

KING COUNTY ENVIRONMENTAL PURCHASING 2006 ANNUAL REPORT



King County

Department of Executive Services
Finance and Business Operations Division
Procurement and Contract Services Section
Environmental Purchasing Program

King County Government

King County Executive

Ron Sims
206-296-4040
www.metrokc.gov/exec

King County Council

Bob Ferguson	District 1
Larry Gossett	District 2
Kathy Lambert	District 3
Larry Phillips	District 4
Julia Patterson	District 5
Jane Hague	District 6
Pete von Reichbauer	District 7
Dow Constantine	District 8
Reagan Dunn	District 9

206-296-1000
www.metrokc.gov/mkcc

Environmental Purchasing Program

Eric Nelson, Program Manager
Karen Hamilton, Program Manager
821 Second Avenue, 8th Floor
Seattle, Washington 98104
206-263-4279
www.metrokc.gov/procure/green

Procurement and Contract Services Section

David Leach, Manager
206-684-1681
www.metrokc.gov/finance/procurement

Finance and Business Operations Division

Ken Guy, Director
206-684-1937
www.metrokc.gov/finance

Department of Executive Services

Paul Tanaka, Director
206-296-3824
www.metrokc.gov/dias



Cover graphic used with permission, courtesy of Indiana State Department of Commerce, Recycling Market Development Program.

King County Environmental Purchasing Program

2006 Annual Report

Executive Summary

King County's Environmental Purchasing Policy reflects a long-term commitment to the purchase of environmentally preferable products. In 1989, King County adopted its original recycled product procurement policy in response to overburdened landfills and the need to create markets for newly collected recyclables. Because every purchase has an impact on human health and the environment, the goal of policy is to mitigate these impacts whenever practicable. Environmentally preferable procurement considers multiple product attributes, such as toxicity, durability, recycled content and conservation of resources, in addition to price, performance and availability.

The King County Environmental Purchasing Program (EPP) provides county personnel with information and technical assistance to help them identify and evaluate, and ultimately buy, economical and effective environmentally preferable products and services. In the past year, King County agencies purchased **36 million dollars** worth of these products, **saving \$640,000** compared to the cost of conventional products.

Since 1990, the program has earned awards and accolades from many organizations, from the U.S. Environmental Protection Agency (EPA) to the National Association of Counties (NACo) and continues to be a central resource for jurisdictions and other organizations across the nation. Last year, program staff continued its integral role in the development of a national membership-based non-profit organization called the "Responsible Purchasing Network" (RPN), serving on the steering committee. After a year and a half of work, the organization was officially launched at the end of November, 2006 and recruited founding members. The group has already published several purchasing guides and

is actively engaged in research and development of a website tool that will debut in 2007, to help purchasing decision-makers identify standards and specifications for the purchase of environmentally preferable products.

The program reports annually on the status of policy implementation and the environmental purchasing accomplishments of agencies. Recycled paper is used for all major government functions, including more than nine million bus schedules annually, tax statements, court forms, pet license notifications, business cards, reports, stationery, and internal printing. Other purchases include: remanufactured toner cartridges; re-refined antifreeze and motor-oil; ultra-low sulfur diesel; biodiesel; hybrid vehicles; bio-based oils; low-VOC asphalt cold-patch; plastic lumber, compost, shredded wood-waste and tire-retreading services. In addition to their environmental benefits, many of these products are more economical than those they replace.

Program success depends on enabling agencies to obtain the benefit of the new opportunities being created in a changing marketplace by supporting them with information and technical assistance. In addition to producing educational seminars on specific opportunities, the program makes extensive use of the Internet, using email to distribute an "Environmental Purchasing Bulletin" and maintaining a website to make information available to agencies, suburban cities, and the community at-large on the environmental purchasing experience of county agencies.



King County

Department of Executive Services
Finance and Business Operations Division

Procurement and Contract Services Section Environmental Purchasing Program

www.metrokc.gov/procure/green

2006 Annual Report

I. King County Environmental Purchasing Program.....	1
Policy.....	1
Program.....	1
Implementation.....	2
Challenges.....	2
Opportunities.....	3
II. Purchases and Savings.....	4
2006 Purchase Summary.....	4
Purchase Detail.....	5
Office Products.....	5
Operations and Maintenance Products.....	7
Vehicular Products.....	8
Savings Summary.....	11
III. Supporting Program Elements.....	12
Agency Liaison Network.....	12
Internet Information.....	12
Website.....	12
E-mail Environmental Purchasing Bulletin.....	13
Internet Discussion Groups.....	13
Public Involvement.....	14
Publicity.....	15
Model Procurement Policy.....	16
Allied King County Programs.....	16
IV. Environmental Initiatives of County Agencies.....	17
Air Quality.....	17
Energy Conservation.....	18
Water Quality and Conservation.....	18
Green Building.....	19
Waste Reduction and Recycling.....	19

I. King County Environmental Purchasing Program

This report summarizes the achievements of King County agencies for the year 2006, in their implementation of the King County Environmental Purchasing Policy.

