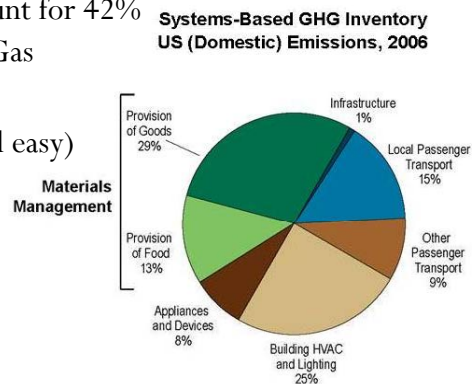




Why Purchasing?

- State and local government spend \$1.5 Trillion annually on goods and services
- Goods and services account for 42% of the U.S. Greenhouse Gas Emissions
- There are significant (and easy) changes to make to get big reductions



Quick introduction to EPP

- Environmentally preferable means "*products or services that have a lesser or reduced effect on human health and the environment when compared with competing products or services that serve the same purpose*"
- Goal is to promote **Best Value**, which includes **Environmental Performance** in addition to **Cost** and **Performance**
- Part of an **International Movement** – more than 60 countries, dozens of states, and hundreds of local governments, educational institutions, businesses and non-profits are actively pursuing EPP policies and practices

Federal EPP Initiatives

- Basis in statute and policy since 1993
- Currently driven by Executive Order 13514 – “Federal Leadership in Environmental, Energy, and Economic Performance”
- Key Priority Areas for Procurement:
 - Energy Efficiency
 - Water Efficiency
 - Toxics Reduction
 - Biobased Content
 - Recycled Content



Simple steps for Feds (and you!)

Require (both internally and for contractors/vendors):

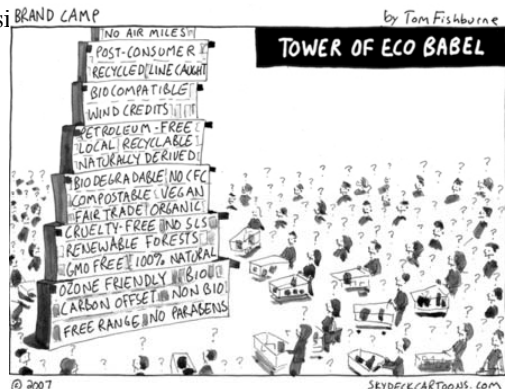
- EPEAT-registered products -computers, printers, copiers, televisions
- Energy STAR certified products – office equipment
- WaterSense certified products – water-saving plumbing fixtures
- 100% Recycled Content Paper – more on this in a moment



Coming soon!!!

• Guidelines on Ecolabels and Standards for Greener Products

- set of criteria to help identify private sector standards and ecolabels federal purchasers should consider
- Final guidelines this year
- By 2015 hope to have credible 3rd party use the guidelines to evaluate wide variety of labels and standards



Coming Soon (cont.)

Climate Friendly Purchasing Toolkit

- Product of the West Coast Climate and Materials Management Forum
- Focused on key goods and services with high contribution to a state, county or city's GHG emissions
- Toolkit will include
 - Primer on finding key GHG sources in your supply chain
 - Reduction and mitigation strategies for priority areas, including Fuels, IT, Carpet, Food, Professional Services
 - Case studies and purchasing tools
- Coming in Spring 2015 – join us!

100% Recycled Copy Paper

- **Background**

- Federal Requirements
 - RCRA 6002 /Executive Orders
 - Application to States and Contractors
- State Requirements
- Other Buyers



- **Environmental Impacts & Calculators**

U.S. EPA Initiatives

- **EPA's Environmental Management System (EMS)** has required EPA to procure **100% postconsumer copy recycled paper since 2007.**
- **U.S. EPA Regional Administrator Jared Blumenfeld** launched a project to **promote the use of 100% recycled paper by regional government agencies.**



Federal Agencies Must Buy MINIMUM 30% Postconsumer Recycled Copy Paper

- **Federal Law: Resource Conservation and Recovery Act (RCRA) Section 6002**
REQUIREMENT: [Federal agencies shall procure designated items] composed of the highest percentage of recovered materials practicable (and **in the case of paper, the highest percentage of the postconsumer recovered materials practicable**).
- **Executive Order 13514:** Promote pollution prevention and eliminate waste by:
reducing printing paper use and acquiring uncoated printing and writing paper containing **at least 30 percent postconsumer fiber**

Sources: Solid Waste Disposal Act, RCRA 6002, <http://www.epa.gov/osw/conservation/tools/cpg/pdf/rcra-6002.pdf> ; Executive Order 13514, Federal Leadership in Environmental, Energy, and Economic Performance, http://ofec.gov/executive_orders.asp

State Agency Requirements

Federal Law (RCRA 6002): Applies to “any state or local agency or government contractor that uses appropriated federal funds.”

State Law (HRS 103D-1005):

- Preference to bidders with recycled content
- Follow Federal requirements
- Urged to purchase paper and printed products ONLY with recycled content



Source: <http://statutes.laws.com/hawaii/volume-02/title-9/chapter-103d/hrs-0103d-1005-htm>

RCRA 6002 Product Categories

<http://www.epa.gov/CPG>

- **Office Products**
 - **Paper**
 - Non-Paper (Toner Cartridges)
- Construction Products
- Vehicle & Transportation Products
- Park & Recreation Products
- Landscaping Products (Compost, Hoses, etc.)
- Miscellaneous Products (Pallets, Signs, Awards, etc.)



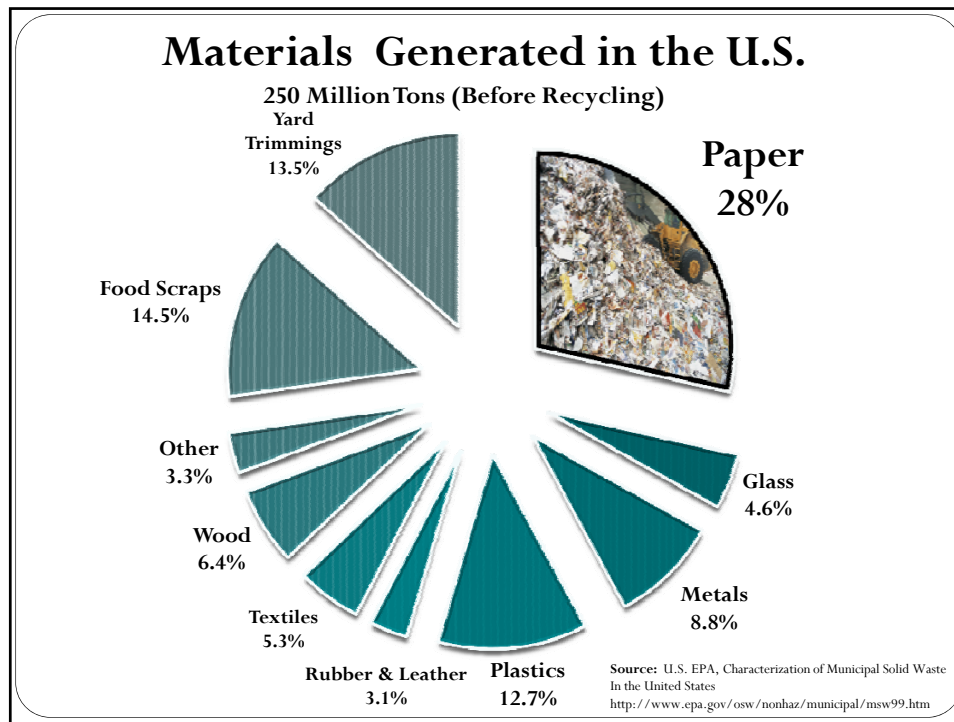
Other Recycled Paper Products under Federal Guidelines

