Missouri Botanical Garden
Purchasing Policy

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Recent changes noted for audit purposes:

1/1/13 – Division Head expense reports, check cash requisitions, and VISA bills require a second signature before processing.
1/1/13 – Purchase Order requirements (for documentation purposes only) were raised from $500 to $2,500.
6/30/13 – Two competitive bids required at $10,000 and three required at $25,000. Competitive bids were previously recommended for large purchases but no dollar values were suggested before this date. Department Heads were asked to start the change-over process on 1/1/13.
6/30-13 – Sole source documentation guidelines implemented. Department Heads were asked to start the change-over process on 1/1/13.
9/1/14 – Two signatures required before payment of invoices.
9/1/14 – Division Head approval required before setting up a vendor or changing vendor information.
1/1/15 – Selected Division Heads had their authority limited to $250,000 and purchases in excess of $1MM were raised from Division Head to President.
2/1/15 – Three signatures required before payment of employee reimbursements.
2/1/15 – Purchase Order requirements (for documentation purposes only) were raised from $2,500 to $5,000.
2/1/15 – Contracts or “vendor signed” Purchase Orders required for purchases greater than $10,000.
4/3/15 – A Delegation of Authority Schedule was added to this policy to “document current practices” as of this date.
4/3/15 – This policy was re-worded to include all of the changes noted above, to be clearer, and to be more precise.
9/18/16 – Added Invoice Submissions section to allow for scanned copies to be e-mailed to accounts payable.
1. General Policy
This purpose of this Purchasing Policy is to directly support the Missouri Botanical Garden’s research, education, and conservation mission by providing policies and procedures that facilitate the procurement of high quality products and services in a timely manner at the lowest possible cost. The Garden encourages competition among suppliers in providing goods and services, thereby assuring that the mix of quality, service, and price best matches the Garden’s needs. This Purchasing Policy has been developed to provide guidance to the Garden’s personnel on the proper procedures to follow when an acquisition is deemed necessary. All goods and services purchased with Missouri Botanical Garden funds or Garden-managed funds (i.e., grants) are bound by the policies and procedures included herein.

The attached guidelines were specifically developed to establish sound mitigating controls to compensate for the Garden not having a purchasing department (to receive Purchase Orders) or a centralized receiving department (to issue receiving documents).

2. Delegation of Authority
The Garden has issued a Delegation of Authority Schedule which defines who can sign and authorize Purchase Orders, contracts, invoices, wires, financial drafts, checks, ACH payments, securities, asset sales and land transactions. This document can be found on the Missouri Botanical Garden Intranet under the “Controller’s Office” tab.

3. Types of Purchases
This policy applies all purchases made on behalf of the Garden, including tangible items, services, travel, research and education expenses, operating items, and capital assets.

4. Federal Funding
Circular A-122 “Cost Principles for Non-Profit Organizations” contains the requirements and principles to be used to determine if purchases made with federal funds is allowed. Items such as alcohol, entertainment, lobbying, public relations, various advertising costs, previous debt, various legal and accounting services, etc. are unallowable. Refer to Circular A-122 for a more complete discussion of allowable and unallowable costs. Contact the Controller’s Office to confirm if an expense is allowed before a questionable purchase is made with federal funds.

5. Gifts and Gratuities
Employees are specifically forbidden to directly or indirectly receive any money, loan, gratuity, favor, rebate, gift, promise, obligation, or anything of value over $100 from any vendor with whom a Garden purchase is made. Flowers and event tickets may be considered exceptions depending on the circumstances.

6. Conflicts of Interest
The Conflict of Interest policy for Garden employees should be read, understood and followed when choosing vendors. This policy can be found on the Garden’s intranet site under the first tab titled “MBG Policies”.
7. **Bidding**
Purchasers are required to solicit two bids when the value of specific goods or services exceeds $10,000 and to solicit three bids when values exceed $25,000. Bids may be documented using a Competitive Bid Analysis Form. If there are reasons to make a purchase where bids are not solicited or obtained, the purchaser should document reasons for choosing the selected vendor using the Sole Source Vendor form and Sole Source Vendor Log. All three of these documents can be found on the Missouri Botanical Garden Intranet under the “Controller’s Office” tab.

