

Seiko Epson Corporation's Green Purchasing Initiatives

Introduction

The Seiko Epson Group includes environmental conservation initiatives as an important part of its management philosophy, in order that the firm may contribute to achieving a sustainable society. The firm's management philosophy states, "Epson is a progressive company, trusted throughout the world because of our commitment to customer satisfaction, environmental conservation, individuality, and teamwork. We are confident of our collective skills and meet challenges with innovative and creative solutions." Based on this philosophy, in October 1994, Seiko Epson established its first Environmental Policy, which consists of an Environmental Philosophy and Major Activities (initiatives). The Seiko Epson Environmental Policy, most recently revised in June 1999, declares, "Epson will integrate environmental considerations into its corporate activities and actively strive to meet high conservation standards in fulfilling its responsibilities as a good corporate citizen." The Environmental Policy outlines five major initiatives to be pursued by the entire Seiko Epson Group.

- 1) Creating and providing earth-friendly products
- 2) Transforming all processes to reduce the burden on the environment
- 3) Recovering and recycling used products
- 4) Sharing environmental information and contributing to regional and international preservation efforts
- 5) Continually improving the environmental management system

1. History of Green Procurement

Seiko Epson's green procurement initiatives began in earnest in 1998, quickly followed by the initial implementation of green material reviews at its domestic operations in 1999. By 2001, the firm had expanded its green material reviews to plants operated by its group companies and affiliates in Japan, as well as to its overseas plants. Seiko Epson's green procurement initiatives continue to expand every year, resulting in an unprecedented level of involvement from both within the company and from the larger community.

1992 – Present	Switch to recycled copy paper and business cards
April 1998	Establishment of group-wide Green Purchasing Committee
July 1998	Start of green procurement of general purchases Formulation of green purchasing guidelines for general purchases
April 1999	Start of green procurement of production materials
September 1999	Formulation of green procurement guidelines for production materials
May 2000	Start of green material reviews at overseas plants and group companies and affiliates in Japan
December 2000	Completion of green vendor surveys implemented by Seiko Epson in Japan
June 2002	Revision of green purchasing guidelines for general purchases (following enactment of Japan's Green Purchasing Law)

January 2003 Establishment of Seiko Epson Group (SEG) Green Purchasing Standard for Production Material

March 2003 Official enactment of SEG Green Purchasing Standard for Production Material

Seiko Epson's Green Purchasing Committee is comprised of individuals drawn from the operations divisions and group companies of Seiko Epson, and includes the membership of environmental management divisions operating within the Seiko Epson Group. Administrative duties for the Committee are handled by the production management divisions of Seiko Epson Corporation. Although the committee is currently responsible for overseeing Seiko Epson's green procurement efforts, the firm eventually plans to fully integrate the work of the Green Purchasing Committee into Seiko Epson's day-to-day operations at the workplace level.

2. Green Procurement of Production Materials in Japan

Seiko Epson is making every effort to reduce the environmental burden of every stage of its products' lifecycles, underpinned by a corporate commitment to energy-saving design, resource conservation, and the elimination of hazardous substances. These objectives are accomplished through a wide range of efforts in various fields including planning, design, materials procurement, manufacturing, sales, and distribution, as well as environmental initiatives regarding the use, recovery, and recycling of products. The firm's green procurement efforts are primarily focused on the elimination of hazardous substances and resource conservation through initiatives aimed at reducing the environmental burden of procurement in terms of both suppliers and production materials.

Seiko Epson formulated its own green procurement guidelines for production materials in 1999, and later established the SEG Green Purchasing Standard for Production Material in 2003. The SEG Green Purchasing Standard for Production Material describes the firm's fundamental approach to green procurement of production materials and contains concrete standards and procedures for its implementation. The document seeks to encourage the procurement of production materials that reduce environmental burden, as a means of fulfilling the firm's commitment to "Creating and providing earth-friendly products."

A. Green Vendor Certification

At Seiko Epson, the process for green procurement of production materials occurs in two separate phases. In the first phase, Seiko Epson Corporation carries out surveys and certification of green vendors, and in the second phase the operations divisions of Seiko Epson carry out reviews and certification of green materials. However, materials are not reviewed unless suppliers are certified as green vendors, so that suppliers are encouraged to cooperate with Seiko Epson in order to achieve the firm's goal of a 100% green vendor certification rate among suppliers.