- Envelopes & Padded Mailers
 - File Folders
 - Offset
 - Forms Bond
 - Text & Cover
 - Coated, Carbonless
 - Index, Card Stock, Tags
 - Newsprint
 - Tissue Products (bathroom, napkins, facial tissue, industrial wipers)
 - Boxes & Cartons
 - Tray Liners
- and more ...**

Source: EPA Buy-Recycled Series – Paper Products,
<http://www.epa.gov/epawaste/conserve/tools/cpg/pdf/paper.pdf>



Photo Credit: Telstar Logistics



Paper Overview

- **Over 70 million tons of paper generated**
 - 65.6% (nearly 46 million tons) recycled
 - Paper collected for recycling:
 - **55% recycled into new paper products in the U.S.**
 - 39% exported – *largest U.S. export by volume*
- **U.S. paper recycling reduces U.S. GHG emissions equivalent to taking 28 million cars off the road for a year**



Sources:

U.S. EPA Paper Recycling Website, <http://www.epa.gov/osw/conservation/materials/paper/faqs.htm>;
More Jobs, Less Pollution: Growing the Recycling Economy in the U.S.,
<http://www.recyclingworkscampaign.org/>

Green Jobs

Over **11 times more jobs** are created by recycling paper than landfilling or incinerating paper.

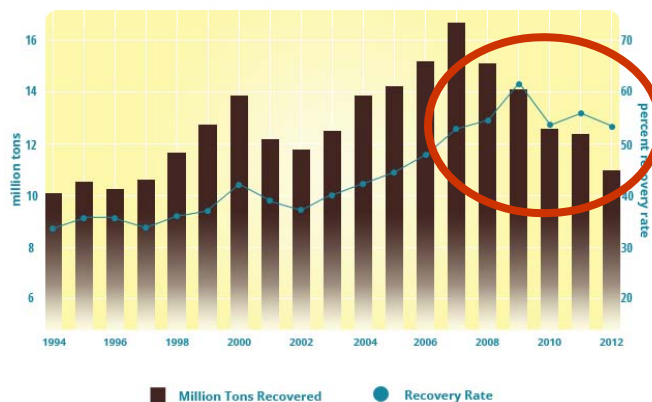


Jobs Created Per 1,000 Tons of Paper Managed							
Paper Recycling Jobs				Paper Disposal Jobs			
Collection	Processing	Manufacturing	TOTAL	Collection	Landfilling	Incineration	TOTAL
1.67	2.00	4.16	7.83	.56	.10	.10	.66

Source: More Jobs, Less Pollution: Growing the Recycling Economy in the U.S., Tellus Institute and Sound Resource Management, 2011, http://tellus.org/publications/files/More_Jobs_Less_Pollution.pdf

Printing & Writing Paper Recycling Trends

- Used to make copy paper
- 11.5 million tons = 54.5% recycled in 2012



Source: American Forest & Paper Association,
<http://www.paperrecycles.org/statistics/recovery-of-printing-writing-papers>

Pacific Southwest Federal 100% Recycled Paper Customers

- General Services Administration
- Environmental Protection Agency
- Department of Justice
- Office of the Honorable Nancy Pelosi
- Department of Labor
- Forest Service
- FDIC
- Department of Education
- National Park Service
- Office of the Secretary of Defense
- Navy
- Air Force
- Army
- Department of Interior
- Department of Treasury
- Department of Homeland Security
- Department of Agriculture
- Department of Commerce

100% Recycled Copy Paper Leaders (Limited Listing)

States

- Washington
- New York

**Let's add
Hawaii!**

Cities

- Seattle
- San Francisco
- Mill Valley
- Berkeley
- Los Angeles
- Marin County



College and Universities

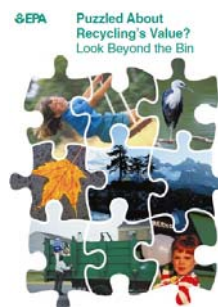
- University of Oregon
- Middlebury University
- Humboldt State University
- Bowdoin College
- Bates College
- University of Puget Sound
- University of Wisconsin Oshkosh
- Princeton University
- University at Buffalo

Hawaii Business

- Wyndham Waikiki

Recycled Office Paper

- **Reduces hazardous air pollutant emissions by 90%**
- **Reduces net greenhouse gas emissions by 70%**
of carbon dioxide equivalents
- Reduces particulate air emissions by 40 %
- Reduces solid waste by 49%
- Reduces total energy consumption by 43%
- Reduces absorbable organic halogen
emissions to water by 100%
- Reduces suspended solids by 30%



Source: U.S. EPA, "Puzzled About Recycling's Value: Look Beyond the Bin" referencing Environmental Defense Fund,
<http://www.epa.gov/osw/conservation/downloads/benefits.pdf>

External Tool - Environmental Benefits: Paper Calculator 3.2

<http://calculator.environmentalpaper.org>



Lifecycle Environmental Impact

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

Clear Values, Start Again	Baseline Paper	Target 1 Paper
Paper	Uncoated Freesheet (e.g. copy paper)	Uncoated Freesheet (e.g. copy paper)
Quantity per year	100000 Tons	100000 Tons
% Postconsumer	30	100
Wood Use	261,331 tons 261,331 tons more	0 tons
Net Energy	2,932,166 million BTU's 754,658 million BTU's more	2,177,508 million BTU's
Greenhouse Gases	498,068,795 pounds CO ₂ equiv. 144,793,812 pounds CO ₂ equiv. more	353,274,983 pounds CO ₂ equiv.
Water Consumption	1,948,788,940 gallons 785,300,460 gallons gallons more	1,163,488,480 gallons
Solid Waste	169,651,084 pounds 52,568,964 pounds more	117,082,120 pounds

Environmental Indicator	30% Recycled Paper	100% Recycled Paper
NO _x	917,993 pounds 77,844 pounds more	840,149 pounds Hide Extended Result Set
Purchased Energy	2,190,250 million BTU's 63,227 million BTU's more	2,127,023 million BTU's
SO ₂	2,603,585 pounds 150,732 pounds more	2,452,853 pounds
Particulates	525,850 pounds 213,468 pounds more	312,382 pounds
Hazardous Air Pollutants (HAP)	220,824 pounds 135,553 pounds more	85,271 pounds
Volatile Organic Compounds (VOCs)	253,758 pounds 110,400 pounds more	143,358 pounds
Total Reduced Sulfur (TRS)	39,275 pounds 14,277 pounds more	24,998 pounds
Total Suspended Solids (TSS)	1,518,252 pounds 502,287 pounds more	1,015,965 pounds
Chemical Oxygen Demand (COD)	2,243,634 pounds	2,859,138 pounds 615,504 pounds more
Biochemical Oxygen Demand (BOD)	894,458 pounds 226,399 pounds more	668,059 pounds

Environmental Paper Calculator 3.2 Results (Examples)



Wood Use

Wood use measures the amount of wood required to produce a given amount of paper. The number of typical trees assumes a mix of hardwoods and softwoods 6-8" in diameter and 40' tall. Calculated collaboratively by Conservatree, Environmental Defense Fund, and Environmental Paper Network.