In the past year, King County agencies continued to increase their awareness and use of environmentally preferable products. The King County Environmental Purchasing Program (EPP) continues to be a central resource for internal agencies and for jurisdictions and other organizations across the nation. Last year, program staff continued its integral role in the development of a national membership-based non-profit organization called the “Responsible Purchasing Network” (RPN), serving on the steering committee. RPN was officially launched at the end of November, 2006, and there is on-going work to help purchasing decision-makers identify standards and specifications for the purchase of environmentally preferable products.

King County maintains this leadership position through the efforts and accomplishments of the employees who are actively developing ways to use economical environmentally preferable materials in new applications and sharing their stories.

Policy

The King County Environmental Purchasing Policy reflects a long-term commitment to the purchase of environmentally preferable* products. In 1989, the county adopted its original recycled product procurement policy in response to overburdened landfills and the need to create markets for newly collected recyclables. The policy was updated in 1995 (and again in 2003) to require all agencies of county government to revise their purchasing practices to reduce their impact on human

health and the environment “whenever practicable.” Environmentally preferable procurement considers multiple attributes, such as toxicity, durability, recyclability and conservation of resources, while still fulfilling the basic requirements of price, performance and availability.

King County policy can be found on the website at: Executive Policy (CON 7-1-2–AEP) www.metrokc.gov/procure/green/policy.htm and Ordinance (KCC 10.16) www.metrokc.gov/procure/green/eppordinance.htm

Program

The Environmental Purchasing Program aims to fundamentally change the procurement practices of the agencies of King County. With the full participation of the people who make purchasing decisions, the county can attain its goal of buying environmentally preferable products whenever practicable. The program provides county personnel with information and technical assistance to help them identify economical and effective environmentally preferable products and maintain contracts for their purchase. The program helps agencies understand policy requirements and communicates specifications, contracts, and other practical information between county agencies, vendors, users, and other jurisdictions.

The program’s collaborative approach, which relies on the expertise of county employees to evaluate procurement opportunities and revise procedures, is gradually changing the way agencies view these opportunities. County agencies have responded by developing new ways to use environmentally preferable products, especially where these will reduce costs while still meeting performance standards.

*King County defines “environmentally preferable” as having a lesser or reduced effect on human health and the environment when compared with competing products that serve the same purpose. This comparison may consider raw materials acquisition, production, manufacturing, packaging, distribution, reuse, operation, maintenance, or disposal of the product.

Implementation

The **Procurement and Contract Services Section** of the King County **Finance and Business Operations Division** administers the **Environmental Purchasing Program** to help county agencies increase their purchase of environmentally preferable products. The program:

- communicates environmental purchasing policy requirements to county agencies;
- researches and communicates information about price, performance, availability and potential benefits of environmentally preferable products.
- provides technical assistance to facilitate evaluation and adoption of environmentally preferable products and applications by county agencies;
- assists buyers and user agencies in the development of specifications and contracts;
- documents policy implementation, including purchases and product evaluation results;
- publishes an annual report as required by policy;
- produces e-mail environmental purchasing bulletins and the program website;
- provides technical assistance, including policy development and implementation strategies, to other jurisdictions, businesses and non-profit agencies.

Challenges

A number of factors challenge efforts to increase environmental purchasing:

- project managers, designers, and contractors and other users are often not familiar with the use of many environmentally preferable products and are uncertain of the ways in which they might be effectively specified and applied as substitutes for familiar products;
- developers of environmentally preferable products are often in the early stages of identifying the needs of potential customers and establishing the production, marketing, and distribution capacity to meet them;
- the use of environmentally preferable products must be effective and fiscally responsible;
- many products must meet rigorous standards maintained by government and industry regulators and the modification of these standards is a slow, and expensive process and manufacturers, regulators, and users may not yet be equipped to specify and use these new materials effectively;
- in the absence of standards, each specifier must define its own criteria for environmental preferability and specifications must balance the many attributes that are significant to environmental performance, including toxicity, recyclability, recycled content and consumption of water and energy; and
- data collection can be time consuming and expensive.

