Sustainable Purchasing Products and Practices that Save Time and Money



Alicia Culver Responsible Purchasing Network

Buying Green, Buying Smart Workshop November 3, 2011







LED Exit Signs, Street Lights, and Traffic Signals





Who is RPN?

Nonprofit membership organization (government agencies, institutions, NGOs)

Responsible Purchasing Guides covering 15 product categories

Monthly webinars, quarterly e-newsletter

Sustainable purchasing policies

Calculators and other tools

www.responsiblepurchasing.org







What is Green Purchasing?

Procurement of products and services that have a green alternative, which meets performance requirements at a competitive value

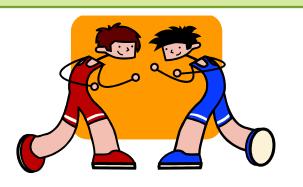












EPP Compatible with Procurement Procedures

"Nothing contained in this policy shall be construed as requiring a department or contractor to procure products that do not perform adequately for their intended use, exclude adequate competition, or are not available at a reasonable price in a reasonable period of time."

City of San Mateo Environmental Purchasing Policy



Sustainable Purchasing Benefits

Progress towards:

- **✓** Climate action commitments
- **✓** Solid waste reduction goals
- **✓ Reduction of water and air pollution**
- **✓** Protecting forests and biodiversity
- **✓** Minimization of toxic chemical exposures
- ✓ Creation of clean energy/environment jobs
- **✓** Earning green building credits
- **✓** Life-cycle cost savings













How Green Products Can Save Money





- **✓** Lower upfront costs
- **✓** Conserve energy or water
- **✓** Reduce paper or fuel use
- **✓** Lower maintenance costs
- **✓** Reduce replacement costs
- **✓** Avoid disposal/cleanup costs
- ✓ Support the local/regional economy
- ✓ Offset environmental and health program costs





"Best Value" Procurement Favors Efficient Products

Considers overall (life-cycle) costs of ownership:

- **✓** Initial price
- ✓ Utility costs (energy, water)
- ✓ Maintenance costs (labor and replacement)
- ✓ End-of-life costs (disposal and recycling)









Hand Dryers vs. Paper Towels

Cost of Hand Dryers vs Paper Towels

CALCULATE YOUR SAVINGS

Did you know that converting from paper towels to Hand Dryers could represe COST SAVINGS? No more repetitive paper towel purchases or labor costs to re towel dispenser. No more cleaning up the towel mess or servicing the paper to

Fill in the shaded boxes and click "Calculate" to analyze the impact on ' operation.

(*If the form is not working properly click the <u>printable version</u> and print the I manually*)

PAPER TOWEL COSTS

Number of Cases of Paper Towels Used Annually

Cost per Case Delivered (Include Freight and tax)

(typically \$15.00 - \$25.00/case)

Number of Towels per Case

For example:

2,400/case for C-fold towels

4,000/case for Multi-fold towels

4,800 linear ft/case for Roll Towels

Your KWH Rate

(typically \$.10 per KWH)

Total Paper Towel Costs per Year

Handling Cost (50% of item 3 - Includes the cost of generating requisitions and purchase orders, receiving, storing, servicing towel dispensers, collecting and disposing of used towels.)

TOTAL COST OF USING PAPER TOWELS PER YEAR





HAND DRYER COSTS

Number of paper towels used annually (Item 1 multiplied by total sheets per case)

 Number of Hand Dryings annually (Item 6 divided by 2.5 towels per hand dry)

8. Hours of hand dryer usage

(Item 7 divided by 120 hand dries per hour)
(Use 240 hand dries per hour for XLERATOR®)

9. Cost of electricity per hour

(2.2 KW multiplied by your KWH rate) (Use 1.5 KW for XLERATOR®)

 TOTAL ANNUAL HAND DRYER COSTS (Line 8 multiplied by Line 9)

11. YOUR ANNUAL SAVINGS (Item 5 minus Item 10)

COMPUTE YOUR % SAVINGS (Item 11 divided

by Item 5)

CALCULATE YOUR PAYBACK

Cost of Each Dryer

Installation Cost

(Typically \$50 - \$125/dryer)

Number of Hand Dryers Purchased

(See Note Below)