The Baseline Paper uses 261,331 tons, made from about 1,680,000 [trees](#)

The Target I Paper would use 261,331 tons less, made from about 1,680,000 fewer [trees](#)



Greenhouse Gases

Greenhouse gases, including carbon dioxide (CO₂) from burning fossil fuels and methane from paper decomposing in landfills, contribute to climate change by trapping energy from the sun in the earth's atmosphere. The unit of measure is CO₂ equivalents. The average car emits 11,013 pounds of CO₂ in a year.

The Baseline Paper uses 498,068,795 pounds CO₂ equiv., the equivalent of about 45,226 [cars/year](#)

The Target I Paper would produce 144,793,812 pounds CO₂ equiv. less, the equivalent of about 13,148 fewer [cars/year](#)

Sulfur dioxide (SO₂)

Chemical compound produced when boilers burn fuel that contains sulfur. Of the fuels used in the paper industry, oil and coal generally contain the highest quantities of sulfur. Sulfur dioxide contributes to air pollution problems like acid rain and smog. The average 18-wheel truck emits 5.5 pounds of SO₂ in a year.

The Baseline Paper produces 2,603,585 pounds, the equivalent of about 473,379 [18-wheelers/year](#)

The Target I Paper would produce 150,732 pounds less, the equivalent of about 27,406 fewer [18-wheelers/year](#)

Region 9 – Results FY12 and FY3

Over 48 Million Sheets of 100% Recycled Paper Purchased

Metric	Amount Saved
Wood Use	580 tons less (~ over 3,700 40-ft.trees)
Greenhouse Gases	2,468 Metric Tons of Carbon Equivalent less
Energy Conserved	2,617 MMBTUs less (~ 21,063 gallons of gas)
Water Conserved	1,740,619 gallons
SO2 Emissions	334 pounds less
Particulate Emissions	473 pounds less
Hazardous Air Pollutants	300 pounds less
Total Suspended Solids	1,113 pounds less

Sources: Environmental Paper Network Paper Calculator Version 3.2. <http://www.papercalculator.org>
U.S. EPA's ReCon Calculator <http://go.usa.gov/YUeQ> [Greenhouse Gas Emissions and Energy Conserved].

Buying 100% Recycled Paper for State Agencies

- **DAGS:** SPO has extended contract 11-07 contract for another year and is working to update green specs
- Agencies are able to **use the Vendor List portion of 11-07 to obtain the 100% postconsumer recycled paper (and other items) at a discounted rate.**





Lead *by* EXAMPLE

Jon Chin
Hawaii State Energy Office

Green Purchasing Webinar – DAGS SPO
November 5, 2014

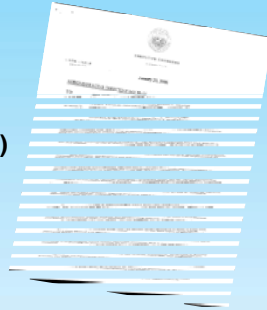


LEAD BY EXAMPLE (LBE)


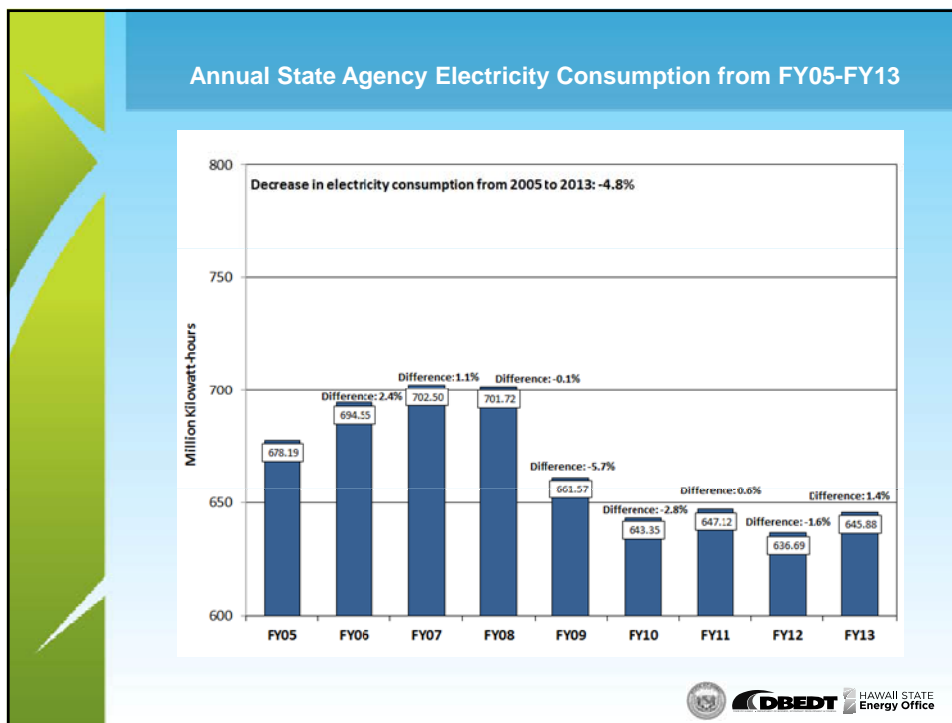
Working Groups:

- Leadership (Cabinet Level or designated rep)
- Building Energy Use (efficiency and renewable)
- Environmentally Preferable Purchasing
- Transportation

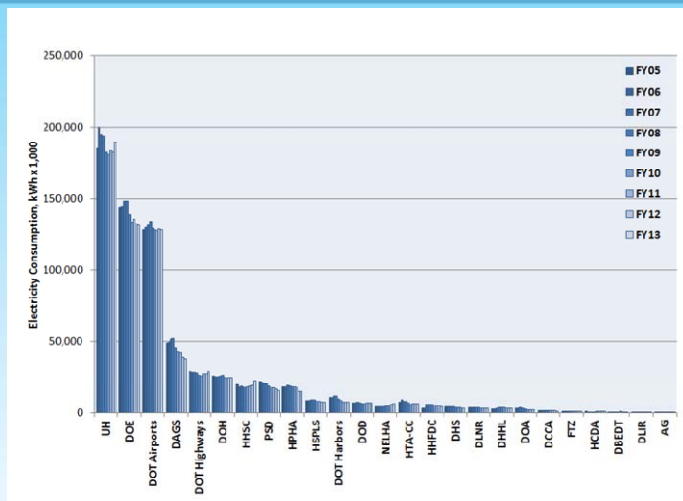
• ACEEE named the LBE program one of the “Top Five State-Led Energy Efficiency Programs” in 2010