When it is observed that several Garden departments use the same vendor, consideration should be given as to whether the vendor exceeds the bidding thresholds. The Garden does not require any department to get a bid for the whole Garden, but at times it may be prudent to consider if the goods or services are identical or if another single vendor can supply the needs of all departments using the existing vendor.

Existing evergreen contracts in place as of 6/30/13, which are within the bidding guidelines noted above, must be bid within seven years as of 6/30/13. All new evergreen contracts entered into after 6/30/13, which qualify for bidding as noted above, must be re-bid within seven years after the contract is signed. Sole source documentation is permitted on evergreen contracts.

8. **Vendor Selection**
Only Division Heads may approve a new vendor or approve changes to vendor information. A completed “New Vendor Set-Up/Vendor Change Request” must be signed by a Division Head and forwarded to Accounts payable before a new vendor is set up or a change is made to the vendor file.

9. **Purchase Orders**
Purchases valued at $5,000 or more should be documented using the Garden’s standard Purchase Order. A copy of the Missouri Botanical Garden Purchase Order can be obtained in either a long-form or short-form version by accessing the Missouri Botanical Garden Intranet under the “Controller’s Office” tab. Purchase orders should be signed by the requestor and used to confirm proper pricing, quantities and terms before signing an invoice for payment. See the Delegation of Authority Schedule for approvers.

10. **Contracts**
Contracts signed by a Garden representative and the vendor are required for all purchases valued at $10,000 or more. Missouri Botanical Garden Purchase Orders, which include appropriate contractual wording on the second page, may be used as simple contracts. When a Purchase Order is substituted for a simple contract the Purchase Order must be signed by both parties. See the Delegation of Authority Schedule for approvers.

11. **Invoice Submission**
Properly approved and coded invoices (see #12 below) should be delivered to the Controller’s office as quickly as possible to avoid late payments. Invoices and all accompanying support/backup should be scanned and e-mailed to accountspayable@mobot.org with a subject line referencing what is included. For example, the subject line may be “Vendor name, invoice #, invoice date”. Only include one invoice and supporting backup per scan/e-mail. When scanning the invoices, please make sure the invoices are legible and all parts of the invoice are included (nothing is cut-off). Also save a copy of the scanned invoice to your own department drive so that in the case of a question or missed e-mail, a backup is available. Once scanned copies are
properly saved and e-mailed, originals should be shredded to avoid duplicate entry. If scanning is not possible, paper copies may also be delivered via inter-office mail or drop-off but electronic submission is preferred.

12. Payment Approval
Two signatures are required on all invoices forwarded to Accounts Payable: 1) “Receiving and Verification” signature, and 2) “Invoice Approver” signature.

1) Receiving and Verification Signature:
   a. May be an employee at any level within the Garden.
   b. May only sign after confirming the following:
      i. Goods or services were received by the Garden.
      ii. Invoice quantities and prices match purchase orders or contracts (required if purchases are $5,000 or more).
      iii. Invoice is calculated properly (addition, multiplication and other calculations are correct).
      iv. Accounting distribution is properly coded.
      v. Sales tax is not charged.
      vi. Garden policies were followed in expending and documenting the related funds.

2) Invoice Approval Signature:
   a. Must be a Division Head or someone else designated on the Delegation of Authority Schedule. This schedule can be found on the Garden Intranet under the “Controller’s Office” tab.
   b. May not be the same person who provided the Receiving and Verification signature.
      a. May only sign after confirming the following:
         i. Receiving and Verification signature is included on the invoice.
         ii. Prices appear reasonable or action has been taken to adjust current or future pricing.
         iii. Goods or services represent an appropriate purchase for the Garden.

Expense Reports, VISA bills, and any other reimbursement of employee expenses must include the signature of the employee as well as both signatures noted above. This means three separate signatures are required for these documents (the employee may not be the Receiver/Verifier or the Approver).