Seiko Epson is strongly committed to its suppliers' efforts to become green vendors, based on a recognition that earth-friendly products can only be realized by working in collaboration with its suppliers, as opposed to working in isolation. Seiko Epson is committed to working closely with its suppliers to implement environmental initiatives to enable its suppliers to achieve green vendor certification. Green vendors must satisfy the certification requirements shown below as a prerequisite for transactions with Seiko Epson.

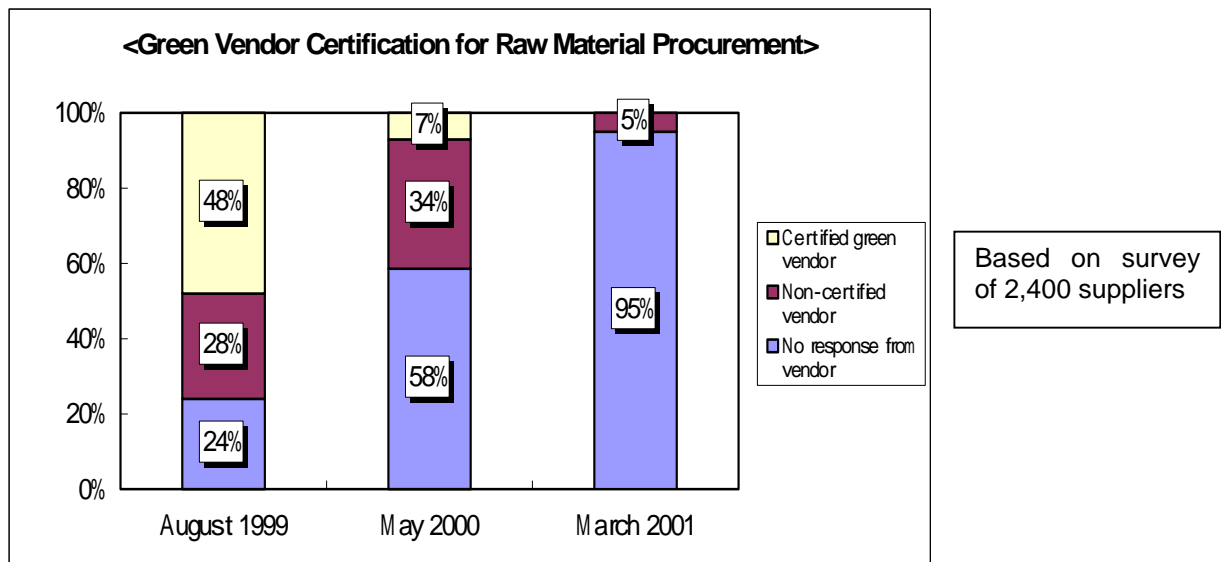
Requirements for Certification as Green Vendor of Production materials

- (1) Certification that product does not contain banned substances (from March 2003)
- (2) Certification that substance banned from manufacturing are not used
- (3) Passed Seiko Epson Group waste control audit
- (4) Implementation of environmental initiatives (consisting of acquisition of ISO 14001 certification

or internal environmental system)

Seiko Epson implemented its first green vendor survey in May 1999, covering approximately 2,400 suppliers. At the time of the initial green vendor survey, Seiko Epson's suppliers showed a lack of awareness about green procurement, which led to a low number of survey responses returned by suppliers. Among those that responded, many of Seiko Epson's suppliers indicated that they either lacked the resources to implement environmental initiatives or were unsure how to proceed with such initiatives. Consequently, Seiko Epson sought to increase its suppliers' awareness of green procurement and to gain their cooperation through communication and guidance provided in the form of seminars, telephone and written requests for cooperation, and direct meetings with suppliers.

As a result of Seiko Epson's persistent efforts, the rate of green vendors among suppliers increased from 24% in August 1999 to 58% in May 2000. By March 2001, the percentage of green vendors increased to 95%, while the response rate for the green vendor survey reached 100%, as shown in Graph 1.



