

# Sustainable Purchasing & The GreenBuy Award Program Community Advisory Council

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@BrookhavenLab

# Presenters



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**Environmentally Preferable**  
**Purchasing Subject Matter Expert,**  
**Pollution Prevention Coordinator**



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**(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.***

CONVENTIONAL  
PURCHASING

GREEN  
PURCHASING

SUSTAINABLE  
PURCHASING

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

sustainableprocurement  
sustainablepurchasing  
epp  
greenprocurement  
sustainableacquisitions  
environmentallypreferablepurchasing  
buyinggreen

SUSTAINABLE  
PURCHASING

GREEN  
PURCHASING

Environment	Society	Economy
 Climate protection	 Health & Safety	 Supplier diversity
 Pollution prevention	 Equal opportunity	 Small business
 Waste reduction	 Fair wages	 Local jobs
 Resource efficiency	 Employee training	 Fair Competition
 Habitat preservation	 Worker rights	 Transparency
 Air and water quality	 No forced labor	 Innovation

# 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

## 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

### EQUIVALENT TO

#### GHG Reduction

**148,141**

kilograms of CO<sub>2</sub> equivalents



Taking  
**32** average US  
passenger cars off  
the road for a year



#### Energy Savings

**624,549**

KwH



The annual electricity  
consumption of  
**51** average  
US households



#### Hazardous Waste

**53**

kilograms



The weight  
of **0.4**  
refrigerators



#### Solid Waste

**12,551**

kilograms



Annual waste  
generation of  
**7** average  
US households



#### Primary Materials

**11,970**

kilograms



The weight  
of **2**  
elephants



#### Water Consumption

**1,367,996**

liters of H<sub>2</sub>O



Fluid volume  
of **1**  
olympic sized  
swimming pool



#### Toxics

**73**

kilograms



The weight  
of **32**  
bricks



#### Material Conservation

**702**

kilograms



The weight  
of **0.02**  
18-wheelers



**Smog Formation  
Potential**  
**6,373**  
kg O<sub>3</sub> equivalent



**Water  
Emissions**  
**53**  
kilograms



**Eutrophication  
Potential**  
**14**  
kg N equivalent



**Air  
Emissions**  
**23,521**  
kilograms



**Acidification  
Potential**  
**686**  
kg of SO<sub>2</sub> equivalent



# Requirements



*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

FEDERAL SUSTAINABILITY PLAN STRATEGY MATRIX			Actions						Net-Zero Emissions Operations by 2050
			CFE	Fleet	Buildings	Procurement	Adaptation		
4	Net-Zero Emissions Procurement by 2050	Require major Federal suppliers to publicly disclose GHG emissions and climate risks, and set science-based targets to reduce emissions	•	•	•	•			•
		Launch a Buy Clean initiative for low-carbon materials		•	•	•			•
		Change Federal procurement rules to minimize the risk of climate change, including factoring in the social cost of GHG in to procurement decisions	•	•	•	•	•		•
		Maximize the procurement of sustainable products and services				•	•		•
		Establish the Net-Zero Emissions Procurement Federal Leaders Working Group, including a Buy Clean Task Force	•	•	•	•	•		•

# 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



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

- **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



*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



Center for Functional Nanomaterials



Research Support Building



Interdisciplinary Science Building



National Synchrotron Light Source II



# 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 CO<sub>2</sub>:  
38,600 60-gallon bags; 58,900 33-gallon bags***