Opportunities

The Program and county agencies are addressing these challenges by:

- participating in efforts by government agencies, non-profit groups, trade associations, and others, to develop consensus-based standards that will enable users to specify materials that are environmentally preferable as well as available, economical and effective;
- maintaining liaisons between agencies and the Environmental Purchasing Program to facilitate policy implementation, contracting, and data collection;
- evaluating environmentally preferable product performance in new applications through testing and pilot programs and sharing the results with agencies, jurisdictions, and other users through our website, the email “Environmental Purchasing Bulletin,” and by other means;
- helping agencies develop specifications and contracts for environmentally preferable products whenever evaluations establish that product performance and cost are acceptable;
- assembling application information and performance data from product users and manufacturers and disseminating this to potential users in the county;
- helping potential suppliers understand King County procurement processes and obtain feedback from users to assist them in product development; and
- networking with other jurisdictions and organizations to share information about techniques, materials, and strategies allow us to take advantage of each other’s successes and minimize duplication of effort.

II. Purchases and Savings

In the past year, King County purchased 36 million dollars worth of environmentally preferable products, saving \$640,000 by doing so. Environmentally preferable products include those that have recycled content, reduce waste, use less energy, are less toxic, or are more durable. The Environmental Purchasing Program has earned national recognition as one of the most effective such programs in the Country due, in part, to our emphasis on cost-effective products that meet performance requirements.

The tables below summarize environmentally preferable product purchases for 2006. This data is obtained primarily from “term” supply contracts, which are centrally administered contracts that enable county agencies to purchase materials at low and consistent prices. The tables also include data from one-time purchases. Details of purchases and product performance follow in the “Purchase Detail” section of this report.

2006 Purchase Summary

<i>Office Products</i>			
	Per	Units	\$
Copy and Bond Paper	Case	19,726	569,205
Printing Paper	N/A	N/A	1,765,633
Paper Products	N/A	N/A	466,237
Toner Cartridges	Each	5,680	235,007
Computers	Each	2,214	2,373,629
Electronics Recycling	N/A	N/A	12,313
Can Liners	Case	8,607	236,005
Sub-Total:	N/A	N/A	5,658,029

<i>Operations and Maintenance</i>			
	Per	Units	\$
Asphalt Cold Patch	Ton	6	2,800
Compost	Yard	3,966	99,150
Shredded Wood	Yard	85,085	59,236
Appliance Recycling	Each	16,027	92,448
Flourescent Lamp Recycling	N/A	N/A	14,235
Sub-Total:	N/A	N/A	267,869

<i>Vehicular</i>			
	Per	Units	\$
Motor Oil	Gallon	102,989	479,470
Antifreeze	Gallon	17,150	60,000
Ultra-Low Sulfur Diesel (ULSD)	Gallon	11,821,356	26,117,203
Biodiesel (B100)*	Gallon	767,001	1,864,850
Bio-Based Lubricants	Gallon	1,045	16,155
Flexible Fuel Vehicles	Each	25	330,509
Hybrid Vehicles	Each	30	729,837
Tire Retreading	N/A	N/A	228,112
Wheel Weights	Pounds	64	636
Aqueous Parts Washer	N/A	N/A	1,190
Sub-Total:	N/A	N/A	29,827,962

<i>Purchase Totals</i>			
	Per	Units	\$
Total Dollars:	N/A	N/A	35,753,860

*Biodiesel – see purchase detail below for information on B5 and B20 blends

Purchase Detail – Office Products

Copy and Bond Paper

County agencies purchase recycled processed chlorine-free (PCF) copy paper with 30% post-consumer content. The post-consumer content level meets the Federal Environmental Protection Agency's (EPA) Comprehensive Procurement Guidelines (CPG) established by Federal Executive Order 13101. County purchases of recycled paper totaled almost **20,000 cases** at a cost of **\$570,000** in the last year, which represents **99%** of total copy paper purchases.

Printing Paper

Printing performed by the county **Printshop** and through contracts administered by **Procurement and Contract Services Section** for various King County agencies is required to use recycled paper whenever practicable, which is over 90% of the time. This includes all printing, from business cards to tax and court forms, reports and bus

timetables. The recycled content of this paper varies from 20% to 100%. During 2006, estimated recycled paper expenditures, exclusive of printing costs, totaled **1.75 million dollars**.

Paper Products

In addition to recycled copy and printing papers, the county also maintains several contracts that allow agencies to purchase various recycled paper products. These include office supplies, such as envelopes, boxes, folders and notepads; and janitorial products, such as paper towels and tissues. The recycled content of this paper varies from 10% to 100% depending on the manufacturer and product type. Recycled content purchases totaled **\$465,000** in 2006.