Lead by EXAMPLE

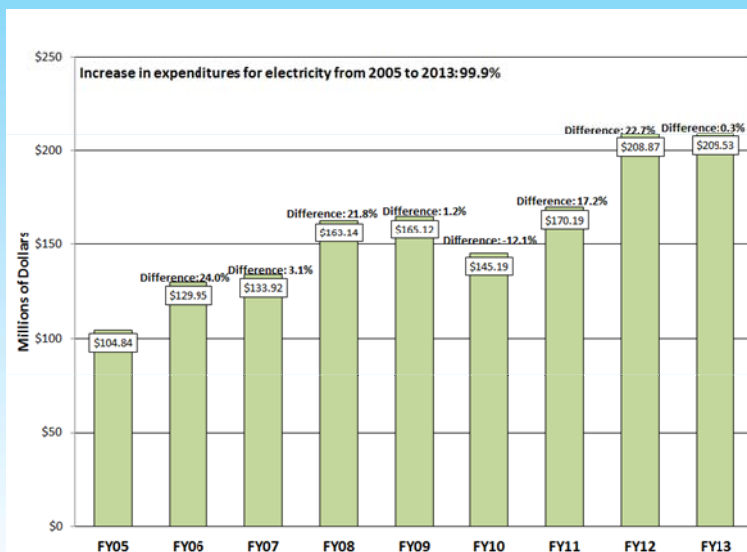



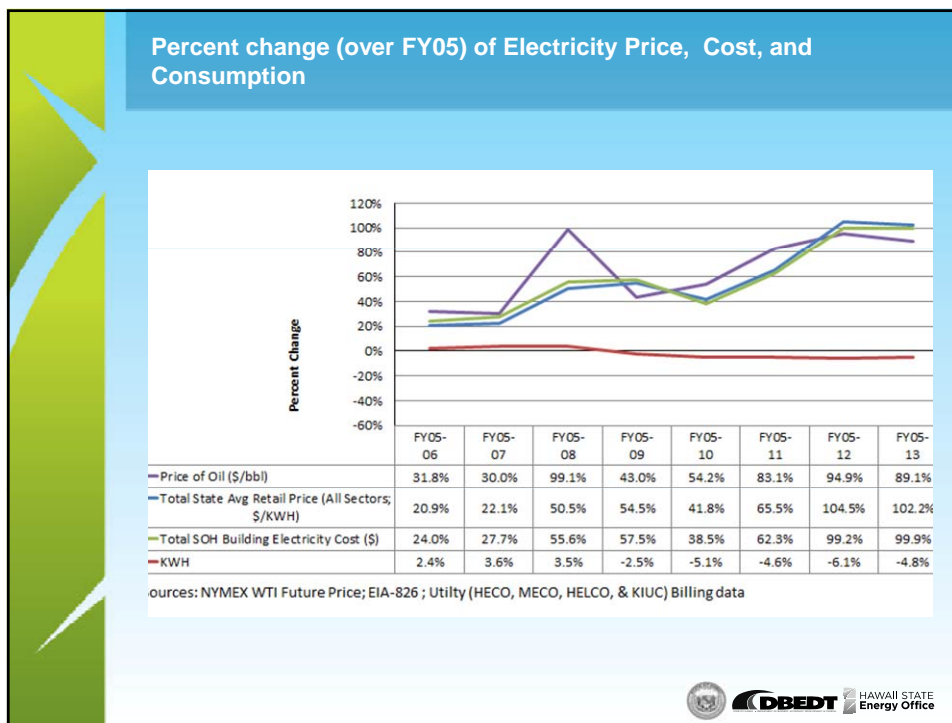
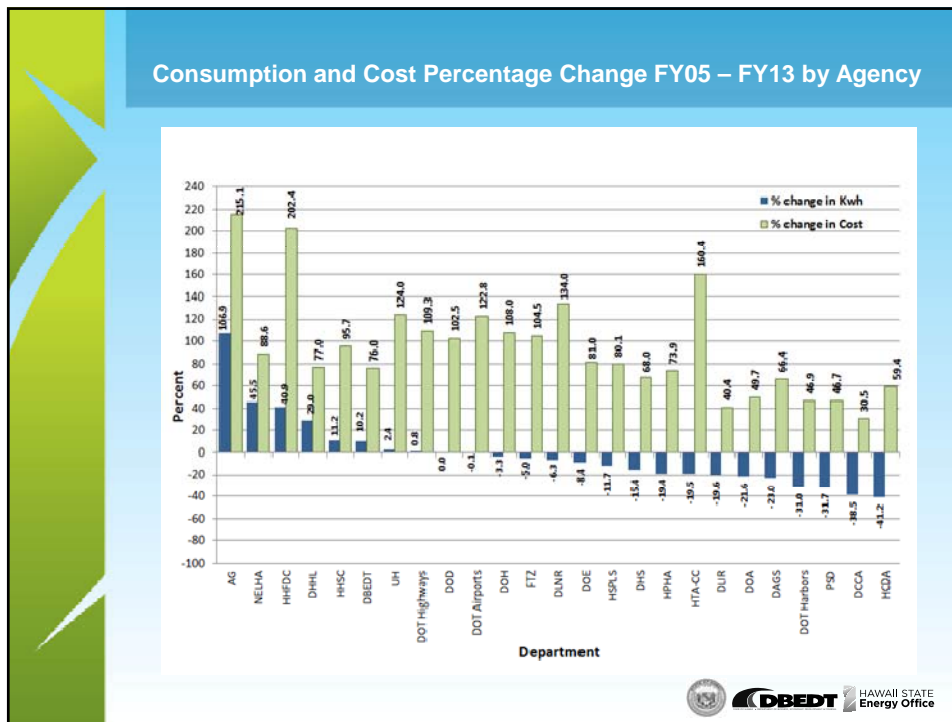
Comparison of kWh consumption by Agency by Year

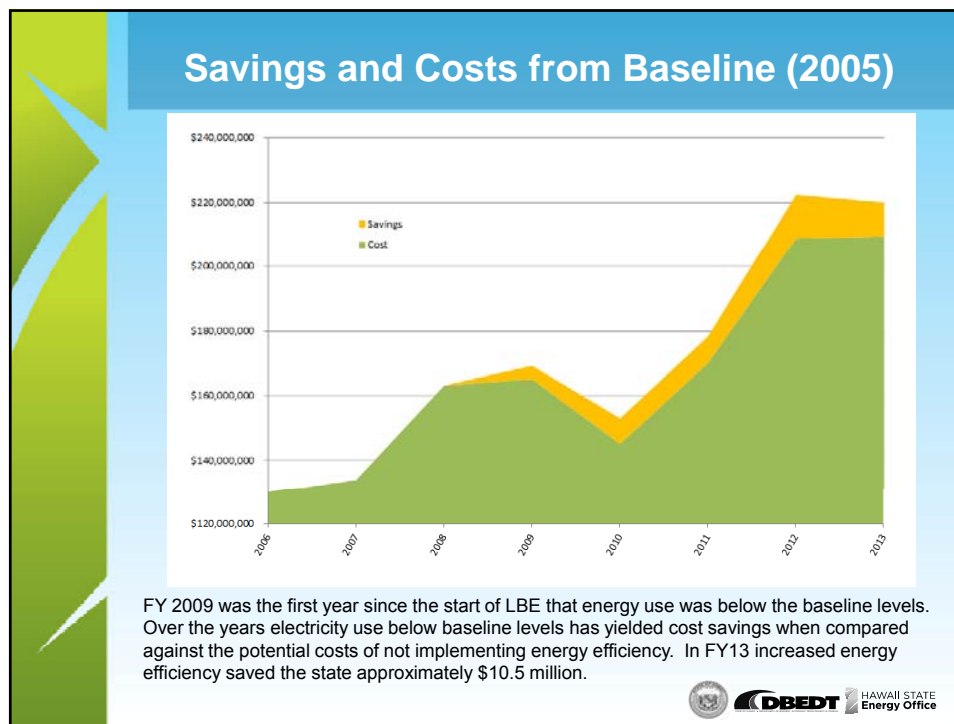


From FY05 to FY13, 17 executive agencies were able to decrease their electricity consumption.

State Electricity Costs FY05-FY13







LBE Statute – HRS 196-9

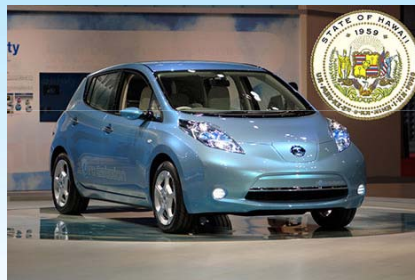
[§196-9] Energy efficiency and environmental standards for state facilities, motor vehicles, and transportation fuel.