All invoice batches must be approved on-line by the Controller or Assistant Controller before processing by Accounts Payable. The Controller or Assistant Controller must either scan the entire batch for anomalies or choose a sample of invoices for detailed testing before approving the batch.

The Garden shall establish controls with the bank to require checks greater than $10,000 to have two signatures before processing.

13. Sustainability
See “Appendix A” for the Garden’s policies concerning sustainable purchasing.
Appendix A

Policy: Sustainable Purchasing Policy
Updated: January 2013

PURPOSE

In support of the Missouri Botanical Garden’s mission, “to discover and share knowledge about plants and their environment, in order to preserve and enrich life,” the Garden strives to make the most sustainable choices on behalf of people, plants and the planet. The goal of the Sustainable Purchasing Policy (SPP) is to reduce the environmental impact of materials and services procured by the employees and users of the Missouri Botanical Garden.

Implementing a SPP means selecting goods and services that have a lesser or reduced effect on human health and the environment when compared with competing, conventional goods or services that serve the same purpose. When procuring goods and services, Garden staff shall take into consideration, to the extent feasible, raw materials acquisition, production, manufacturing, packaging, distribution, reuse, operation, maintenance, disposal, energy efficiency, product performance, durability, safety, the needs of the purchaser, and cost.

SCOPE

The sustainable purchasing policy encompasses purchasing made within the following categories:
1. Ongoing consumables
2. Durable goods
3. Furniture
4. Facility Alterations
5. Lamps
6. Cleaning equipment and materials.
1. **ONGOING CONSUMABLES**

Ongoing consumables include items with a low-cost per unit that are regularly used and replaced throughout the course of business. These materials include, but are not limited to, paper (printing or copy materials, notebooks, notepads, envelopes), writing tools, toner cartridges, binders, batteries, and desk accessories. They DO NOT include food and beverages. Priority should be given to products that meet at least one, preferably more than one, of the criteria below.

1.1 At least 30% post-consumer and/or 40% pre-consumer material.
1.2 At least 50% rapidly renewable material (planted and harvested in less than 10 years).
1.3 At least 50% materials harvested and processed or extracted and processed within 500 miles of the Garden.
1.4 At least 50% Forest Stewardship Council (FSC) certified paper products.
1.5 Use of rechargeable batteries and/or batteries that contain low levels of mercury and heavy metals.
1.6 Office copy paper should be 100% post-consumer material and whenever possible, chlorine free.

**Goal:** Maintain sustainable purchasing that adheres to the criteria above for at least 60% of the total annual purchase of applicable ongoing consumable materials.

**Responsible Party:** Office supply purchasing agents for each Garden division will be responsible for purchasing most consumables directly from Office Essentials, www.offess.com, the Garden’s contracted office supply vendor.

**Helpful websites**
- U.S. EPA Comprehensive Procurement Guidelines - www.epa.gov/cpg
- U.S. EPA Environmentally Preferable Purchasing - www.epa.gov/epp
- Forest Stewardship Council – www.fscus.org
- Green Seal – www.greenseal.org

2. **DURABLE GOODS**

Durable goods include items available at a higher cost per unit, replaced infrequently, and/or may require capital program outlays to purchase. These materials include, but are not limited to, office equipment (computers, monitors, printers, laptops, scanners, fax machines, paper shredders), appliances (refrigerators, dishwashers, water coolers), external power adaptors, televisions, audiovisual equipment, maintenance equipment and vehicles, and landscaping equipment and cleaning equipment.

2.1 All electric-powered equipment is ENERGY STAR qualified (for product categories with developed specifications).
2.2 All computer equipment is EPEAT rated.
2.3 When possible, purchase equipment (corded or battery) to replace conventional gas powered equipment.

**Goal:** Maintain sustainable purchasing that adheres to the criteria above for at least 90% of the total annual purchase of applicable durable goods.
**Responsible Party:** The Vice President, Information Technology must approve all computer equipment purchases. The Vice President, General Services must approve all maintenance equipment, vehicle and cleaning equipment purchases. The Vice President, Horticulture must approve all landscaping equipment purchases.