How to Pay for Green Products with High Initial Cost

- ✓ Many "green" products less expensive upfront or competitively priced
- **✓** Reduce consumption
- **✓** Revolving loans
- **✓** Grants
- **✓** Utility rebates
- **✓** Energy conservation service agreements
- **✓** Life-cycle budgeting



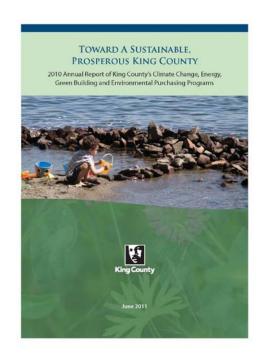




King County Green Purchases and Savings

In 2010, King County, WA purchased \$41 million in environmentally preferable products, saving ~\$1 million.

Commodity	2010 Savings
Aggregates	300,000
Tire Retreading	264,578
Toner Cartridges	222,830
Green Cleaners	132,735
Motor Oil	61,004
Antifreeze	17,175
Total	\$998,322







Toner and Ink Cartridges

- Evaluate toner/ink costs BEFORE purchasing imaging equipment
- Remanufactured toner and ink cartridges cost 30-60% less per copy than "virgin" cartridges
 - **✓** Need strict performance standards
 - ✓ Can support local jobs
- Require vendors to take-back empties to reduce disposal costs (ask for rebates)
- XL toner and ink cartridges reduce replacement costs









Bottle-less Cooler Systems

✓ Reduce monthly water costs 30-70% versus bottled water delivery



✓ Save time lost changing bottles, especially in larger offices



✓ Eliminate chance of employees hurting their back while lifting heavy water bottles

Santa Clara County paid >\$100,000/year for bottled water

See RPN's free Responsible Guide to Bottled Water Alternatives





Green Cleaners Save Money Hennepin County, MN Case Study



An Environmental Services employee cleans the floor with a microfiber mop at HCMC.

County medical center switched to green cleaners, non-corrosive (peroxide) disinfectant, and microfiber mops

- ✓ 7% reduction in cost of cleaners
- ✓ 17% reduction in volume of cleaners
- ✓ 80% reduction in chemical injuries

Pilot test financed by Hennepin County Leading by Example Fund





Microfiber Mops

- **✓** Cost-effective (life-cycle basis)
- ✓ Reduce chemical use (~1/2)
- ✓ Minimize water use (up to 95%)
- ✓ Prevent injuries (chemical exposure, back strain, accidents)
- ✓ Improve performance (reduce dirt, avoid cross-contamination)

www.sustainablehospitals.org/PDF/tenreasonsmop.pdf www.epa.gov/region09/waste/p2/projects/hospital/mops.pdf







Recycled Paint



Portland, OR found locally-made 100% recycled paint:

- ✓ costs 75% less than virgin latex paint
- ✓ meets high performance & environmental standards
- ✓ can be tinted to match specifications
- Three states (CA, OR, CT) have adopted Paint Product Stewardship Laws, CT)
- CA DGS has a contract for Green Seal-certified recycled latex paint (Visions brand)









Hand Soap





- ✓ Foaming hand soap reduces soap and water usage up to 40% compared to liquid hand soap
- ✓ Green-certified hand soap is less expensive than antibacterial hand soap and as effective



✓ Push-operated hand soap dispensers eliminate battery purchase, installation and disposal costs associated with hands-free dispensers





Energy-Efficient Equipment

CASE STUDY

Chicago, IL public housing authority cut its annual electricity bill \$500,000 by purchasing 10,000 ENERGY STAR-rated refrigerators









ENERGY STAR/Top Ten Most Efficient

Products Recognized as ENERGY STAR Most Efficient in 2011



ENERGY STAR Most Efficient Designation Graphic









Green IT Equipment



CASE STUDY

Kaiser Permanente was one of the first organizations to require its desk top computers, monitors and laptops to be EPEAT-registered.