Toner Cartridges

King County has purchased remanufactured toner cartridges for laser printers, fax machines

and ink-jets since 1991. Cartridges supplied under this contract must meet original equipment manufacturer's (OEM) standards and provide full performance guarantees. In 2006, the county purchased **5,680 cartridges**, at a cost of **approximately \$235,000**. These purchases **saved** an estimated **\$300,000**, as the cost of these remanufactured cartridges is less than half the cost of new cartridges. King County's specifications require spent cartridges to be remanufactured and all components to be recycled when their useful life is over, reducing the landfill disposal of hazardous material. For more information, visit the program website at: www.metrokc.gov/procure/green/tonecart.htm.

Computers

King County purchases most computer equipment through centralized contracts. In 2006, a new tool was created by the Environmental Protection Agency (EPA) called the Electronic Products Environmental Assessment Tool, or EPEAT. EPEAT is an environmental procurement tool designed through a consensus-based process to help institutional purchasers in the public and private sectors evaluate, compare and select desktop computer, laptop computers and monitors based on their environmental attributes. Since its introduction in July, 2006, major manufacturers have listed over 300 of their models meeting this standard.

In 2006, the primary vendor for county purchases of desktop computers, laptop computers and monitors, supplied the county with over 2,200 EPEAT compliant products. Most of the monitors and desktops and about half of the notebooks purchased were registered EPEAT products, and included 27 different models. All of these products met the EPEAT silver rating, which means they met the 23 required criteria plus at least 50% of the optional criteria.

King County plans to implement policies and procedures in 2007 to ensure that we are asking for EPEAT compliant products and evaluating all of our re-use and recycling opportunities at the end-of-life.



Surplus computers are reused and recycled

Electronics Recycling

King County agencies have been recycling obsolete computers, television sets and other electronic equipment through a competitively bid contract with a local recycling firm since 2002. There has been growing concern about the ultimate effects of landfill or incineration of computers and electronics, which contain a variety of heavy metals and other toxins. Of special concern are cathode ray tubes (CRTs), which are no longer accepted at the King County landfill, because they contain large amounts of lead (often 4 or 5 pounds each).

During the past year, **agencies recycled 350 computer monitors, 20,000 pounds of other electronic equipment and 2,250 pounds of batteries** of various types associated with this equipment. In June 2006, to avoid the expense of re-bidding the contract for these services, King County began using the Washington State contract for electronics recycling. For more information and contract details, visit the program website at: www.metrokc.gov/procure/green/electronics.htm.

Can-Liners

In 2006, King County purchased over **8,600 cases** of can-liners at a cost of over **\$235,000**. These were made with 25%-30% high-density polyethylene (HDPE) or 25% low-density polyethylene (LDPE) recycled post-consumer plastic. County agencies have used recycled plastic bags from various ven-

dors with good results since 1991. A new contract was issued in October, 2006 with the same vendor. For more information, visit the program website at: www.metrokc.gov/procure/green/plasbags.htm.

Purchase Detail – Operations and Maintenance

Asphalt Cold Patch

The King County **Roads Maintenance Section** has been purchasing asphalt cold patch that reduces the amount of volatile organic compounds (VOCs) released to the environment, since 2001. This product is a dry, odorless, ready-to-use asphalt-based compound used to repair potholes, cracks, and other defects in paved surfaces. It contains **75% post-consumer asphalt** and works by compaction. Traditional cold patch hardens through a combination of compaction and evaporation of a petroleum-based carrier, such as kerosene. This evaporation releases large amounts of VOCs, which are not present in this product. It can also be used in all weather and can be overlaid with new asphalt without the special steps needed to overlay conventional patching compounds with new paving. In the past year, King County **Roads Maintenance Operations** purchased **250 fifty-pound bags**, of this product, at a cost of **\$3,000**. For more information, visit the program website at: www.metrokc.gov/procure/green/bul65.htm.

Compost

Compost-amended topsoil is specified for use in maintenance and construction projects. The **Roads Environmental Unit** reported that in the past year, their contractors used **almost 4,000 cubic yards** of topsoil containing primarily yard waste compost, with about ten percent containing biosolids compost. Further information about the use of compost by county agencies is available on the program website at: www.metrokc.gov/procure/green/compost.htm.