Graph 1

The data from the most recent green vendor survey conducted in December of 2002 indicates that 2,468 suppliers, or 94% of all suppliers were certified as green vendors, out of a total of 2,634 suppliers. Of the remaining 166 suppliers who were not certified as green vendors, 34% indicated they had concrete plans to implement initiatives to become green vendors, while another 15% indicated they would eventually do so. A further 15% indicated that they were trading companies and had not undertaken any environmental initiatives, while another 12% indicated that they lacked the manpower and financial resources to implement environmental initiatives. Overall, the figures from the latest green vendor survey indicate that nearly half of all uncertified suppliers plan to eventually undertake initiatives to become certified as green vendors, as Seiko Epson continues to strive for 100% green vendor certification among its suppliers.

B. Green Materials Certification

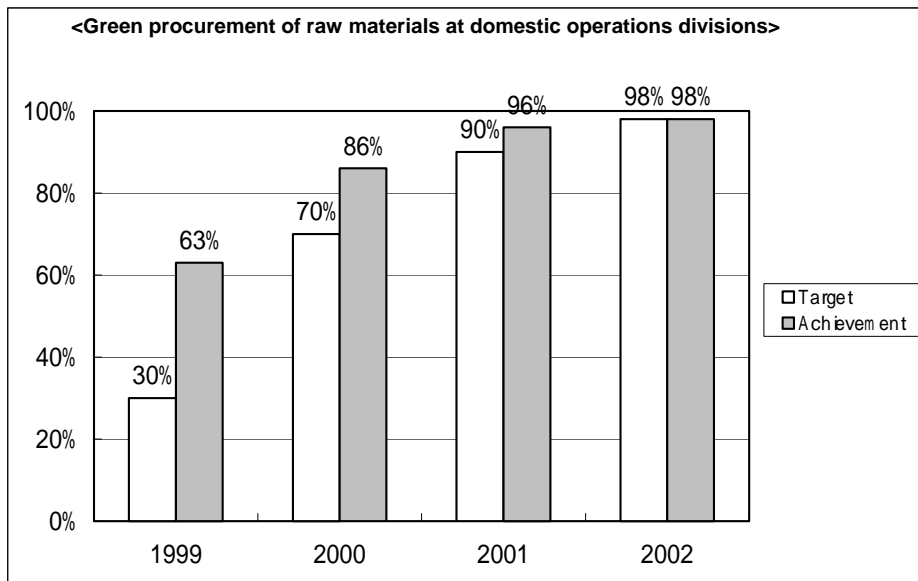
Seiko Epson conducts reviews of green materials for suppliers who are certified as green vendors. Green material reviews are conducted in accordance with the SEG green purchasing standard for production material, which outlines the requirements for certification of green materials as shown below.

Requirements for Certification of Green Materials

- (1) Survey of information on controlled chemical substances content in products (from March of 2003)
- (2) Supplier is a green vendor
- (3) Use of more than 51% recycled paper (by weight) for production material/parts packaging or existence of voluntary recovery system

When Seiko Epson conducted its first green materials reviews in 1999, the green procurement rate for production materials was 63%. By 2002, the rate of green procurement for production materials had increased to 98%. As indicated in Graph 2, Seiko Epson has surpassed its annual targets for green procurement of production materials in every year since its initial implementation of green material reviews in 1999.

Graph 2



*The rate of green procurement for production materials is calculated as a percentage of the overall procurement by value.

In 2002, 2% of production material procurements failed to meet the green material standard set by Seiko Epson. Of this group, 5% consisted of materials that either failed to use more than 51% recycled paper (by weight) for production material/parts packaging or used polyvinyl chloride (PVC) packaging. The remaining 95% of non-compliant materials were categorized as such due to a lack of supplier response to Seiko Epson's green material reviews.

Seiko Epson undertook several initiatives to address the two major factors for non-compliance identified by its green material reviews. To address semiconductor procurements that used PVC packaging, the firm introduced a system for recovery and reuse by recycling firms in order to eliminate the incineration of PVC packaging. This initiative alone resulted in a reduction of 12 tons of waste per year. Seiko Epson introduced collapsible plastic shipping containers that allowed for repeated reuse of the containers, in order to address material procurements that used less than 51% recycled paper for production material or parts packaging. As a result, Seiko Epson achieved a 70% reduction in cardboard box waste, and also realized savings of 80 yen per unit due to more efficient utilization of warehouse space resulting from the use of reusable containers.