**Helpful websites**
- EPEAT – www.epeat.net
- U.S. EPA – www.epa.gov/epp

3. **FURNITURE**
When purchasing any type of furniture, priority should be given to products that meet at least one, preferably more than one, of the criteria below.

3.1 Purchases contain at least 10% post-consumer or 20% post-industrial material
3.2 Purchases contain at least 70% material salvaged from off-site or outside the organization
3.3 Purchases contain at least 70% material salvaged from on-site, through an internal organizational materials and equipment reuse program
3.4 Purchases contain at least 50% rapidly renewable material (planted and harvested in less than 10 years)
3.5 Purchases contain at least 50% materials harvested and processed or extracted and processed within 500 miles of the Garden.
3.6 The purchases consist of at least 50% Forest Stewardship Council (FSC) certified wood

**Goal:** Maintain sustainable purchasing that adheres to the criteria above for at least of 90% of the total annual purchase of applicable furniture goods

**Responsible Party:** The Vice President, Facility Services must approve all furniture purchases.

**Helpful websites**
- Forest Stewardship Council – www.fscus.org
- U.S. EPA – www.epa.gov/epp
4. FACILITY ALTERATIONS AND ADDITIONS
Purchases for facility alterations and additions cover materials for renovations, demolitions, refits, and new construction additions for both interior and exterior applications. Examples include, but are not limited to, building components and structures (wall studs, insulation, doors, and windows), panels, carpet and other flooring materials, adhesives, sealants, paints, and coatings. This applies only to base building elements permanently or semi-permanently attached to the building itself. Materials considered furniture, fixtures and equipment are not considered base building elements and are excluded from this credit. Mechanical, electrical and plumbing components and specialty items such as elevators are also excluded from this credit. When purchasing any of these materials, priority should be given to products that meet one or more of the criteria below.

4.1 Contains at least 70% salvaged material from off-site or outside the organization,
4.2 Contains at least 70% salvaged material from on site through an internal organization materials and equipment reuse program,
4.3 Contains at least 50% rapidly renewable materials,
4.4 Contains at least 50% Forest Stewardship Council (FSC) certified wood,
4.5 Contains at least 50% material harvested and processed or extracted and processed within 500 miles of the project.
4.6 Adhesives and Sealants must have VOC content less than the current VOC content limits of South Coast Air Quality Management District Rule #1168, or sealants used as fillers meet or exceed the requirements of the Bay Area Air Quality Management District Regulation 8, Rule 51. These criteria apply to both interior and exterior adhesives, sealants, and sealants used as fillers.
4.7 All paints and coatings will have VOC emissions not exceeding the limits of Green Seal Standard GS-11 requirements. Exceptions to this may include mechanical rooms which are not regularly occupied and certain paints are required to meet the needs of the area. This criterion applies to both interior and exterior paints and coatings.
4.8 Non-carpet finished flooring is FloorScore-certified and constitutes a minimum of 25% of the finish floor area.
4.9 Carpet meets the requirements of the CRI Green Label Plus Carpet Testing Program and carpet cushion meets the requirements CRI Green label Testing Program.
4.10 Composite panels and agrifiber products contain no added urea formaldehyde resins. Composite panels and agrifiber products are defined as particleboard, medium density fiberboard (MDF), plywood, oriented-strand board (OSB), wheatboard, strawboard, panel substrates, and door cores.

Goal: Maintain sustainable purchasing that adheres to the criteria above for at least 50% of the total annual purchase of applicable materials for facility alterations and additions.

Responsible Party: The Vice President, General Services must approve all materials purchased for facility alterations and additions.