Fluorescent Lamp Recycling

Alternatives to landfill disposal of fluorescent lamps are important, as federal, state, and local

regulation of mercury disposal is increasing, because these often contain significant amounts of mercury and other toxic materials. In the year 2000, King County established a contract for recycling waste lamps, including fluorescent tubes and high-intensity discharge (HID) lamps. In the past year, **Environmental Labs, Regional Justice Center, Sheriff's Office, Facilities Management, Solid Waste, Water & Land and Transit Divisions**, the **Departments of Natural Resources and Parks, Public Health and Transportation** used this contract to recycle various types of lamps, including **24,700** straight fluorescent tubes, over **2,400** compact fluorescent lamps, and almost **4,700** HID lamps. For more information regarding King County's program to recycle lamps, including regulations, visit the website at: www.metrokc.gov/procure/green/bul60.htm.

Plastic Lumber

The **Renton Maintenance Facility** of the **Fleet Administration Division** requires new dump trucks to be outfitted with recycled plastic sideboards before delivery. High-quality old growth Douglas-fir had been conventionally used in this application, but it is increasingly scarce and expensive. Since 1996, they have used recycled plastic because it is more impact-resistant and needs to be replaced less frequently, saving money in the long-term despite its higher initial cost. Replacement was immediately reduced from two wooden sideboards per week to less than one plastic sideboard per month which **saves \$10,000 per year** in materials costs alone. For more information, visit the program website at: www.metrokc.gov/procure/green/errlbr.htm.

Shredded Wood

Wood chips made from shredded land-clearing debris can be used as ground cover for erosion-control, horticultural mulch, and other applications. In the last year, the **Solid Waste Division** used it to stabilize temporary driving surfaces at the **Cedar Hills landfill**, especially during rainy seasons. The Division purchased **85,000 cubic yards** of shredded wood, or "hog-fuel," at a cost of nearly **\$60,000 and saved an**

estimated **\$85,000** by using this instead of virgin aggregate. For more information, visit the program website:

www.metrokc.gov/procure/green/swhog.htm.

In 2006, the **Roads CIP Section** recycled over 60 cubic yards of wood waste from trees removed on projects. The wood mulch was then used for erosion control in construction and maintenance projects.

Purchase Detail – Vehicular Products

Motor Oil

Motor oil made with re-refined base-stock has been used in county vehicles operated by the **Renton Maintenance Facility, Motorpool and Solid Waste Operations** since 1992. Metro Transit became one of the first major metropolitan transit authorities in the nation to adopt the use of re-refined motor oil for its entire fleet of over 1,200 buses in 1999. In 2006, the county purchased **103,000 gallons** of primarily 15w40 and 10w30 re-refined oil at a cost of approximately **\$480,000**. For more information, visit the program website at:

www.metrokc.gov/procure/green/oil.htm.

Antifreeze

County agencies, including **Motor Pool, Solid Waste Operations**, and the **Renton Maintenance Facility** have purchased antifreeze manufactured with re-refined ethylene glycol since 1991. **Metro Transit Division** began using a concentrated re-refined ethylene glycol antifreeze product for buses in 1999. They introduce the necessary “additive packages” in the maintenance shops. In 2006, the county purchased **17,150 gallons** of re-refined antifreeze, at a cost of over **\$60,000**, and **saved over \$13,500** by its use. For more information about King County’s use of antifreeze, visit the program website at:

www.metrokc.gov/procure/green/antifrz.htm.

Ultra-Low Sulfur Diesel

King County has been purchasing ultra-low sulfur diesel (ULSD) fuel since 2002. The fuel switch, along with the addition of filters, reduced particulate emissions by **90 percent**. ULSD has the same energy and performance characteristics as standard diesel, so its use does not affect engine performance or warranties. All King County Fleets, including **Metro Transit, Solid Waste Division and Fleet Administration Equipment Shop**, purchased ULSD in 2006, in the amount of almost **twelve million gallons** of fuel at a cost of **twenty-six million dollars**. The US EPA’s Heavy-Duty Highway Diesel rule (the “2007 Highway Rule”) is now in effect which requires all new diesel equipment to adopt the particulate-filter technology and use ULSD that King County adopted in 2002. For more information, visit the program website:

www.metrokc.gov/procure/green/ulsd.htm.



King County Fleets use biodiesel in buses and trucks

Biodiesel

In addition to the use of ULSD, adding biodiesel to the fuel mix reduces the amount of carbon dioxide coming out of the tailpipe. Biodiesel is a diesel-fuel substitute produced from renewable sources, such as vegetable oils, animal fats and recycled cooking oils, and reduces our dependence on petroleum products.