Since July 2006, Kaiser purchased >135,000 units, saving nearly \$5 million



Measure:	How much?	Equivalent to:
Energy use reduced	55,185,675 kWh	The electricity needed to power 4,866 households per year
Greenhouse gases avoided	4,332 MTCE	removing 3,438 cars from the road /year
Hazardous waste reduced	169.4 metric tons	-
Toxic material use avoided	10,398 pounds	
	10,398 pounds \$4,784,598	

Green Electronics Made Easy: www.epeat.net





Ancillary Equipment





Powered by an ENERGY STAR® qualified adapter for a better environment

Power adaptors use >2% of US electricity

- **✓ENERGY STAR-**rated (80 PLUS) power adapters ~30% more efficient than conventional models
- "Smart" Power Strips
- **✓** Detect whether user is present
- ✓ Eliminate phantom loads by cutting power to outlet









Multi-Function Devices (MFDs)



Consolidate several office electronics into one

- ✓ Save time needed to copy, scan and email documents
- **✓** Lower energy consumption
- **✓** Reduce replacement & maintenance costs
- **✓** Cut paper usage

CASE STUDY: In 2009, the Illinois Department of Children and Family Services replaced its copiers, printers and fax machines with MFDs that can print, scan, copy and fax; this lowered maintenance/supply costs 15%, paper consumption 20% (530 cases/year) and electricity use. For full case study, see:

http://www.responsiblepurchasing.org/publications/dcfs_case_study.pdf





Best Practice Reduce Paper Consumption



Seattle's Paper Cuts Program

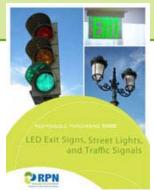
- ✓ Set 30% paper reduction goal (vs. 2004)
- **✓** Established duplex printing standard
- **✓** Copy paper spec = 100% post-consumer recycled content/processed chlorine-free
- **√**2009 => 28% reduction; cost savings = <\$80,000







LED Street Lights



Life-cycle cost savings compared to high-pressure

sodium (HPS)/metal halide (MH) street lights

- ✓ Costs dropping ~20% annually (DOE)
- ✓ 35%-75% energy savings (more with dimming)
- ✓ 2-4X longer life; non-cycling (lower replacement/labor costs)
- ✓ No mercury disposal or UV exposure
- ✓ Improved visibility, security
- ✓ Can power with solar/wind (no utility cuts)
- ✓ Use existing specs/approved products from City of LA





Countywide Lighting Retrofit

CASE STUDY

Alameda County's 52-building indoor lighting retrofit in 2009 is having the following benefits:

- ✓30% less energy (3 million kwh), saving >\$350,000/yr
- ✓ Lamps last 6,000 hours longer, reducing labor costs in maintaining lighting
- ✓ Eliminated 350,000 mg of mercury by specifying low-mercury lamps



For more information, including technical specifications, go to http://www.acgov.org/sustain/what/purchasing/success/lighting.htm





ENERGY STAR-rated LED Lamps

LED Exit Signs, Street Lights, and Traffic Signals

✓ Energy-efficient (75% less than incandescent)



- ✓ Long life (≥25,000 hours rated life =15X longer than incandescent;
 3X longer than CFLs
- ✓ Mercury-free



Qualified list: www.energystar.gov





Water Conserving Products

"The nation's water and energy use are inextricably entwined. Energy is needed to pump, treat, transport, heat, cool, and recycle water."

California Energy Commission



Running hot water for **5 minutes**



60 watt bulb for **14 hours**



Water conservation saves energy at ~60% of cost of energy conservation







Best Practice Reduce Battery Waste



✓ Factor in battery replacement and disposal costs/impacts when ordering equipment



✓ Rechargeable batteries work well for many applications and have quick payback



✓ Pilot test rechargeable/long-life batteries (try hybrid/slow drain rechargeables)



✓ Use industry-financed battery recycling program







Best Practice Require Vendors to Recycle

✓ Saves time/money by shifting responsibility for recycling to manufacturers and distributors



✓ Creates infrastructure for efficient recycling



✓ Encourages manufacturers to redesign their products to be safer, more durable and more easily recyclable







Best Practice Reduce Transportation Impacts

✓ Avoid overnight shipping, whenever possible



- ✓ Ask vendors to offer incentives for reducing the frequency of deliveries
- ✓ Reduce packaging, buy concentrated products









Best Practice Buy Local

Support local and regional manufacturers and distributors



- **✓** Reduces transportation impacts (and costs)
- **✓** Contributes to local tax base

CASE STUDY

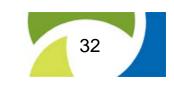
Multnomah County, OR bought 45% local produce for county jail at no extra cost





