077 refurbished items.

In each of the environmental initiatives described above, Yamato Transport has successfully taken advantage of the frequent interactions with consumers that characterize its parcel delivery business. The firm has successfully developed new areas of business by aggressively incorporating ecologically conscious elements into its overall business model. Furthermore, Yamato Transport has made a significant impact through its efforts to promote green purchasing among consumers. From here on, the challenge for Yamato Transport’s environmental-related ventures will be to increase recognition among consumers and further expand the market for the goods and services they offer.

4. Recycling and Other Environmental Initiatives in Overall Operations

Yamato Transport has several subcommittees that are devoted to reviewing environmental issues. One of these subcommittees is the Recycling Subcommittee, which is focused on ensuring that the Yamato Transport’s offices carry out 3R (Reduce, Reuse, Recycle) activities with the goal of reducing the volume of waste generated through the precise separation of waste streams.

Recycling of Cardboard Waste and Utilization of Reusable Materials for Moving

Yamato Transport is involved in an initiative to recycle cardboard waste used during the transport of goods. Waste cardboard is shredded using cutting machines and reused as cushioning material. Due to its aggressive efforts to recycle cardboard waste for use as cushioning material, the firm has decreased its reliance on conventional bubble wrap as indicated below. In addition, Yamato Transport is striving to further reduce waste by making every effort to switch to reusable materials as a replacement for sheet cardboard used to wrap objects during moving.



Material Savings in FY2001

- (1) Reduction in consumption of sheet cardboard for wrapping, due to use of reusable protective materials and reusable furniture padding: Approximately 326,000 rolls/year
- (2) Reduction in consumption of cardboard boxes, due to use of reusable plastic boxes: 24,500 boxes/year

Recycling of Company Uniforms

Company uniforms that are no longer used by employees are collected by Yamato Transport and shipped to the Takashima Plant of Kuraray Co., Ltd., for processing and conversion to a solid fuel source. The solid fuel is used as a supplementary fuel in place of coal, and serves as a heat source for special boilers used in power generation. Consequently, the heat energy for the processed uniforms is effectively reused to maintain the thermal cycle.

Since 1998, Yamato Transport has been tracking the quantity and volume of waste produced by its business activities. Each of the firm's regional offices and business headquarters are required to submit a monthly report on recycling and waste processing for tabulation of recycling and waste data. The resulting data showed that the firm's aggressive adoption of environmental initiatives allowed it to recycle 1,145 tons of waste in FY2001, out of a total volume of 37,668 tons of waste generated. Yamato Transport's recycling efforts appear to be making steady progress, as indicated by the increase in the firm's recycling rate from 28.7% in FY2000 to 30.5% in FY2001.

5. Organizational Commitment to Environmental Initiatives

In May 1991, Yamato Transport established the Global Environmental Committee for the purpose of reviewing green purchasing and other environmental initiatives. The Committee is chaired by the Senior Managing Director of Yamato Transport, with the Chairman of the Labor Union's Central Administration Committee serving as the Vice Chairman. Additional members of the Committee include the 12 regional vice presidents and general managers of Yamato Transport, the 16 parent company general managers, and the 3 senior Labor Union officers. Administrative duties for the Committee are carried out by the Social Action Division of Yamato Transport. The Committee features a cross-organizational structure, and is mainly concerned with guiding the firm's policy on

environmental issues. The Committee meets on a quarterly basis to study and formulate initiatives in response to global environmental issues, with an emphasis on medium- and long-term solutions.

The Green Purchasing Subcommittee, formerly known as the Eco Mark Subcommittee, was established at the same time as the Global Environmental Committee. The Subcommittee is primarily concerned with certifying corporate publications and packaging materials sold by Yamato Transport that are to bear the Yamato Transport environment mark, and is also involved in promoting green purchasing of products used in the workplace. Administrative duties for the Subcommittee are carried out by the Operations and Systems Division of Yamato Transport. The Subcommittee has 9 members drawn from various departments within Yamato Transport and its subsidiaries. The members of the Subcommittees meet on a monthly basis to review practical issues relevant to the promotion of green purchasing. From an organizational perspective, the Green Purchasing Subcommittee is considered to be of equal importance with the Clean Energy Subcommittee, which is concerned with exhaust gas emissions and other air pollution issues that are traditionally of great concern to the transportation industry. The relative importance of the Green Purchasing Subcommittee in relation to Yamato Transport's other environmental Subcommittees is also considered an asset in terms of gaining recognition for the importance of green purchasing within the company.

6. Future Initiatives to Promote Green Purchasing

Yamato Transport and its subsidiaries presently employ over 100,000 employees in 3,000 offices. Due to the large number of employees and offices it oversees, Yamato Transport is faced with the major task of ensuring that its employees and offices fully comprehend and comply with the corporate policies decided by the Global Environmental Committee and other organizations within the firm. In terms of exhaust gas emissions and noise pollution, the firm's employees tend to acknowledge their own responsibility for environmental issues. However, compared to a traditional manufacturer, Yamato Transport recognizes that it must make a stronger commitment in order to gain widespread acknowledgement and involvement in green purchasing among its employees, because the firm is in an industry where it has less need for purchasing of raw materials and components. The firm also recognizes the need for more education and further corporate initiatives to promote green purchasing, which are necessary to accommodate its plans to accelerate the transition to satellite centers by establishing an eventual network of 5,000 satellite centers.

Lastly, Yamato Transport is involved in the following initiatives as a prerequisite for expanding green purchasing within the firm.

(1) It is sharing information about the status and procedures for promoting green purchasing at the sales office level through the efforts of the Global Environment Subcommittees, which promote environmental initiatives at Yamato Transport's regional offices and business headquarters, and the Implementation Committees, which promote environmental initiatives at the major branch level.

Furthermore, the firm will attempt to instill its employees with a proactive attitude about environmental initiatives, by assigning its front-line employees to departments responsible for carrying out the administrative work of the Global Environment Subcommittees and Implementation Committees.

(2) The firm is working to further utilize its corporate Intranet as an information source for green purchasing, in order to further the acceptance of green purchasing at Yamato Transport's regional offices and sales offices.

(3) The firm is promoting the future development of a company-wide system for purchasing of office supplies.