After a successful two-year trial period of using biodiesel, at a mixture of 95% ultra-low sulfur

diesel (ULSD) and 5% biodiesel, called B5, at two, out of seven, bus bases. In March, 2006, **King County Executive Ron Sims** issued an Executive Order on Global Warming Preparedness that set a goal of using 20% biodiesel fuel for all county diesel burning vehicles, including the Metro bus fleet. By mid 2006, four bus bases have converted to **B20**.

In 2006, **Metro Transit, Solid Waste Division and Fleet Administration** purchased **770,000 gallons** of 100% biodiesel (B100) and had the vendor mix this with ULSD to produce B5 and now B20. Using biodiesel increases demand for, and ultimate supply of, alternative fuels here in Washington State. For more information, visit the program website:
www.metrokc.gov/procure/green/ulsd.htm.

Bio-Based Lubricants

The **Renton Maintenance Facility** has purchased vegetable-based hydraulic oils for use in their equipment since 2001 to comply with provisions of the Federal Endangered Species Act and other regulations intended to protect our sensitive waterways and groundwater. Bio-based lubricants were tested and found to perform as well or better than petroleum oils, are readily biodegradable, low in toxicity, and offer worker-safety advantages. The agency also specifies that manufacturers fill new equipment with vegetable-based hydraulic fluid. In the past year, they purchased **1,050 gallons** at a cost of approximately **\$16,150**. For more information, visit the program website:
www.metrokc.gov/procure/green/oil.htm.

Flexible Fuel Vehicles

King County **Fleet Administration Division** purchased **25 flexible-fuel vehicles (FFV)**, including 24 Ford Taurus' and one Dodge Caravan, for a total of **\$330,000** in the past year. These vehicles are equipped to use ethanol, gasoline, or "E85," the term for fuel blends of 85 percent ethanol and 15 percent gasoline. Using E85 reduces carbon dioxide (CO₂), hydrocarbon and benzene emissions when compared to vehicles running on gasoline. The Division acknowledges that region-

al supply infrastructure may limit the availability of ethanol and E85. These vehicles were purchased through the State of Washington vehicle contract.



King County has purchased hybrid vehicles since 2001

Hybrid Vehicles

King County has purchased hybrid electric vehicles (HEVs) to replace older model vehicles as they are retired, since 2001. Hybrids are fuel-efficient and contribute less to greenhouse gas emissions. The **Fleet Administration Division** of the King County **Department of Transportation (DOT)** purchased the bulk of the **25 Toyota Prius** hybrid cars for **\$525,000** and **15 Ford Escape** hybrid SUVs for **\$360,000** in the past year. The **Solid Waste Division** purchased four of the Ford models. The county now maintains **175 hybrid vehicles** and issues its own contracts, or uses State of Washington contracts for new purchases and is gaining experience with new models as they become available. For more information, visit the program website at:
www.metrokc.gov/procure/green/bul66.htm.

Tire Retreading

The county spent **\$230,000** to retread tires for trucks and other heavy equipment at the **Renton Maintenance Facility, Fleet Administration Division and Solid Waste Operations**. This not only avoided landfill disposal of tires, but also **saved the county approximately \$230,000** in new-tire expense in 2006, as retreading a tire is half the cost of buying a new tire.

Rubber Truck Decking

King County **Fleet Equipment Shop** has been using a recycled rubber/plastic composite product to line equipment trailer decks since 2001. This product, which replaces exotic hardwoods customarily used for this application, performs better than wood, provides a nonskid surface, is durable, and has recycled content. They use this product as a replacement decking and require new equipment to be delivered with this material already in place, including one trailer last year. For more information about this purchase, visit the program website at:
www.metrokc.gov/procure/green/bul90.htm.

Rubber Bucket Scrapers

Seventeen recycled front-load bucket scrapers, made from post-consumer tires, are being used at two transfer stations. This product is more durable and costs less than virgin scrapers. For more information, visit the website at:
www.metrokc.gov/dnrp/swd/linkup/partners/.

Lead-Free Wheel Weights

In 2005, due to concerns about the use of lead and increased availability of alternatives, the **Fleet Administration Division** of the **King County Department of Transportation** started testing an alternative to lead wheel weights on passenger cars and trucks. The product they chose consists of adhesive flexible plastic cartridges filled with steel media in various weights. These alternative products were introduced into the United States after the European Union banned lead wheel weights in July, 2005.

According to the Fleet Equipment Shop Supervisor, they are replacing traditional weights with this new type as each vehicle comes in for maintenance. To use these new weights, the shop bought a new, more precise, wheel balancer. The cost per unit is higher, but the shop reports



Tire balancing demonstration using lead free wheel weights

that this product works well and merits continued use. In 2006, they purchased **64 pounds** of material for approximately **\$650**. For more information, visit the website at:
www.metrokc.gov/procure/green/bul92.htm.

