Sustainable Purchasing &
The GreenBuy Award Program
Community Advisory Council

Debbie Bauer, Environmentally Preferred Purchasing SME & Pollution Prevention Coordinator, Environmental Protection Division
Suhani Gandhi, RA, Leed AP (BD+C), Project Manager, Modernization Project Office

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Presenters

Debbie Bauer
Environmentally Preferable Purchasing Subject Matter Expert, Pollution Prevention Coordinator

Suhani Gandhi, RA, Leed AP (BD+C)
Architect & Project Manager, Modernization Project Office
What is Sustainable Purchasing?

“...builds healthy communities, economies, and environments all along local and global supply chains.”
-Sustainable Purchasing Leadership Council

**Purchasing that...**
- **achieves value for money.**
- **strengthens the organization.**
- **strengthens the environment.**
- **strengthens society.**
- **strengthens the economy.**

Brookhaven formalizes the act of buying green through our Environmentally Preferable Purchasing (EPP) program. It’s the method we use to ensure that environmental impact is always considered when deciding what products and services to buy, along with cost, availability, performance, and other factors.
## Sustainable Purchasing Aspects

<table>
<thead>
<tr>
<th>Environment</th>
<th>Society</th>
<th>Economy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Climate protection</td>
<td>Health &amp; Safety</td>
<td>Supplier diversity</td>
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<tr>
<td>Pollution prevention</td>
<td>Equal opportunity</td>
<td>Small business</td>
</tr>
<tr>
<td>Waste reduction</td>
<td>Fair wages</td>
<td>Local jobs</td>
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<tr>
<td>Resource efficiency</td>
<td>Employee training</td>
<td>Fair Competition</td>
</tr>
<tr>
<td>Habitat preservation</td>
<td>Worker rights</td>
<td>Transparency</td>
</tr>
<tr>
<td>Air and water quality</td>
<td>No forced labor</td>
<td>Innovation</td>
</tr>
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</table>
Benefits

**Societal**
- Conservation of natural resources
- Reduced product toxicity
- Reduced carbon footprint
- Environmental justice for disadvantaged communities

**BNL**
- Recognition from stakeholders
- Helps maintain good reputation

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### Brookhaven National Laboratory

**Total sustainability impact and cost savings for 1,092 products purchased in 2022**

**COST SAVINGS IN THE AMOUNT OF $27,468**

#### ENVIRONMENTAL IMPACT REDUCTION

<table>
<thead>
<tr>
<th>Impact Type</th>
<th>GHG Reduction</th>
<th>Energy Savings</th>
<th>Hazardous Waste</th>
<th>Solid Waste</th>
<th>Primary Materials</th>
<th>Water Consumption</th>
<th>Toxics</th>
<th>Material Conservation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>148,141 kg CO₂ equivalents</td>
<td>624,549 kWh</td>
<td>53 kg</td>
<td>12,551 kg</td>
<td>11,970 kg</td>
<td>1,367,996 liters H₂O</td>
<td>73 kg</td>
<td>702 kg</td>
</tr>
<tr>
<td></td>
<td>Taking 32 average US passenger cars off the road for a year</td>
<td>The annual electricity consumption of 21 average US households</td>
<td>The weight of 0.4 refrigerators</td>
<td>Annual waste generation of 7 average US households</td>
<td>The weight of 2 elephants</td>
<td>Fluid volume of 1 olympic sized swimming pool</td>
<td>The weight of 32 bricks</td>
<td>The weight of 0.02 18-wheelers</td>
</tr>
</tbody>
</table>

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**BNL**

- Recognition from stakeholders
- Helps maintain good reputation
To encourage the use of materials recovered through recycling and to help reduce the amount of waste to be disposed of, Congress requires that governmental agencies purchase products that contain EPA designated recycled content.

-Sustainable Acquisition & EPP section, Pollution Prevention & Waste Minimization SBMS Subject Area

- U.S. Federal Government is the single largest consumer in the world.
- DOE's Office of Science spends ~$8 billion on products and services annually.
- Presidential Executive Orders and procurement regulations require federal agencies to purchase “greener” products and services.
  - Federal and DOE Executive Orders on sustainability.
  - Federal Acquisition Regulation (FAR)
    - Based on EPA Comprehensive Procurement Guidelines
EPA Comprehensive Procurement Guidelines

Mandatory Items
• Construction Products
• Landscaping Products
• Miscellaneous Products
• Non-paper Office Products
• Park and Recreation Products
• Transportation Products
• Vehicular Products

You can look for the same certifications if you want to buy safer, more environmentally friendly products.
Construction: Design Considerations & Process

The Three R’s in Sustainability: Reduce, Reuse and Recycle
For each project we implement these 3 R’s during Design and Construction.