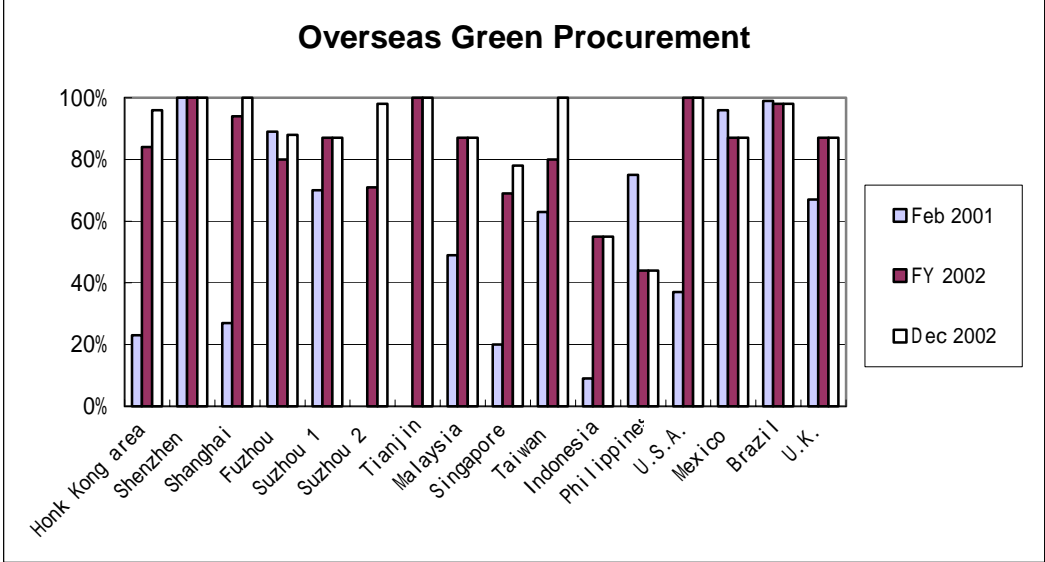
3. Green Procurement of Production materials at Overseas Plants

As the ratio of its offshore production continues to increase with every year, Seiko Epson is closely

monitoring green procurement at its overseas sites. In FY2000, the firm began implementing green procurement at 15 of its overseas plants. The firm dispatched personnel its overseas plants to communicate the fundamental approach toward green procurement and to stress the importance of green vendor surveys, and translated its survey materials into English and Chinese. These efforts paved the way for communication with local suppliers and implementation of green vendor surveys at its overseas plants. However, the staff at Seiko Epson who were responsible for implementing green procurement at overseas plants indicated that they frequently had trouble to cope with the different regulations and widely divergent attitudes towards environmental initiatives in each country.

Other hurdles faced by Seiko Epson included the absence of environmental policies and environmental plans at overseas plants, as well as the lack of organization structures for carrying out environmental initiatives. The situation was further hampered by the large number of suppliers not certified as green vendors and the scarcity of green materials from local suppliers. For instance, in China, there was a scarce supply of packaging that used more than 51% recycled paper. A further hurdle was the difference in attitudes towards environmental conservation displayed by suppliers, which tended to vary from country to country. In spite of these hurdles, Seiko Epson recognizes the need to work patiently to gain the cooperation of the local suppliers of its overseas plants, in order to implement a global strategy for green procurement.

Seiko Epson is also pursuing other initiatives to further its global strategy for green procurement. Since many of the suppliers of its overseas plants are overseas affiliates of Japanese companies, Seiko Epson is working with the Japanese headquarters of local suppliers of its overseas plants, in an effort to communicate the firm’s fundamental approach towards green procurement and to gain the cooperation of local suppliers. Seiko Epson is also working to educate local suppliers of its overseas plants by holding seminars and meeting directly with its suppliers to discuss issues. The firm also works closely with its suppliers to suggest green materials as a replacement for non-compliant materials.