Summary of Reference Standards
- Forest Stewardship Council – www.fscus.org
- FloorScore scientific certification systems – www.scscertified.com
• Green Seal GS-11 Environmental Requirements for Paints – www.greenseal.org
• Bay Area Air Quality Management District Regulation 8, organic Compounds, Rule 51, Adhesive and Sealant Products – www.baaqmd.gov
• South Coast Air Quality Management District Rule 1168, Adhesive and Sealant Applications – www.aqmd.gov

**Helpful Websites**

• Salvage Building Material Exchange – www.greenguide.com/exchange/search.html
• Reuse Development Organization – www.redo.org
• U.S. EPA Environmentally Preferable Purchasing – www.epa.gov/epp
• Oikos searchable directory of resource-efficient building products – www.oikos.com
• The Recycler’s Exchange – www.recycle.net/web/exchange.html

5 **LAMPS (LIGHT BULBS)**

The Missouri Botanical Garden is committed to reducing the amount of mercury brought onto the building site. Purchases of mercury-containing light bulbs must average less than 70 pictograms per lumen-hour throughout the building and site. Screw-based, integral compact fluorescent lamps (CFLs) may be excluded from the calculations if they comply with the voluntary industry guidelines for maximum mercury content published by the National Electrical Manufacturers Association (NEMA).

The General Services group will review the need for lamp purchases annually and develop the specifications to meet the holistic approach to lighting as it pertains to lighting quality, energy, and mercury content. All fluorescent lamps are purchased from a list of vendors on an as needed basis and are Green End Cap (a Phillips product) and/or other green labeled products where available.

**Goal:** Maintain sustainable purchasing that adheres to the criteria above for at least of 90% of the total annual purchase of lamps and light bulbs.

**Responsible Party:** The Manager of General Services must approve all purchases of lamps and light bulbs.

**Summary of Referenced Standard**

• National Electrical Manufacturers Association (NEMA) – www.nema.org

**Helpful websites**

• Inform Fact Sheet – www.Informinc.org/fact_P3tclp.php
• U.S. EPA Mercury– www.epa.gov/mercury
6 CLEANING EQUIPMENT AND MATERIALS

Purchases for cleaning equipment and supplies include all cleaning materials and products, disposable janitorial paper products, and trash liners. This includes all items used by in-house staff or outsourced service providers, and applies to both the building interior and exterior, including the exterior hardscape. Priority should be given to products that meet one or more of the following standards for the appropriate category. Exceptions to these policies may include special circumstances where the specified products are unable to satisfy the critical need.

Cleaning products must meet one or more of the following criteria for the appropriate category:

6.10.1 Green Seal GS-37, for general purpose, bathroom, glass and carpet cleaners used for industrial or institutional purposes.
6.11 Environmental Choice CCD-110, for cleaning and degreasing compounds.
6.12 Environmental Choice CCD-146, for hard surface cleaners
6.13 Environmental Choice CCD-148, for carpet and upholstery care

Disinfectants, metal polishes, floor finishes, strippers, or other products not addressed by the above standards must meet one or more of the following criteria for the appropriate category:

6.14 Green Seal GS-40, for industrial and institutional floor care products
6.15 Environmental Choice CCD-112, for digestion additives for cleaning and odor
6.16 Environmental Choice CCD-113, for drain or grease trap additives
6.17 Environmental Choice CCD-115, for odor control additives
6.18 Environmental Choice CCD-147, for hard floor care

Disposable janitorial paper products and trash bag or liner purchases will be given priority if they meet the minimum requirements of one or more of the following programs for the applicable product category below.

6.18.1 U.S. EPA Comprehensive Procurement Guideline for janitorial paper and plastic trashcan liners
6.19 Green Seal GS-09, for paper towels and napkins
6.20 Green Seal GS-01, for toilet paper
6.21 Environmental Choice CCD-082, for toilet tissue
6.22 Environmental Choice CCD-086, for hand towels
6.22.1 Janitorial paper products made from rapidly renewable resources or made from tree free fibers

Hand soaps purchases will be given priority if they meet one or more of the following standards:

6.22.2 No antimicrobial agents (other than as a preservative) except when required by health code and other regulations (i.e. food service and health care requirements)
6.23 Green Seal GS-41, for industrial and institutional hand cleaners
6.24 Environmental Choice CCD-104, for hand cleaners and hand soaps
**Janitorial and cleaning equipment purchases** used on the interior and exterior of the building must require the following:

6.24.1 Vacuum cleaners meet the requirements of the Carpet & Rug Institute “Green Label Program” and operate with a sound level less than 70 dBA.