How?
We meet with the client and establish their requirements, then we study the existing spaces and develop designs to meet their requirements. During the process we review available mechanical, plumbing, electrical systems as well as existing spaces to see if these could be reused/reconfigured with minimal modifications. We are thus able to achieve the three R’s.

• REDUCE the use of new materials and amount of construction waste.
• REUSE existing building systems and provide energy efficient upgrades.
• RECYCLE Metals and cardboard by separating construction waste. Upcycle existing architectural elements like Doors, Cabinets, and Outdoor Furniture. Specify new materials with certified recycled content, that is locally sourced.
Project examples:

B463 Lab 237B

Before Renovation

After Renovation
EPA Comprehensive Procurement Guidelines

- **Park and Recreation Products**: Park benches and picnic tables, Plastic fencing, Playground equipment, Playground surfaces, Running tracks
- **Transportation Products**: Channelizers, Delineators, Flexible delineators, Parking stops, Traffic barricades, Traffic cones
- **Vehicular Products**: Engine coolants, Rebuilt vehicular parts, Re-refined lubricating oils, Retread tires

FlexiTurf installed at the Child Development Center Playground uses recycled tires in the base for the playground surface

Drought tolerant grasses used for landscaping at Brookhaven Square
EPA Comprehensive Procurement Guidelines

Use of recycled concrete aggregate material helped us achieve LEED certification for four of the Laboratory’s buildings

- ISB “was built with certified environmentally-sustainable wood, recycled materials, and materials from vendors within the region to reduce the building’s overall carbon footprint.”
- CFN & RSB “landscaping was planned so that plantings around the building require minimum irrigation, and no outdoor sprinklers were installed.”
- NSLS II “Nearly all of the steel in the ring building is recycled and much of the concrete uses recycled fly ash.”

- **Construction Products**: Building insulation, Carpet (polyester), Carpet cushion, Cement and concrete, Consolidated and reprocessed latex paint, Floor tiles, Flowable fill, Laminated paperboard, Modular threshold ramps, Nonpressure pipe, Patio blocks, Railroad grade crossing surfaces, Roofing materials, Shower and restroom dividers/partitions, Structural fiberboard, Proposed: Nylon carpet and nylon carpet backing

- **Landscaping Products**: Compost and fertilizer made from recovered organic materials, Garden and soaker hoses, Hydraulic mulch, Lawn and garden edging, Plastic lumber landscaping timbers and posts
EPA Comprehensive Procurement Guidelines

- **Miscellaneous Products**: Awards and plaques, Bike racks, Blasting grit, Industrial drums, Manual-grade strapping, Mats, Pallets, Signage, Sorbents

- **Nonpaper Office Products**: Binders, Clipboards, File folders, Clip portfolios, Presentation folders, Office furniture, Office recycling containers, Office waste receptacles, Plastic desktop accessories, Plastic envelopes, Plastic trash bags, Printer ribbons, Toner cartridges

- **Paper and Paper Products**: Commercial/industrial sanitary tissue products, Miscellaneous papers, Newsprint, Paperboard and packaging products, Printing and writing papers

96% Recycled Content Trash Bags have been in use at Brookhaven since 2016

Use in a typical calendar year – saving 8.57 Metric Tons CO₂:

38,600 60-gallon bags; 58,900 33-gallon bags
Coconut-Based Oil Spill Absorbents
Motor Pool Group prefers over traditional absorbents
OMRI Certified & NSF Registered products
Products can be reused if necessary

**SpillFix Granular Absorbent**
- Made from 100% coconut husk
- $25.70/7-Pound Bag
- Absorption rate = 3.9-gal liquid/7-Pounds of product
- Same absorbent capability of a 50-lb bag of clay absorbent
- Recently purchased with P2 Award funding
- Currently in pilot testing phase

**WURTH Absorb**
- USDA Certified 99% Biobased Content
- $13/4-Pound Bag
- Absorption rate up to 36-gal liquid/4-Pounds of product
- Absorbs up to 9x its own weight
- Purchased with P2 Award funding
- Currently in use by Motor Pool
Biobased Parts Cleaning Solutions

Energy Efficient Power Supplies & Lab Equipment

Recycled Content Office Supplies
Finding Conforming Products

Brookhaven’s Pollution Prevention Proposal Program encourages piloting new products

Search tools assist in finding new products to pilot

- GSA Sustainable Facilities Product Search Tool sftool.gov/greenprocurement
- Electronic Product Environmental Assessment Tool (EPEAT) www.epeat.net
- USDA’s BioPreferred® Program Catalog www.biopreferred.gov

Product Research
Cost Analysis
Initial Line Management Buy-In
Pollution Prevention (P2) Program Seed Funding
Pilot Testing/Feedback
Adoption into PPM’s Stock System or Rejection
What stops us from purchasing more?