- (a) Each agency is directed to implement, to the extent possible, the following goals during planning and budget preparation and program implementation.
- (b) With regard to buildings and facilities, each agency shall:
 - (6) Use life cycle cost-benefit analysis to purchase energy efficient equipment such as ENERGY STAR products and use utility rebates where available to reduce purchase and installation costs; and
 - (7) Procure environmentally preferable products, including recycled and recycled-content, bio-based, and other resource-efficient products and materials.



#10: Adoption of EVs

- Through the EV Ready Program, funds were allocated to DAGS for the purchase of six (6) EVs for the state motor pool and for charging stations. DBEDT and NELHA also have EVs.
- Under the EV Ready Program, three (3) private charging stations and two (2) public charging stations were installed.



#9: Waste Reduction & Recycling

- UH Mānoa has an on-going campus-wide recycling and program that recycles cans, plastics, paper products, and green waste reducing the total waste-stream by 37%
- The FTZ recently began a cardboard recycling program where tenants and Zone users can place their cardboard boxes and shipping materials in a designated recycling area. This measure has effectively reduced the FTZ's solid waste refuse volume by forty (40) percent
- UH Hilo has a new and active MIXED recycling process where all types of paper, plastic #1, 2, 5, clean metal cans, and glass are all recycled, which should more than double the amount of recycled waste to an estimated 132,000 cubic feet diverted from the landfills



DBEDT HAWAII STATE Energy Office

#8: Grants

- The DOE, in partnership with the UH College of Tropical Agriculture and Human Resources, was awarded an EPA Grant that will focus on best practices for school landscape management as a pilot study for 3 DOE schools on O'ahu. During the 18 month grant, irrigation water benchmarking will be included, along with a sample food waste audit.
- UH, DOH, and DBEDT participated in the Rewarding Internships for Sustainable Employment (RISE) program and hired paid interns to work on projects ranging from Energy Audits, GHG accounting, Diesel Emissions Reduction, and Green Business.



DBEDT HAWAII STATE Energy Office

#7: Environmentally Preferable Purchasing

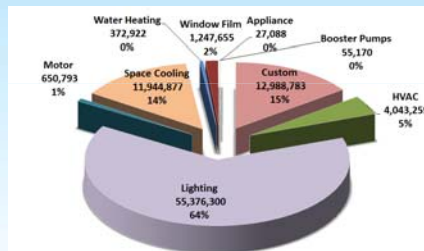
- DLNR used recycled asphalt material at the Diamond Head State Monument and at Pu'u 'Ualaka'a.
- HHFDC is in the process of replacing all appliances, air conditioners, and ceiling fans with ENERGY STAR® rated items at their multi-family housing complexes and purchases only copy paper products with at least 30% recycled content.
- DAGS Central Services Division (CSD) procures environmentally preferable products, whenever possible. The CSD's Custodial Program uses Green Seal or other certified environmentally friendly products to clean their buildings.
- UH Mānoa has an extensive dining and food service recycling and bio-based program, with over 80% of all paper goods used by UH Mānoa Buildings Services coming from recycle paper products.
- DBEDT is currently updating an Environmental Purchasing Guide.



DBEDT HAWAII STATE Energy Office

#6: Capitalizing on EE Incentives

- State agencies have received more than \$7.27 million in efficiency rebates since 1996 from the Hawai'ian Electric Company (HECO) and its subsidiaries and from Hawai'i Energy. These rebates combined have resulted in estimated cumulative dollar savings of over \$130 million and electricity savings of 799 million kilowatt-hours. Over the life of the equipment, the savings will be equivalent to approximately 108,000 households' annual electricity use. In FY13 state agencies received \$397,124 in rebates.



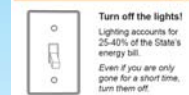
DBEDT HAWAII STATE Energy Office

#5: EPA National Building Competition

- Competed in 2012 by entering the State Capitol Building. Made the final cut and saw kWh reductions.
- Currently competing in 2014 with 6 Capitol District state buildings.
- Education/Outreach to building occupants.



DO YOUR PART



Turn off the lights!
Lighting accounts for 25-40% of the State's energy bill. Even if you are only gone for a short time, turn them off.

DO YOUR PART



Hibernate/Shut down your computer
Screensavers waste energy, so turn yours off and hibernate instead. Hibernating/shutting down your computer saves the State \$4,875 annually.

DO YOUR PART



Turn off/Unplug/Remove personal devices
Turn off power strips, unplug chargers, and remove personal appliances. 100 people removing their non-Appliances saves the State \$5,499 annually.



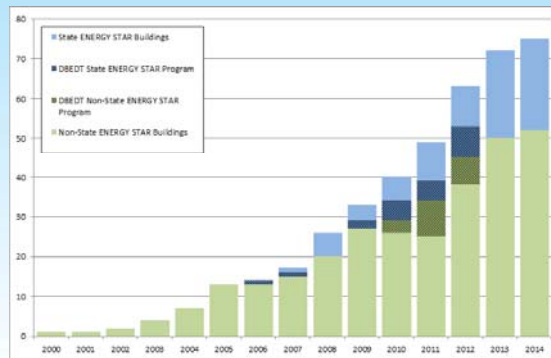
#4: LEED and Green Buildings

- Eight years ago, there was only one LEED Accredited Professional (AP) working for the state. Now, there are over 30 LEED APs and the state requires all new construction and major renovation to meet LEED Silver standards.
- To date, 20 state facilities have been certified or are pending certification as meeting LEED standards or have been completed and are awaiting certification by USGBC. An additional 54 projects are in the process toward certification.
- LEED Existing Buildings: Operations & Maintenance – State Office Tower
- DHHL: 403-unit Kanehili Subdivision, Kaupuni Net-zero Community, and Kumuhau (LEED Silver)



#3: ENERGY STAR Benchmarking and Certification

- To date, 277 state facilities have been benchmarked using the ENERGY STAR® Portfolio Manager online tool.
- There are a total of 75 ENERGY STAR® certified buildings in Hawaii. Of these, 27 are public buildings (21 State).
- DBEDT has assisted with the benchmarking and certification of 36 public and private buildings.



#2: Renewable Energy Development and PPAs

- University of Hawai'i (UH) campuses have installed solar PV projects with a combined capacity of 761 kW, and the UH Mānoa campus is currently in the design phase to install an additional 5 MW of PV in FY2012. UH Maui College has installed a 1.2 kW wind turbine system.
- DAGS installed a 236 kilowatt (kW) PV system for the Kalanimoku Building located in the Capitol District and is planning a 100 kW system at DAGS' Central Services Division baseyard.
- The Hawai'i State Public Library System (HSPLS), working with DAGS, is constructing or has completed construction of six photovoltaic system projects at six public libraries.
- The DOE has launched the Ka Hei initiative which will include the installation of sustainable energy generation equipment in all public schools statewide. As an extension of facility upgrades, Ka Hei will feature educational opportunities to engage students and staff in energy awareness and STEM.
- DOT-Airports signed a 20-year power purchase agreement in 2009 for a total of seven (7) photovoltaic systems totaling 901 kW of capacity. Through a second round of power purchase agreements in 2011, DOT-Airports awarded development of photovoltaic renewable energy generation systems at 15 sites. Seven (7) power purchase agreements have been signed for a total capacity of 606 kW. The remaining eight (8) are pending, but are planned for an additional 2.69 MW



#1: Energy Performance Contracting

- For the third consecutive year, the Energy Services Coalition, a national nonprofit organization dedicated to supporting performance contracting, recognized the State of Hawai'i as first in the nation in Energy Savings Performance Contracting (ESPC) for State Building Efficiency. To date, over \$320 million has been invested in both State and County ESPCs with cost savings expected to grow to more than \$897 million over the 20-year life of the contracts. DBEDT has provided technical assistance to agencies for projects dating back to 1996.