Aqueous Parts Washer

Since the mid-1990's, King County vehicle maintenance shops, including Metro Transit, Fleet Administration and Solid Waste Operations, have used various types of aqueous parts washing system. In 2006, the **Fleet Administration's Equipment Shop** (ER&R) tested a new brand of aqueous parts washer. Based on four months of testing, staff reports satisfaction with its cost and performance and prefer it over the systems that they were using. ER&R sent out one of their old "sink and drum" type units to be retrofitted to use the new system. They will now send their test equipment to Motor Pool for trial in their shop.

Savings Summary

In 2006, the county saved **640,000 dollars** by purchasing recycled and other environmentally preferable materials. The Environmental Purchasing Program has helped agencies identify opportunities to purchase environmentally preferable products that not only perform well, but also save money. In some cases, the product simply costs less and in other cases savings are found in avoided purchase costs because the alternative product is more durable. For example: the cost of a remanufactured toner cartridge is less than one-half the cost of a new cartridge, plastic lumber avoids the consumption of virgin timber or old growth lumber, and it costs half as much to retread a worn tire as to buy a new one.

The table below represents estimated cost savings based on **purchase price only**, and does not reflect savings in maintenance and installation. Additional examples of savings can be found in Section IV, “Environmental Initiatives of County Agencies,” of this report.

<i>Commodity</i>	2006 Dollar Savings
Toner Cartridges	300,000
Tire Retreading	230,000
Shredded Wood	85,000
Antifreeze	13,500
Plastic Lumber	10,000
Total:	638,500

III. Supporting Program Elements

The Environmental Purchasing Program helps agencies develop practical ways to use recycled and other environmentally preferable products and processes through several program elements, detailed in this section.

Agency Liaison Network

The program uses a network of liaisons within agencies to provide users with information on environmentally preferable products and processes. These liaisons allow us to reach the people who do the daily work, and who can help us understand the roles and functions within each unit. This helps us to communicate new evaluation opportunities, institutionalize the routine use of these materials, and share evaluation results and specifications among agencies and other clients.

Internet Information

The program delivers most of its information, including this report, to clients through email or the Internet.

Website: www.metrokc.gov/procure/green

The King County Environmental Purchasing Program has maintained a website since 1995 as a resource to participants in the King County program as well as others in the community. There were approximately **380,000** visitors to the program website in the past year. Clients visiting this website find information on King County's experience with recycled and environmentally preferable products, specifications, evaluations, contracts, and contact information.

Municipalities and other organizations throughout the nation and the world take advantage of this site and these contacts bring new information that county agencies and others can use as

we all develop new applications for environmentally preferable products.

In the past year, the program has received questions and comments from:

The Nations of:

Africa: Ivory Coast
Australia: Sydney
Bahamas
Canada: Edmonton, Alberta
Canada: Vancouver, BC
China: Jiading, Shanghai
China: Ningbo, Zhejiang
China: Qingdau
Cyprus: ZaoZhuang, Shandong
Germany
India
India: Jaipur
Iran
Mexico
Singapore
United Kingdom

The States of:

Arizona
California
Colorado
Michigan
Oregon
Virginia
Washington

The Counties of:

Fairfax County, VA
Nassua County, NY
Pierce County, WA
Sarasota County, FL
Sherburne County, MN
St. Mary's County, MD

The Cities of:

Atlanta, GA
Auburn, WA
Austin, TX
Bellevue, WA
Chandler, AZ
Chicago, IL
Columbus, OH
Cleveland, OH
Daly City, CA
Denver, CO
Ferndale, WA
Houston, TX
Inwood, WV
Issaquah, WA
Kensington, MD
Kent, WA
Las Vegas, NV
Lenexa, KS
Louisville, CO
Magnolia, OH
Manchester, CT
Maple Valley, WA
Marietta, OH
Merton, WI
Miami, FL
Montebello, CA
Mt. Tremper, NY
New York City, NY
NewCastle, WA
Pompano Beach, FL
Portland, OR
Reading, PA
Redmond, WA
Sammamish, WA
San Diego, CA
Seattle, WA
Tacoma, WA
Wenatchee, WA

Universities/Schools:

De La Salle University
Manila, Philippines Gadjah Mada University
Yogyakarta, Indonesia
Issaquah School District, WA Seattle University, WA
Kadena Air Base, Japan
(US Military)

E-mail Environmental Purchasing Bulletin

The program began producing an “Environmental Purchasing Bulletin” in 1997 to disseminate and exchange information about environmentally preferable products, events, contracts, and other resources. Recipients include participants in the program’s county liaison network, suburban cities of King County, and others across the nation. There are currently **over 1,000** direct recipients of this bulletin. Many of these originate their own list-servs and newsletters and forward the bulletin to others. There are now 100 bulletins in the archive, as the 100th bulletin was published in December. An index and the full contents of past bulletins can be found on the program website at:

www.metrokc.gov/procure/green/bulindex.htm.