6.24.2 Carpet extraction equipment used for restorative deep cleaning is certified by the Carpet & Rug Institute’s “Seal of Approval” testing program for deep cleaning extractors.

6.24.3 Powered maintenance equipment, including floor buffers, burnishers and automatic scrubbers, is equipped with vacuums, guards and/or other devices for capturing fine particulates, and operate with a sound level less than 70 dBA.

6.25 Propane-powered floor equipment is not in use.

6.25.1 Automated scrubbing machines are equipped with variable-speed feed pumps and onboard chemical metering to optimize the use of cleaning fluids.

6.26 Battery-powered equipment is equipped with environmentally preferable gel batteries.

6.26.1 Where appropriate, active micro fiber technology is used to reduce cleaning chemical consumption and prolong life of disposable scrubbing pads.

6.26.2 Powered equipment is ergonomically designed to minimize vibration, noise and user fatigue.

6.26.3 Equipment is designed with safeguards, such as rollers or rubber bumpers, to reduce potential damage to building surfaces.

**Goal:** Maintain sustainable purchasing that adheres to the criteria above for at least 80% total annual purchase of cleaning equipment and materials.

**Responsible Party:** The Manager of Facility Support Services must approve all purchases associated with cleaning equipment and materials.

**Helpful websites**

- Environmental Choice Certified Products – [www.ecologo.org](http://www.ecologo.org)
- Green Seal – [www.greenseal.org](http://www.greenseal.org)
- EPA Environmental Preferable Purchasing – [www.epa.gov/epp/](http://www.epa.gov/epp/)
- Carpet and Rug Institute – [www.carpet-rug.org](http://www.carpet-rug.org)

**PERFORMANCE METRIC**

The Missouri Botanical Garden is committed to tracking the environmental characteristics of all procured goods and services purchased for use within the Garden. Percentages must be based on total purchases of applicable materials on a cost basis. Materials meeting two separate criteria count twice toward the total. The average mercury content of lamps purchased must be determined using the weighted average method in the LEED Reference Guide for Building Operations and Maintenance, 2009 Edition. Documentation of all purchases related to the applicable categories must be maintained on an annual basis.
PROCEDURES AND STRATEGIES
The Missouri Botanical Garden’s definition of sustainable purchasing is similar to what is used by the federal government and other states and local governments in part of a growing sustainable purchasing policy movement. Garden staff is encouraged to visit, become familiar with and use the U.S. Environmental Protection Agency’s EPP (Environmentally Preferable Purchasing) web site: www.epa.gov/epp/index.htm.

TIME PERIOD
This policy must remain in effect going forward from its inception date, February 1, 2012.

LIMITATIONS, RESTRICTIONS, AND EXCEPTIONS
The Missouri Botanical Garden’s SPP cannot supersede recycled-content laws, require purchase of poorly performing goods, exclude adequate competition, or require unreasonable prices or lead times. The guidelines presented represent product specific purchasing policies, criteria, and language that must be incorporated in vendor selection. The only exemptions are as follows:

1. No vendors that supply product with the specified criteria can be found after a reasonably exhaustive search
2. There is an emergency procurement situation

SUSTAINABILITY CLAIMS VERIFICATION
Some vendor claims of “green” performance or content qualifications will be misleading. In order to verify that vendor sustainability claims are true, Garden purchasing agents will rely on trusted third party certification agencies (see appendix B). These agencies are usually industry specific, and are identified by product category below. When no suitable certification agency exists, purchasing agents will only accept vendor claims that are measurable, based on metrics identified within this policy.
APPENDIX 1A: DEFINITIONS, CONCEPTS, GENERAL PRINCIPLES, AND GUIDELINES

ENVIRONMENTALLY PREFERABLE
Describes purchasing or products that have a lesser or reduced effect on human health and the environment when compared with other products that serve the same purpose.