Give preference to locally-certified Green Businesses





Best Practice Centralize Green Purchasing

- ✓ Lowers prices by aggregating demand
- **✓** Easier to control/monitor purchases
- **✓** Simplifies education process
- **✓** Saves time on ordering, book-keeping







Santa Clara County, CA Savings by Green Product

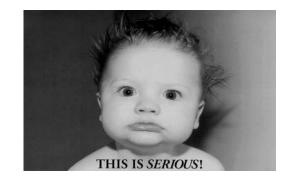
Green	Savings	
Commodity	2010	
Recycled-Content Trash Bags	\$55,000	
(State of CA-compliant)		
Recycled-content Paper Towels	\$9.700	
(EcoLogo-certified)	\$8,700	
Small Roll Toilet Paper	\$7,000	
(Green Seal-certified)		
Green Cleaning Chemicals	\$2,800	
(Green Seal-certified)		
TOTAL	\$73,500	





Best Practice Prioritize Opportunities

- **✓** Largest potential impact (by \$ or volume)
- ✓ Ability to meet environmental/health goals (esp. in jurisdiction's EPP policy/other policies)
- **✓** Opportunities for change (contracts being re-bid)
- ✓ Ease of implementation (existing specs, ecolabels)



- ✓ Likelihood to save money or create jobs locally
- **✓** Potential to transform the marketplace





Best Practice Require Claims to be Verified







"Suppliers citing environmentally preferred product claims shall provide proper certification or detailed information on environmental benefits, durability and recyclable properties."

University of California Policy on Sustainable Practices





Best Practice Specify Green Services





✓ Require pesticide applicators to be certified in IPM (Ecowise or Green Shield) and to use safer pesticides based on hazard prevention criteria



✓ Require landscaping service companies to be certified as Bay-Friendly Landscaping Professionals









Best Practice Performance Test

- Engage end-users early
- Set performance criteria
 - ✓ Should be no trade-off
- Request product samples
- Conduct pilot tests
 - **✓ Try innovative products**
- Only approve what works

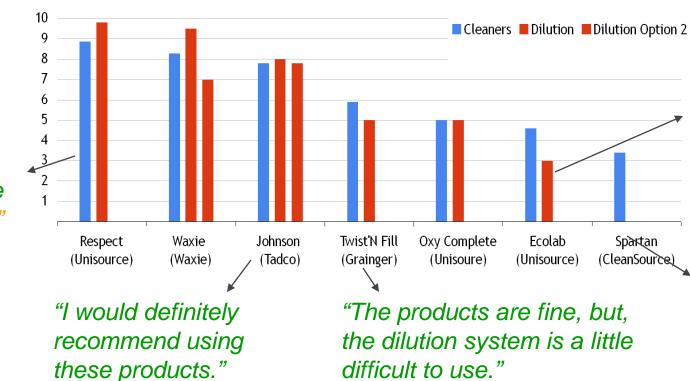




Santa Clara County Green Cleaners Pilot Test Results

Average Rating of Cleaners & Dilution Equipment on 1-10 Scale

"I loved the general purpose cleaner"



"The products smell too strong-- they gave me a headache."

The vendor did not set up dilution equipment for testing



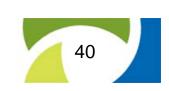
Best Practice Green Your Market Basket List

✓ Add "green" products to your core/market basket lists so they become eligible for vendor's deepest discounts

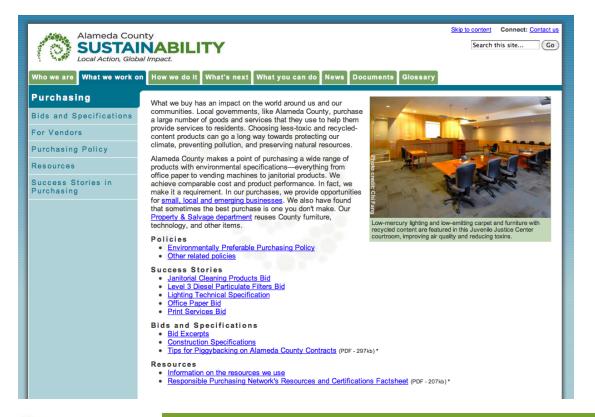


✓ Remove non-green products from core/market basket list (or contract) to get better price breaks on green products





Best Practice Publicize Green Purchasing Policies & Products

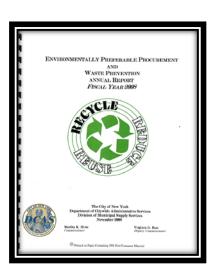






Best Practice Track and Report





Meet reporting requirements

Measure success!