State ESPC Projects

Agency	Year(s)	Contract Amount (\$)	Estimated Savings Over Life of Contract (\$)
UH-Hilo	1996	\$6,402,695	\$14,630,066
County of Hawaii	1997-2006	\$2,215,546	\$8,157,880
County of Kauai	1998-2006	\$525,965	\$1,205,990
C&C Honolulu	2001-2005	\$11,900,205	\$36,066,761
HHSC	2001-2005	\$22,542,969	\$55,766,365
Judiciary	2003	\$1,474,406	\$9,785,036
DAGS Phase I	2009	\$33,902,962	\$56,149,562
PSD	2011	\$25,511,264	\$46,000,000
UHCC	2011	\$32,802,838	\$90,064,000
C&C Honolulu	2013	\$16,000,000	\$34,000,000
DAGS Phase II	2013	\$17,400,000	\$28,000,000
DOT	2013	\$150,000,000	\$518,025,760
Total		\$320,678,850	\$897,851,420



DOH EPP Survey (2011)

An annual survey designed to track the environmentally preferable purchasing practices of state agencies is coordinated by the Department of Health's Office of Solid Waste Management.

The results show that state agency EPP in 2010 lead to:

Greenhouse gas (GHG) savings equivalent to **removing approximately 93 passenger vehicles from roadways for one year**

Energy savings equal to **conserving about 17,188 gallons of gasoline in a year.**



Thank You!

Lead  **by**
EXAMPLE

Jon Chin
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**Green Purchasing,
Products and Practices**

Gail Suzuki-Jones
Energy Analyst

Green Purchasing Webinar – DAGS SPO
November 5, 2014



Green Purchasing – Products and Practices

- Why is green purchasing important?
- What is Green Purchasing?
- What are Green Products and Practices?
- How to find them at SPO and beyond?
- What are others doing to Go Green?


State of Hawaii
Dept. of Business, Economic Development
& Tourism



Buying Green - Objectives

- Reduce energy and water consumption
- Promote recycling and reuse
- Prevent pollution and minimize waste
- Reduce emissions
- Promote healthy environmental practices
- Respect, restore and preserve Hawaii's cultural, and natural resources



Goal...Going green

- Sustainability

Meets the needs of the present without compromising the ability of future generations to meet theirs.

People – Planet – Profit \$\$\$



Going Green - What does this mean?

- Energy Conservation
- Water Conservation
- Waste Reduction
- Green Cleaning
- Tools and Resources

Green Resources: 40 Ways to Go Green

- http://www.grainger.com/Grainger/static/rc_green_howtogogreen.html

Environmental Product Guide for Hawaii 2011

- <http://seagrant.soest.hawaii.edu/2011-environmental-product-guide>

National Association of Purchasing Officials

- <http://www.naspo.org/green/>





EPP In The State

Energy Efficiency and Environmental Standards For State Facilities

Act 96 SLH 2006: Buildings and Facilities


(7) Procure environmentally preferable products, including recycled and recycled-content, biobased, and other resource-efficient products and materials.



Hawaii Energy – Elec. Usage... Did you know...?

- 46.3 million barrels of petroleum were imported for Hawaii's total energy use over the past year.
- That's 36 barrels of petroleum for every man, woman and child living in Hawaii.
- The average residential meter in Hawaii uses 615 kWh/month. That's \$175/month spent on electricity.

www.hawaiienergy.com/13/get-the-facts



Hawaii ranks #1- Electricity Cost\$

44.4 cents/kWh	Lanai
44.3 cents/kWh	Molokai
42.5 cents/kWh	Hawaii Island
36.7 cents/kWh	Maui
33.0 cents/kWh	Oahu
11 - 12 cents/kWh	U.S. average

Third-party Certification Programs

Industry-wide accepted certifications:

•**ENERGY STAR** – a joint program between the EPA and DOE to certify products that have relatively low energy consumption.







•**EPA's WaterSense** - sponsored by the EPA to help consumers identify water efficient products and programs.





•**Green Seal** – takes a life cycle assessment approach to certify products that are of little or no impact to human health and the environment




Top 10 w/ Green Certification Programs for Green product labeling



- **Energy Conservation**
 - Replace interior incandescent lamps w/CFLs or LEDs
 - Purchase ENERGY STAR equipment and products
 - Benchmark using ENERGY STAR Portfolio Manager
- **Water Conservation**
 - Install 'High Efficiency' aerators and fixtures
 - Offer linen & towel reuse option for guests
 - Use energy & water efficient washers
- **Solid Waste Reduction & Recycling**
 - Purchase 50% RC tissues & toilet paper
 - Recycle paper, cardboard, metal, glass, plastic
 - Provide recycling containers in guest rooms
- **Pollution Prevention**
 - Use green cleaning products and hard surface finish material / furniture


  HAWAII STATE Energy Office

Energy Conservation




1. Replace inefficient lamps with [compact fluorescent lighting](#) or [LEDs](#).
2. [Turn off the lights](#) in unoccupied rooms with [occupancy sensors](#).
3. Replace standard motors with [NEMA® premium efficient motors](#).
4. Replace older exit signage with LED or photoluminescent [exit signs](#).
5. Use [ENERGY STAR](#) rated products.
6. Install [adjustable frequency drives](#) to increase motor efficiency.
7. Upgrade from T12 lamps to energy efficient [T8](#) or [T5](#) without sacrificing light quality.
8. Match efficient lighting with [NEMA & RoHS Compliant ballasts](#).
9. Partner with Grainger and [Alliance Energy Solutions](#) for turnkey, lighting retrofits.
10. Upgrade to [high efficiency air filters](#).

  HAWAII STATE Energy Office



According to ENERGY STAR, the combined annual energy cost for commercial and industrial facilities in the US is \$202.3 billion.







Every use of energy is an opportunity for savings.

This includes the use of lighting, heating, cooling, hot water and general office equipment.


DAGS – SPO Price and Vendor Lists
<http://spo.hawaii.gov>

EPG 2011
ENERGY STAR - p.17 and 21
Lighting – p. 85-89








Water Conservation

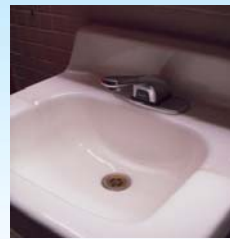


1. Install waterless/low flow [urinals](#) to avoid unnecessary water use.
2. Installing low-flow [wash fountains](#) help reduces water waste.
3. Use low-flow [sensor faucets](#) to help regulate water use.
4. Install [aerators](#) to help reduce water flow rates on existing faucets.
5. Retrofit to [touchless flush valves](#) to help improve overall hygiene.
6. Installing [high efficiency toilets](#) (HETs) can help save a significant amount of water.
7. Using [sprinkler timers](#) can increase productivity and help you avoid wasting water.
8. [Drip Irrigation systems](#) use between 30-50% less water than sprinkler irrigation.
9. Using [low-flow showerheads](#) can help reduce water usage by up to 20%.
10. Avoid water loss by repairing [leaky plumbing](#).