GREEN
A general synonym for “environmentally preferable.”

SUSTAINABLE
Describes actions and products that meet current needs without sacrificing the ability of future generations to meet theirs. Sustainability is a broad term and often refers to the desire to provide the best outcomes for the human and natural environments both now and into the indefinite future. The term “sustainable” can also be a general synonym for green, or environmentally preferable.

LIFE-CYCLE COST
Life-cycle cost is defined as initial cost + replacement cost + operational cost + maintenance cost + disposal cost. For example: An incandescent light bulb costs $1, lasts for 1 year, costs $23 a year to operate, and has no disposal or maintenance costs. A comparable compact fluorescent costs $4 dollars, lasts for 10 years, costs $6 a year to operate and has no disposal or maintenance cost. The lifecycle cost for the incandescent bulb is $1 (initial cost) + $9 (replacement cost) + $230 (operating cost) = $240. The life-cycle cost for the compact fluorescent is $4 (initial cost) + $60 (operating cost) = $64.

PRODUCT LIFE CYCLE ASSESSMENT (LCA)
Life Cycle Assessment is a "cradle-to-grave" approach for assessing the environmental aspects and potential impacts associated with a product. "Cradle-to-grave" begins with the gathering of raw materials from the earth to create the product and ends at the point when all materials are returned to the earth. LCA enables the estimation of the cumulative environmental impacts resulting from all stages in the product life cycle, such as raw material extraction, material transportation, product use, and ultimate product disposal. By including the impacts throughout the product life cycle, LCA provides a comprehensive view of the environmental aspects of the product.

CRADLE TO CRADLE ™(C2C) PRODUCT DESIGN
In contrast to a "Cradle to Grave" approach, the C2C approach reorients the design of products and systems so waste from one process becomes an input to another. This is accomplished by designing products and systems so materials can flow in closed-loop cycles as either biological nutrients or technical nutrients (e.g., metals and chemicals). In a C2C world, products are designed for reuse and recycling so materials can be separated from one another to eliminate contamination. If everything is reused, there is zero waste. McDonough Braungart Design Chemistry (MBDC) created and developed the C2C approach, along with the C2C certification program.
BENEFITS TO HUMAN HEALTH, THE ENVIRONMENT, AND ECONOMY

- SPP provides a variety of benefits that can range from financial, human health and the environment, to larger societal benefits.

  Commonly cited benefits include reduced air pollution and water emissions, materials and energy efficiency, less waste in landfills, reductions in hazardous and toxic substances, increased durability, etc.

  SPP considers a product over its entire life, from raw material extraction to transport, use, and final end-of-use management or disposal. The analysis acknowledges direct and indirect environmental, health, and financial costs. Consequently, a product that has a lower initial purchase price than a similar but more environmentally preferable product, may actually cost more over the long term.

- Some recycled-content products (RCP) - such as janitorial paper products, corrugated packaging, padded mailers, latex paint, compost, mulch, remanufactured toner cartridges, and many others - are priced the same as or less than their non-recycled counterparts. Some durable RCPs, such as recycled plastic lumber and rubberized asphalt, often cost more initially than comparable non-RCPs; however, they have lower overall costs because they are more durable and require less maintenance.

- Buying recycled products supports the economy. Diversion creates twice as many jobs, double the income, and twice the sales per ton of material than does disposal.

- Using water efficiently reduces the cost of pumping, heating, and treating water.
APPENDIX 2A: Sustainable Product Certifications

This is a list of current certifications, general definitions, logos and websites for more info.

Bay Area Air Quality Management District  www.baaqmd.gov
The Bay Area Air Quality Management District is committed to achieving clean air to protect the public's health and the environment in the San Francisco Bay region.

Carpet and Rug Institute  www.carpet-rug.org
The Carpet and Rug Institute is the science-based source for the facts about carpet and rugs.