Graph 3

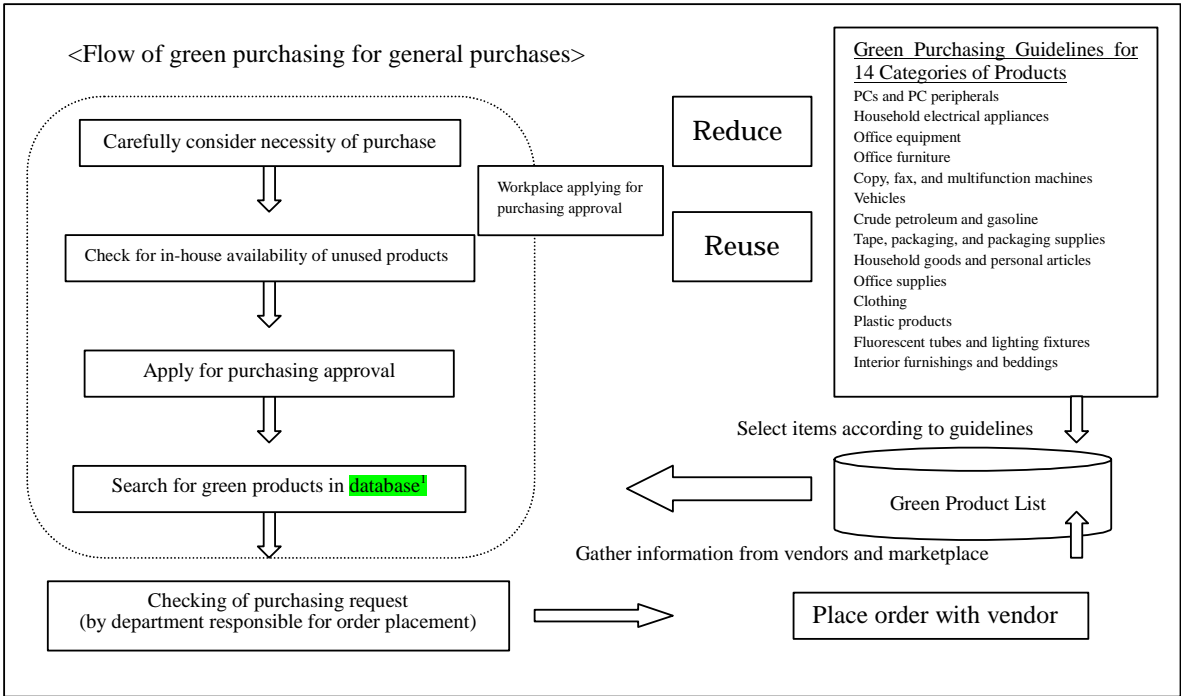
By December of 2002, the rate of green vendor certification among suppliers of Seiko Epson’s overseas plants increased to 80%. At the same time, the green procurement rate from the 1,112 local suppliers of its overseas plants increased to 82%. Seiko Epson has also indicated that it is prepared to devote considerable time and resources to eventually implement green procurement at all of its overseas plants, based on a unified global standard for green procurement.

4. Green Purchasing of General Purchases

Seiko Epson established green purchasing guidelines for general purchases in 1998, covering general purchases of items such as stationery, office supplies, office equipment, and furniture. Following the enactment of Japan’s Green Purchasing Law in 2001, the firm revised the guidelines so that items are certified according to the standards set by the law. Any items not covered by the Green Purchasing Law are certified according to Seiko Epson’s own green product standards. Seiko Epson’s in-house guidelines stipulate that green products are to be preferred for all general purchases, and is augmented by individual guidelines covering fourteen product categories including: PCs and PC peripherals; office equipment; copy, fax, and multifunction machines; household electrical appliances; office furniture; vehicles; crude petroleum and gasoline; tape, packaging, and packaging supplies; household goods and personal articles; office supplies; clothing; plastic products; fluorescent tubes and lighting fixtures; and interior furnishings and beddings. The individual guidelines are routinely reviewed and expanded by Seiko Epson in order to maintain the pertinence of their content.

The flow of green purchasing for general purchases begins at the workplace, where employees are instructed to carefully consider the necessity of the purchase at the outset of any purchase. After checking for possible in-house availability of unused product, employees search for green products using Seiko Epson’s own database of green products. Once an employee has applied for purchasing approval of green products, the order placement department checks the request before placing the order with the supplier.