- **Cost** - Product or service cannot be acquired at a reasonable price
- **Availability** - Product or service cannot be acquired competitively within a reasonable performance schedule
- **Performance** - Product or service cannot be acquired that meets reasonable performance requirements
Awards keep the momentum going!

The GreenBuy Award Program recognizes DOE sites for excellence in “green purchasing” that extends beyond minimum compliance requirements.

Applies to: cafeteria, construction, custodial, electronics, grounds/landscaping, operations (fleet/shipping/shop), office, other

The GreenSpace Award Program was added in FY21; and recognizes specific space design that incorporates GreenBuy priority products.

Applies to cafeterias, conference rooms and auditoriums, Fleet and garage spaces, grounds/landscaping, research laboratories

The EPEAT Purchaser Awards recognize excellence in the sustainable procurement of IT products.

Applies to computers and displays, copiers, scanners, printers, televisions, mobile phones, photovoltaic modules & inverters, servers
BNL Accomplishments

Each year achieving the GreenBuy Award becomes progressively more challenging

- Only 3 product types or 30% of products claimed (whichever is higher) may be repeated from previous years
- Goals also become more stringent as more sustainable products become available

Shows that Brookhaven is a leader in Sustainable Purchasing

Multiple wins demonstrate Brookhaven’s commitment to continual improvement

8th GreenBuy Gold Award
Superior Status

1st GreenSpace Award
Bronze Level
Award Winning Space

Modernization Project Office (MPO) Renovation of Building 1005S 3rd Floor Conference Room
Project Manager – Suhani Gandhi, RA, Leed AP (BD+C)

Purchased products meeting GreenBuy criteria in 60% of categories

- Carpet
- Ceiling Tile – Acoustical
- Electronic Equipment – Computers & Displays
- Electronic Equipment – Imaging Equipment (copiers, multifunction devices, printers)
- Electronic Equipment – Televisions
- Flooring
- Furniture
- Lighting
- Paint
- Other
Award Winning Purchases

Congratulations!

FY 2023 Gold Level Award is Presented to:

Brookhaven National Laboratory for purchasing 12 products in 8 categories.

100% of hand cleaner purchases are Green Seal 41 certified - Symmetry Foaming Hand Wash

150 lbs. of Pollinator Friendly Wildflower Seeds

Piloting biobased lab plastics registered with ACT label
Award Winning Electronics Purchases

Electronics registered to EPEAT- highest available rating

EPEAT: Electronic Product Environmental Assessment Tool
Future Award Goals

• Reach GreenBuy Elite Status
  – Two more Gold wins to achieve

• Continue working with MPO to identify award eligible spaces
  – Can take credit for previously renovated spaces
  – Hope to achieve GreenSpace Award for a laboratory space

• EPEAT Climate+
  – Ensure electronics available through ITD meet more stringent requirements
Questions?

Debbie Bauer, bauer@bnl.gov, 631-344-5664
Suhani Gandhi, sgandhi@bnl.gov, 631-344-6248
Joy Haskins, haskinsj@bnl.gov, 631-344-7898
GreenBuy & GreenSpace Award Levels

**GreenBuy** – awarded for purchasing multiple priority products from 8 categories
- Cafeteria
- Construction
- Custodial
- Electronics
- Grounds/Landscaping
- Operations/Fleet/Shipping/Shop
- Office
- Other

**GreenSpace** – added to program in FY21; awarded for a specific space that incorporates GreenBuy priority products.
Recognized spaces are
- Cafeterias
- Conference rooms and auditoriums
- Fleet and garage spaces
- Grounds/landscaping
- Research laboratories

<table>
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<tr>
<th>Gold</th>
<th>Silver</th>
<th>Bronze</th>
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<tr>
<td><strong>GreenBuy</strong> Products purchased meeting criteria</td>
<td>9 products in at least 5 categories</td>
<td>6 products in at least 3 categories</td>
</tr>
</tbody>
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| GreenSpace Products purchased meeting criteria | 100% of products | 80% of products | 60% of products |

**Special Recognition for Multiple Gold Awards**
- **Prime:** GreenBuy Gold 3 times
- **Superior:** GreenBuy Gold 5 times
- **Elite:** GreenBuy Gold 10 times (2 more wins for Brookhaven to achieve)