- Determine quantity of "sustainable" goods & services used by your facilities
 - **✓** Document progress for LEED, policy goals
 - **✓ Identify challenges and opportunities**
 - ✓ Plan for future efforts
- Identify cost impacts
 - **✓** Measure cost savings and increases
 - ✓ Demonstrate the financial case for a Responsible Purchasing Program





Best Practice Use Existing Calculators

Lifecycle Environmental Impact

The following is a break down of the environmental impact of your choices for different grades of paper.

Recalculate	Baseline Paper	100% Recycled Paper
Paper	Uncoated Freesheet (e.g. c	Uncoated Freesheet (e.g. cı
Quantity per year	1000 Pounds	1000 Pounds
% Postconsumer	0	100
Wood Use	2 tons	0 tons 2 tons less
Net Energy	15 million BTU's	11 million BTU's 4 million BTU's less
Net Energy Greenhouse Gases	15 million BTU's 2,941 lbs CO ₂ equiv.	
		4 million BTU's less 1,711 lbs CO ₂ equiv.







Best Practice Require Suppliers to...

- ✓ Periodically report \$ amount and % of compliant products sold on your contract ("green" spend) as well as cost savings
- **✓** Calculate environmental benefits of purchasing their green products



✓ Conduct training and outreach





Best Practice Collaborate

Don't try to do it on your own!

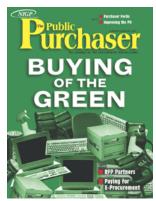
Use specifications developed by other jurisdictions

- ✓ EPPNet List-serv
- **✓ Local Government EPP Websites**

"Recycle" outreach materials

- ✓ San Francisco's SF Approved List
- ✓ StopWaste.org Fact Sheets
- ✓ State-level EPP websites









Piggy-back on Other Jurisdiction's Contracts

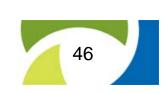
Santa Clara County, CA is saving ~\$40,000 annually by procuring API-certified re-refined motor oil using a contract issued by the City of San Jose