Energy Star  www.energystar.gov
ENERGY STAR is a joint program of the U.S. Environmental Protection Agency and the U.S. Department of Energy helping us all save money and protect the environment through energy efficient products and practices.

Environmental Choice Certified Products  www.ecologo.org
The Environmental Choice Certified Products was founded in 1988 by the Government of Canada but now recognized world-wide, EcoLogo is North America’s largest, most respected environmental standard and certification mark.

EPA Database  yosemite1.epa.gov/oppt/eppstand2.nsf
The EPA Database is a tool to make it easier to purchase products and services with reduced environmental impacts. Environmental information on over 600 products and services is included in this database.

EPA Environmental Purchasing Policy  www.epa.gov/epp/
The EPA EPP is geared first to help federal purchasers, this site can help green vendors, businesses large and small -- and consumers.

EPA Mercury  www.epa.gov/mercury/index.html
The EPA Mercury site provides a broad range of information: actions by EPA and others, including international actions; effects on people and the environment; and how to protect you and your family.

EPEAT  www.epeat.net
EPEAT is a system to help purchasers in the public and private sectors evaluate, compare and select desktop computers, notebooks and monitors based on their environmental attributes.

Fair Trade Labeling Organization  www.fairtrade.net
The Fair Trade Labeling Organization develops and reviews Fairtrade standards and provides support to Fairtrade Certified Producers by assisting them in gaining and maintaining Fairtrade certification and capitalizing on market opportunities.
FloorScore  
www.rfci.com/int_FloorScore.htm
The FloorScore® program, developed by the Resilient Floor Covering Institute (RFCI) in conjunction with Scientific Certification Systems (SCS), tests and certifies flooring products for compliance with indoor air quality emission requirements adopted in California.

Food Alliance Organization  
www.foodalliance.org
Food Alliance is a nonprofit organization that certifies farms, ranches and food handlers for sustainable agricultural and business practices.

Forest Stewardship Council  
www.fsc.org
FSC is an independent, non-governmental, not for profit organization established to promote the responsible management of the world’s forests.

Green Seal  
www.greenseal.org
Green Seal provides science-based environmental certification standards that are credible, transparent, and essential in an increasingly educated and competitive marketplace.

Inform Fact Sheet  
www.Informinc.org/fact_P3tclp.php
INFORM prides itself on more than three decades of identifying innovative technologies, practices and products that provide practical solutions to complex environmental and health-related problems.

Marine Stewardship Council  
www.msc.org
The MSC is a global organization working with fisheries, seafood companies, scientists, conservation groups and the public to promote the best environmental choice in seafood.

Oikos  
www.Oikos.com
Oikos is a World Wide Web site devoted to serving professionals whose work promotes sustainable design and construction.

Protected Harvest  
www.protectedharvest.org
Protected Harvest is a non-profit organization that independently certifies farmers’ use of stringent environmental growing standards.

Rainforest Alliance  
www.rainforestalliance.org
The Rainforest Alliance works to conserve biodiversity and ensure sustainable livelihoods by transforming land-use practices, business practices and consumer behavior.

Reuse Development Organization  
www.redo.org
ReDO promotes reuse as an environmentally sound, socially beneficial and economical means for managing surplus and discarded materials.

Salvage Building Material Exchange  
www.greenguide.com/exchange/search.html
The Green Building Resource Guide is a database of over 600 green building materials and products selected specifically for their usefulness to the design and building professions.

South Coast Air Quality Management District  
www.aqmd.gov
AQMD is the air pollution control agency for all of Orange County and the urban portions of Los Angeles, Riverside and San Bernardino counties.
Sustainable Food Policy Project
The Sustainable Food Policy Project was initiated in 2006 to support efforts by educational, health care and other institutions to have a positive impact on the food system through purchasing.

USDA Certified Organic
The National Organic Program (NOP) develops, implements, and administers national production, handling, and labeling standards for organic agricultural products. The NOP also accredits the certifying agents (foreign and domestic) who inspect organic production and handling operations to certify that they meet USDA standards.