Hawaii State Office Tower

- Water Efficiency
 - » 36.48% water use reduction savings through the use of:
 - Ultra low flush toilets
 - low-flow heat activated faucet fixtures
 - » Saves an estimated 36,270 gallons per year
 - » Installed by DAGS CSD



DBEDT HAWAII STATE Energy Office

County of Maui Water Resource and Planning Division

- Water & Energy Savings
 - » The old toilets with at least 5 gallons per flush (gpf) were replaced with 1.28 gpf toilets
 - » Flow restrictors were installed on the existing bathroom and kitchen faucets which reduce the flow from 3 gallons per minute (gpm) to 1.0 and 1.5 gpm
 - » The division saved 56% of its average water use due to installations
 - » Based on two years of water consumption data, usage went down from 16,000 gallons per billing period to 9,000 gallons which translates to 133.3 gallons per day
- Xeriscaping & Efficient Irrigation
 - » The water source for the irrigation system is provided by AC condensate and roof water catchment. The power source for the pump is derived from one 60W solar panels and 12-volt deep cycle battery backup




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By evaluating your water usage and implementing water conservation practices, you may realize reduced operating expenses through energy savings, reduced sewer costs, reduced water costs and reduced pre-treatment costs.


The EPA WaterSense program has established standards for several categories of low-flow products.

EPG 2011
WATERSENSE – p. 20
Plumbing – p. 77 - EPG



Waste Reduction

1. Use [paper products](#) with recycled content.
2. Use [trash can liners](#) with recycled content.
3. Provide [recycling containers](#) for all employees.
4. Use [recycling kits](#) to properly dispose of fluorescent lamps, ballasts and batteries.
5. Install [lockers](#) containing recycled content.
6. Use [rechargeable batteries](#) to avoid unnecessary disposal.
7. Purchase [office break-room supplies](#) that are made from recycled content or renewable resources.
8. Using [coreless products](#) reduces waste from packaging.
9. Encourage employees to Go Green with [recycled content signs](#).
10. Collect suggestions from employees with this [recycled content suggestion box](#).



Hawaii State Office Tower

- Materials and Resources
 - » Waste Audit conducted on one day's worth of trash and recycling
 - » Daily waste vs. recycling data was collected and recorded
 - » Purchases contain at least 70% material salvaged on-site, through an internal organization materials and equipment reuse "Excess Property" program



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Recycling and Recycled Products

- Since 1977, the average weight of 2-liter plastic soft drink bottles has been reduced from 68 grams each to 51 grams. That means that 250 million pounds of plastic per year has been kept out of the waste stream.
- Choosing products made from recycled content can also decrease the amount of waste produced and the amount of water used in manufacturing.

EPG 2011

CPGuidelines – p. 5-11

Recycling Services – p. 124-126

and see www.opala.org website

Office Products – p. 105 - EPG



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Hawaii Convention Center EPP Examples

- 100% recycled fiber napkins.
- Compostable hot beverage cups made from renewable resources.
- Sustainable Forestry Initiative certified office paper.
- Cleaning product inventory is evaluated regularly for new environmentally preferred products.

<http://www.bpiworld.org/products.html>



University of Hawaii

- UH Mānoa and UH Hilo campuses
 - Purchase toilet paper and hand towels that meet the current EPA guidelines of 40% post consumer.
 - Picnic tables made from recycled plastic.
- Maui College
 - The Culinary Program uses biodegradable food cartons, forks, knives and spoons in its foodservice operation.



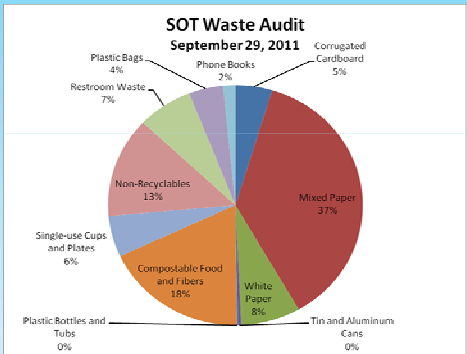
Waste Reduction

- In 2006, The U.S. produced more than 251 million tons of solid waste, a 65% increase since 1980.
= 4.6 lbs. per person per day.
- The increase impacts the cost of building operations and maintenance.
 - Unnecessary materials add to the costs of products purchased.
 - Fees for landfilling or incineration increase as the amount of waste increases

  HAWAII STATE Energy Office



HAWAII STATE OFFICE TOWER – Waste Audit Results

**SOT Waste Audit
September 29, 2011**



Category	Percentage
Mixed Paper	37%
Compostable Food and Fibers	18%
White Paper	8%
Tin and Aluminum Cans	0%
Plastic Bottles and Tubs	0%
Single-use Cups and Plates	6%
Non-Recyclables	13%
Restroom Waste	7%
Plastic Bags	4%
Phone Books	2%
Corrugated Cardboard	5%

- Overall, SOT diverts 58% of its waste from landfills through recycling white paper, cardboard, aluminum, and plastics.
- Of the 42% of the waste that is not diverted, mixed paper and compostable food fibers account for over half of the material that could be diverted.

  HAWAII STATE Energy Office

Green Cleaning



1. Use [Green Seal](#) and [EcoLogo](#) certified chemicals.
2. Improve indoor air quality by using [Greenguard certified chemicals](#).
3. Use [microfiber cloths](#) from Tough Guy® while cleaning to reduce waste and excessive chemical use.
4. Use vacuums and other items certified by the [Carpet & Rug Institute](#).
5. Use [paints](#) that are VOC compliant to keep your facility productive and free of toxins.
6. [Adhesives, Sealants and Tapes](#) can save energy, but can also improve indoor air quality if they are low emitting.
7. Utilize lubricants and other products certified by the [USDA BioPreferred](#) program.
8. Use [concentrated chemicals with ready-to-dispense cleaner systems](#) to improve efficiency.
9. Install [entry-ways mats](#) to minimize dust and dirt inside your facility.
10. Monitor indoor air quality with an [air quality meter](#).

3 Reasons for Implementing Green Cleaning



- **Help people stay healthy.**
 - Research shows a clear link between poor indoor air quality, sick students and teachers, and poor academic and occupational performance.
- **Increase lifespan of facilities.**
 - Proper maintenance can extend the longevity and performance of building materials and furnishings by preventing damage and premature aging.
- **Preserve the environment.**
 - Traditional cleaning products can contain harmful chemicals which find their way into drinking water, streams and the ocean, adversely affecting human and animal health.

Hawaii State Office Tower



Indoor Environmental Quality

- » Low/No VOC paints, adhesives, sealants, and furniture used throughout
- » Increased air quality through added outside air and increased filtration
- » Lighting and thermal comfort controls for all work stations
- » Green Cleaning Program for janitorial products



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Resources

Hawaii State Procurement Office <http://spo.hawaii.gov>

Office Products

Recycled Office Paper

Maintenance, Repair and Operations Contract – WSCA/NASPO

Products&Services by Qualified Community Rehab. Programs

National Assn. of State Procurement Officials – Green

<http://www.naspo.org/green/>

Hawaii State Energy Office <http://energy.hawaii.gov/>

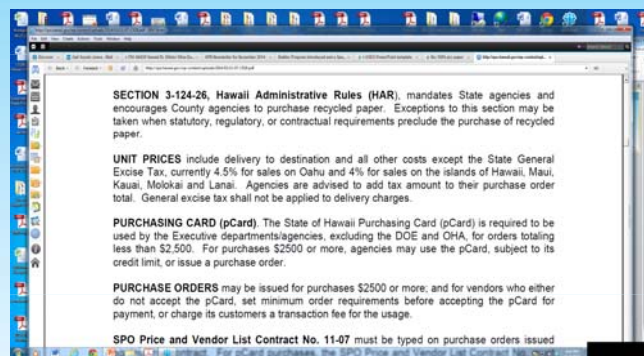
[wp-content/uploads/2011/10/EPG-FINAL_Fall-2011.pdf](http://energy.hawaii.gov/wp-content/uploads/2011/10/EPG-FINAL_Fall-2011.pdf)