Consider Green Products on Cooperative Agreements

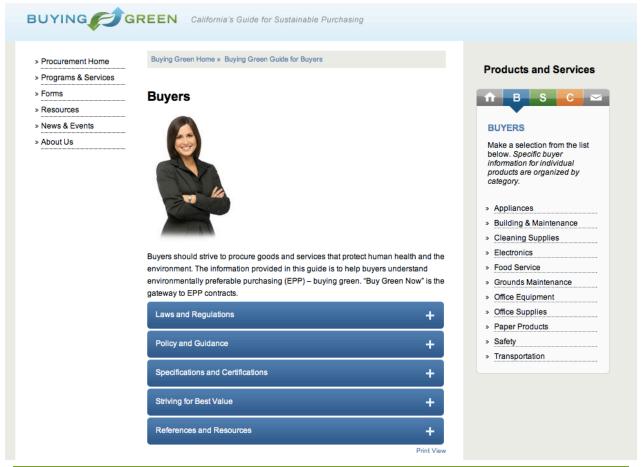








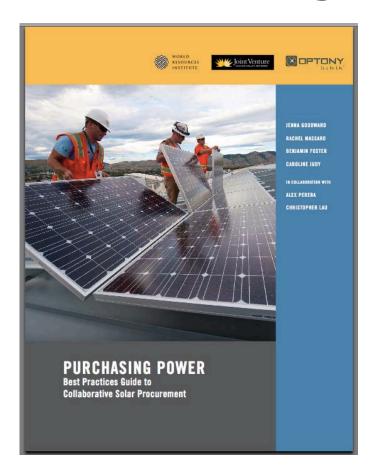
Find Green Products on State Contracts

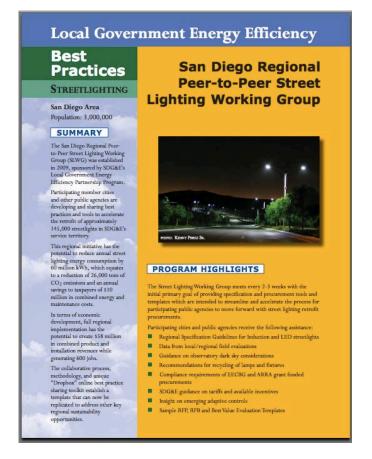






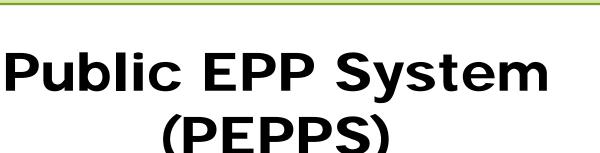
Model Municipal Green Purchasing Collaborations













Web-based tool through which public agencies can:

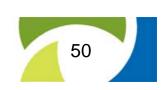
✓ Create collaborative solicitations for green products;

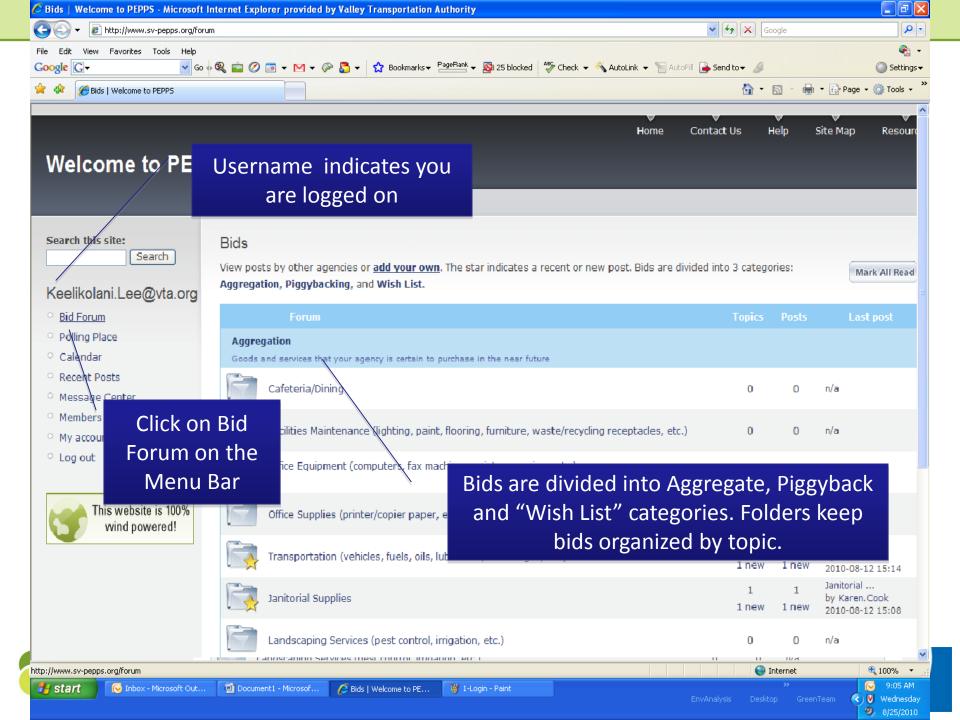
(PEPPS)

- **✓** Standardize on common green product specifications;
- **✓** Piggy-back on existing contracts with green products;
- ✓ Access current resources and save money!

Access the PEPPS database at http://www.sv-pepps.org/







New Green Purchasing Toolkit for Counties



http://www.uscounties.org/GreenPurchasing/index.html





Upcoming RPN-EPA Green Building Webinars



- **✓** Water Efficiency
- ✓ High-performance Lighting Equipment
- **✓** Renewable Energy
- **✓** Green Cleaning
- **✓** Purchasing for LEED EBOM

http://www.responsiblepurchasing.org/buildings/





Bay Area Green Purchasing Network Goals

Facilitate collaboration among Bay Area municipalities

✓SAVE TIME by not "reinventing the wheel" by sharing research, specifications, bid solicitation documents, and vendor lists to create new "green contracts



✓SAVE MONEY by aggregating demand from multiple jurisdictions





Questions? Comments?



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