Fig. 4



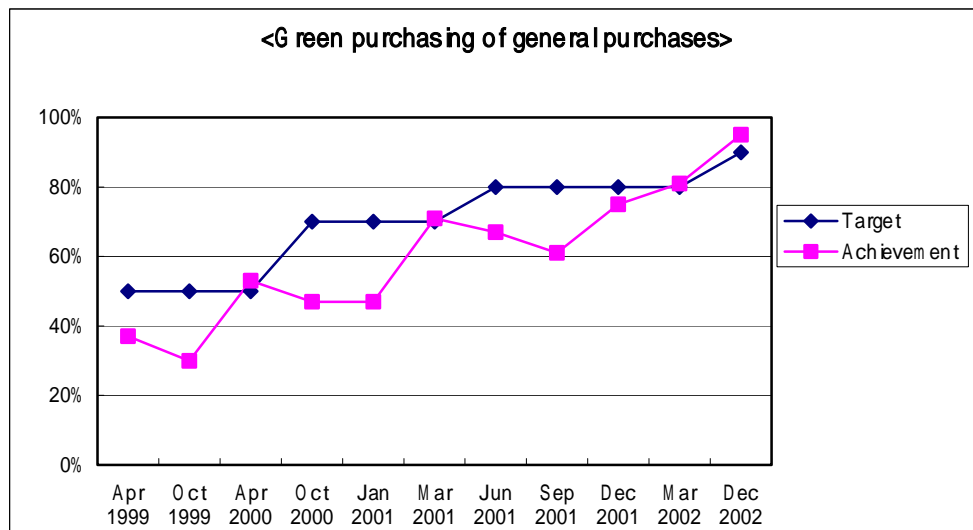
Seiko Epson implements bulk purchasing of general purchases using its own centralized order placement system. This system is also used to effectively promote green purchasing. When searching for green products in the master product database, the system automatically selects products for the user based on the established green purchasing guidelines and information from sources such as vendors and the Green Purchasing Network (GPN), an organization devoted to the promotion of green purchasing. Seiko Epson is committed to increasing the number of green products registered to its master product database, in order to ensure that its workplaces select green products in favor of

non-green products.

In addition to various systems that discourage purchases of non-green products in favor of green products, Seiko Epson has asked its purchasing personnel to educate employees about green products, in an attempt to further encourage the purchase of green products and speed up the transition to green purchasing.

By December of 2002, the green purchasing rate for general purchases increased to 95%, which exceeded Seiko Epson's original target of 90%. The graph below shows the purchasing rate for green products since 1999.

Graph 5



The green purchasing rate for general purchases is calculated as a percentage of the overall purchasing of general purchases by value.

Seiko Epson's commitment to green procurement of production materials is based on the firm's approach to choosing ecologically conscious production materials and supplementary materials used in the manufacture of its products. These choices are seen as a prerequisite to the supply of products that have a lower environmental impact throughout their lifecycles. The firm's commitment to increasing its green purchasing rate for general purchases is evident in its efforts to encourage employees to choose green products for general purchases such as office supplies, and in its deployment of an in-house system for bulk purchasing of general purchases.

Seiko Epson is dedicated to continuing its efforts to gather information about green products, expand the number of green products registered to its master product database, and create a corporate environment that encourages employees to select green products for purchases. Furthermore, Seiko Epson is committed to the cohesive implementation of green purchasing through the sharing of green product information and green purchasing guidelines with its overseas affiliates and group companies and affiliates in Japan. Seiko Epson also plans to further expand its green purchasing efforts in a number of ways, including attempts to better utilize its purchases by furthering encouraging the reuse of unused products within the company.

Seiko Epson Guidelines for Green Purchasing of General Purchases June 2002)

1. Purpose

The guidelines contained in this document are based on Seiko Epson's green purchasing regulations, and define the basic approach and criteria when selecting products for general purchases. The purpose of this document is to encourage the purchase of products that have a lower environmental impact, to the greatest degree possible, and to increase the acceptance of green consumerism in order to expand the market for green products.

2. Scope

The guidelines contained in this document apply to the product selection and purchasing processes for general purchases made by Seiko Epson.

3. Organizational Roles

A. Role of Headquarters Procurement Divisions

- (1) To collaborate with procurement departments in order to formulate guidelines for product selection (see attachment) and green purchasing guidelines.
- (2) To oversee the approval of green purchasing guidelines.
- (3) General managers of headquarters procurement divisions shall be responsible for authorizing the green purchasing of products that conform with green purchasing guidelines.

B. Role of Procurement Departments

- (1) To collaborate with headquarters procurement divisions in order to formulate guidelines for product selection and green purchasing guidelines.
- (2) To implement product reviews based on the product category specific green purchasing guidelines, and to identify products as green products or non-green products.
- (3) To register approved green products to the indirect materials order placement system.