Environmental Product Guide



SPO Vendor List – Office Products

<http://spo.hawaii.gov/wp-content/uploads/2014/03/11-07-CR28.pdf>



Recycled Office Paper

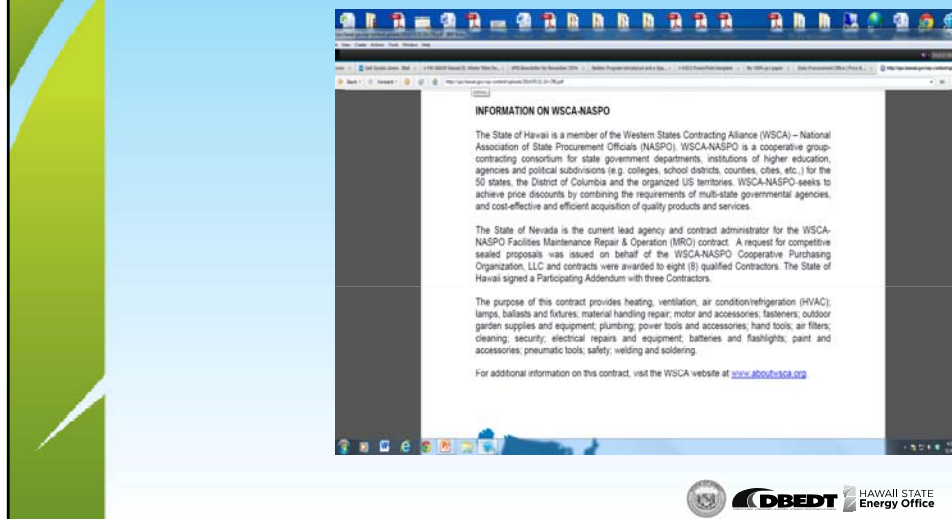
<http://spo.hawaii.gov/wp-content/uploads/2014/03/11-07-CR28.pdf>



GROUP 2: RECYCLED OFFICE PAPER		OFFICEMAX
196	BOND, XEROGRAPHIC, white, 3-hole, pre-punched, premium, No. 4, 20# sub, 8-1/2" x 11", 500 sheets, 10 msa/tn, min. 30% recycled content	Boise P1054901P \$47.23 ctn OfficeMax
197	BOND, XEROGRAPHIC, white, dual purpose, No. 4, 20# sub, 500 sheets, 8-1/2" x 11", 10 msa/tn, min. 30% recycled content	Boise P1054901 \$44.83 ctn OfficeMax
198	BOND, XEROGRAPHIC, white, dual purpose, No. 4, 20# sub, 500 sheets, 8-1/2" x 14", 10 msa/tn, min. 30% recycled content	Boise P1054904 \$59.90 ctn OfficeMax
199	BOND, XEROGRAPHIC, white, dual purpose, No. 4, 20# sub, 500 sheets, 11" x 17", 5 msa/tn, min. 30% recycled content	Boise P1054907 \$54.82 ctn OfficeMax
200	BOND, XEROGRAPHIC, colored, dual purpose, No. 4, 20# sub, 500 sheets, 10 msa/tn, 8-1/2" x 11", min. 30% recycled content	Boise P1MP2201GRP, GN, PK, CHE, PKN, 11, TN, BF, CY, GN, GS, GY, BE, LV, D \$43.30 ctn OfficeMax
201	BOND, XEROGRAPHIC, colored, dual purpose, No. 4, 20# sub, 500 sheets, 10 msa/tn, 8-1/2" x 11", min. 30% recycled content	Boise P1MP2204GRP, PK, LY, CY, GN, BE \$55.10 ctn OfficeMax
202	BOND, XEROGRAPHIC, colored, dual purpose, No. 4, 20# sub, 500 sheets, 8-1/2" x 11", min. 30% recycled content	Boise P1MP2201GRP, GN, PK, CHE, PKN, 11, TN, BF, CY, GN, GS, GY, BE, LV, D \$43.30 ctn OfficeMax

WSCA-NASPO Maintenance, Repair & Operation Contract

<http://spo.hawaii.gov/wp-content/uploads/2014/03/11-10-CR6.pdf>



INFORMATION ON WSCA-NASPO

The State of Hawaii is a member of the Western States Contracting Alliance (WSCA) – National Association of State Procurement Officials (NASPO). WSCA-NASPO is a cooperative contracting consortium for state government departments, institutions of higher education, agencies and political subdivisions (e.g. colleges, school districts, counties, cities, etc.) for the 50 states, the District of Columbia and the organized US territories. WSCA-NASPO seeks to achieve price discounts by combining the requirements of multi-state governmental agencies, and cost-effective and efficient acquisition of quality products and services.

The State of Nevada is the current lead agency and contract administrator for the WSCA-NASPO Facilities Maintenance Repair & Operation (MRO) contract. A request for competitive sealed proposals was issued on behalf of the WSCA-NASPO Cooperative Purchasing Organization, LLC and contracts were awarded to eight (8) qualified Contractors. The State of Hawaii signed a Participating Addendum with three Contractors.

The purpose of this contract provides heating, ventilation, air condition/refrigeration (HVAC), lamps, ballasts and fixtures; material handling repair; motor and accessories; fasteners; outdoor garden supplies and equipment; plumbing; power tools and accessories; hand tools; air filters; cleaning; security; electrical repairs and equipment; batteries and flashlights; paint and accessories; pneumatic tools; safety; welding and soldering.

For additional information on this contract, visit the WSCA website at www.aboutwscanpo.org



Products and Services by Qualified Community Rehab. Programs –

<http://spo.hawaii.gov/wp-content/uploads/2013/12/02-45.pdf>

Qualified Community Rehabilitation Program (QCRP) providers may furnish goods and services to interested governmental agencies. The vendors listed below are qualified QCRP's:

1. The Arc of Hilo	6. Lanakila Pacific
2. The Arc of Kona	7. Molokai Occupational Center
3. Brantley Center, Inc.	8. Network Enterprises, Inc.
4. Goodwill Industries, Inc.	9. Opportunities & Resources, Inc.
5. Ka Lima O Maui, Ltd.	





SERVICES PROVIDED BY QCRP

<http://spo.hawaii.gov/wp-content/uploads/2013/12/02-45.pdf>

Assembly Office Services

- ☐ Lanakila Pacific ☐ The Arc of Kona
- ☐ Goodwill Industries of Hawaii, Inc.

Car Wash

- ☐ Molokai Occupational Center

Document Destruction (Shredder) Services

- ☐ Goodwill Industries of Hawaii, Inc. **Packaging Services**
- ☐ Goodwill Industries of Hawaii, Inc.

Food Service ☐ Lanakila Pacific ☐ The Arc of Kona ☐ Opportunities and Resources, Inc. ☐ Goodwill Industries of Hawaii, Inc. ☐ Lanakila Pacific



NASPO

<http://www.naspo.org/green/>

- Introduction
- Green Policy
- Implementation Strategies
- Guidance
- Measuring and Marketing Success
- Resources
- Program Development – 12 Steps
- Glossary and FAQs



Mahalo

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energy.hawaii.gov