# Biobased Fleet Products

## Coconuts!



- 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



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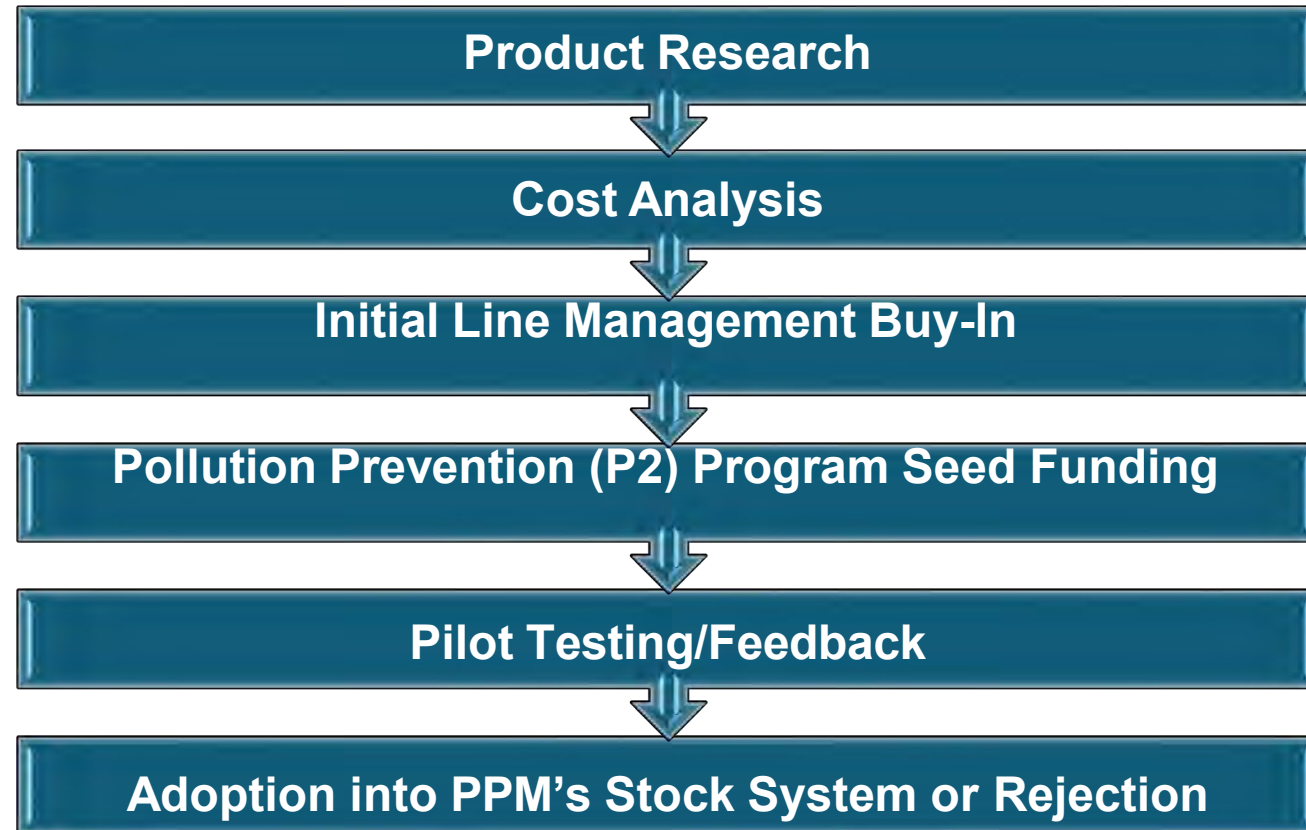
# Finding Conforming Products

***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](https://sftool.gov/greenprocurement)
- ❖ Electronic Product Environmental Assessment  
Tool (EPEAT) [www.epeat.net](https://www.epeat.net)
- ❖ USDA's BioPreferred® Program Catalog  
[www.biopreferred.gov](https://www.biopreferred.gov)



# 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



*Sustainability for a Connected Future*



**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**

## 8<sup>th</sup> GreenBuy Gold Award Superior Status



## 1<sup>st</sup> GreenSpace Award Bronze Level



# Award Winning Space



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

By [Amber Aponte](#)

## **Brookhaven Lab Awarded DOE GreenBuy and GreenSpace Awards**

The Lab is the first DOE site to win both awards for "outstanding sustainable acquisition achievements"

March 4, 2024



**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

Piloting biobased lab  
plastics registered with  
ACT label



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



## Congratulations!

FY 2023 Gold Level Award is Presented to:  
**Brookhaven National Laboratory** for purchasing 12  
products in 8 categories.



150 lbs. of Pollinator Friendly Wildflower Seeds





# Award Winning Electronics Purchases

Electronics registered to EPEAT- *highest available rating*

*EPEAT: Electronic Product Environmental Assessment Tool*



Product meets all required criteria.



Product meets all required criteria plus at least 50% of the optional criteria.



Product meets all required criteria plus at least 75% of the optional criteria.



# 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

What's down  
the road?



# Questions?

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# 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

	Gold	Silver	Bronze
<b>GreenBuy</b> Products purchased meeting criteria	9 products in at least 5 categories	6 products in at least 3 categories	4 products in at least 2 categories
<b>GreenSpace</b> 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*)