C. Role of Purchasers

- (1) To thoroughly and carefully consider the necessity of purchases when applying for purchase approval.
- (2) To give preference to the selection of green products registered to the indirect materials order placement system.
- (3) If no applicable green products are registered to the indirect materials order placement system, purchasers shall give preference to the purchase of products that conform to the green purchasing guidelines. Purchasers shall forward any information about products that conform to green purchasing guidelines to the purchasing departments.

4. Procedures for Preparation of Product Category Specific Green Purchasing Guidelines

The following procedures shall be observed when preparing product specific green purchasing guidelines. The guidelines shall include criteria for green purchasing, in accordance with the Green Purchasing Law's intent to encourage green purchasing among the businesses and citizens of Japan.

- (1) Establish appropriate categories for the products purchased by Seiko Epson.
- (2) Determine the criteria to be covered by the product category specific green purchasing guideline, using the Seiko Epson Basic Guidelines for Product Selection and Japan's Green Purchasing Law as a reference.
- (3) Specify the criteria for green product certification as it applies to the product category specific green purchasing guideline.

5. Procedures and Sequence for Obtaining Purchase Approval

- A. Give careful consideration to the necessity of the purchase.
 - (1) Thoroughly check for existing in-house stock of the product to be purchased. Reuse any in-house surplus stock if available.
 - (2) Do not purchase product in excessive volume.

 - B. If the purchase is deemed to be necessary, consider the reuse of product available in-house
 - (1) Check the immediate workplace for availability of any available product that can be reused.
 - (2) For fixed or semi-fixed assets, search for available product using the fixed asset management system and consider the reuse of product available in-house.

 - C. If no product is available in-house and the decision is made to issue a request for purchase approval, give preference to the purchase of green products registered to the indirect materials order placement system.
 - (1) Give preference to green products when applying for purchase approval.
 - (2) If there are no applicable green products registered to the indirect materials order placement system, employees may apply for the purchase of green products that conform to existing green purchasing guidelines. In this case, the employee shall notify the procurement department and request that the product in question be registered to the indirect materials order placement system.

 - D. If the request for purchase approval leads to a surplus of material or product resulting from the replacement of an existing product, the following actions should be taken:
 - (1) Determine whether the product can be reused by notifying others in the immediate workplace and at surrounding workplaces. Any unused product shall be registered to the fixed asset management system.
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Guidelines for Product Selection

1. Products for Purchase

- A. Possession of environmental labeling certified by a public body, such as Eco Mark labeling and Green Mark labeling.
 - Products certified according to the individual standards specified by organizations such as the Japan Environmental Association.
- B. Use of recycled materials, etc.
 - Products that contain recycled materials or reused components. Higher percentages of recycled/reused materials are preferable.
- C. Resource and energy conservation
 - Manufactured using less production materials and energy than conventional products.
 - Lower energy consumption during use of product due to features such as reduced-power standby mode.
 - Lower consumption of resources or energy during distribution.
- D. Capable of reuse
 - Container or durable supply material capable of refilling or replenishment.
 - Part or component made from durable supply material that is capable of repeated use in the same application and in its existing form.
- E. Capable of long-term use
 - After-sales service in the form of repair, parts replacement, etc.
 - Capable of long-term use through upgrading of product features.
- F. Designed to be easily recyclable
 - Use of production materials that can be easily recycled.
 - Constructed to be easily disassembled for ease of sorting and recycling.
- G. Products recycled after use
 - Products that are recovered or recycled by the manufacturer or a subcontractor after use.
- H. Reduced use of pollutants, etc.
 - Absence of substances which may have a harmful effect on the environment or the health of individuals.
 - Reduced use and release of hazardous substances throughout the product lifecycle.
- I. Product designed to be earth-friendly
 - Products designed to reduce environmental impact.
- J. Others
 - Products that do not fit the preceding criteria but clearly have a lower impact on individuals or the environment, when compared with conventional products.

2. Packaging of Purchased Products

- A. The packaging and packaging method shall be designed to conserve resources and conserve the amount of materials used in packaging.
 - Packaging that is solely designed for the packing of products shall utilize recyclable materials. Efforts shall also be made to conserve resources, such as conserving the amount of materials used in packaging, implementing recovery and reuse of packaging, and utilizing easily recycled materials.