Environmental Purchasing Bulletin 100th edition

Bulletins for 2006:

Responsible Purchasing Network Newsletter
King County Will Quadruple Biodiesel Use
2005 Annual Report
Closing the Circle News
Best Practices - Practix Report on King County’s
Environmental Purchasing Program
Green Fleets

Internet Discussion Groups

We participate in several Internet discussion groups, where we exchange environmental purchasing information with other jurisdictions, many of which now subscribe to our Environmental Purchasing Bulletin. The participants come from across the nation and bring a wide range of experience, which we share with county agencies.

- **EPPNET** – Environmentally Preferable Purchasing Network, sponsored by the Northeast Recycling Council (NERC). A discussion group on environmental purchasing issues.
- **Greenyes** – a discussion group on general sustainable issues.
- **Green Building E-Forum** – a discussion group managed by King County Solid Waste Division Green Building Program.
- **Waste Prevention Forum** – a discussion group managed by King County Solid Waste Division, and part of the National Waste Prevention Coalition.

Public Involvement

The King County Environmental Purchasing Program offers its experience in support of the planning, policy-development, and procurement-education activities of local jurisdictions and other organizations.

The program provides technical assistance and networks with, cities, counties, state and federal agencies and other users. In 2006, program personnel participated in the following programs:

- **Responsible Purchasing Network Steering Committee**
Based on a planning meeting in Washington DC in May of 2005, King County was selected to be on the steering committee for the newly formed Responsible Purchasing Network (RPN). This network is managed by

staff at the Center for a New American Dream, a national non-profit organization. We have participated in monthly conference calls to shape the mission and further the work plan of this network. RPN was officially launched in the Fall of 2006 with a select group of founding members, and will promote environmentally preferable purchasing practices and provide assistance to other jurisdictions. The membership portion of the website will launch in early 2007 at:

www.responsiblepurchasing.org.

- **State of Washington Training Conference and Trade Show**
Staff participated in the “Sustainability” track of the conference by sharing King County’s experiences and meeting with State of Washington, City of Seattle and other jurisdictions staff to further collaboration and environmental purchasing efforts in the State.
- **Resource Conservation Manager Training**
Environmental Purchasing staff presented at a Puget Sound Energy Solid Waste Management session in July, 2006 on environmental purchasing.
- **Schools Workshop**
Staff participated in a workshop hosted by the King County Solid Waste Division to promote environmentally preferable practices to local schools.
- **Northwest Paper Forum**
Environmental Purchasing staff served on a steering committee for a paper-purchasing workshop, held in December, 2006, coordinated by the Pollution Prevention Research Center, to inform jurisdictions about opportunities to purchase environmentally preferable paper. www.nwpaperforum.org
- **Responsible Purchasing Training Tool Kit**
Reviewed train-the-trainer materials written by City University New York and Alvernia College faculty. King County staff reviewed the draft materials in March, 2006.

Publicity

A key to the success of the King County Environmental Purchasing Program has been the exchange of practical information with other users of these unfamiliar materials. Many of these exchanges have come as a consequence of exposure through national magazines, newspapers, and other publications.

Among the publications which featured the King County Environmental Purchasing Program in 2006:

New York Times

“On the List: Lead-Free Bullets, Natural-Gas Police Cars” May 17, 2006
King County’s EPP program was interviewed and is mentioned here.
www.nytimes.com

Practix Research Report

Center for Advanced Purchasing Studies
“Environmental Purchasing for Indirect Materials” October, 2006
By Tom Gattiker, College of Business, Boise State University
King County’s Environmental Purchasing Program is documented.
www.capsresearch.org/publications

Government Procurement Magazine

“Biobased Purchasing Power goes Mainstream” December, 2006
www.govpro.com

Resource Recycling

Recycling in Cyberspace “Through the Recycling Glass” July, 2006
King County’s EPP website is mentioned as one of the best local government websites documenting environmentally preferable purchasing practices and results.
www.resource-recycling.com

What’s New in P2?

Pacific Northwest Pollution Prevention Resource Center, Issue #92, June, 2006
King County’s 2005 Environmental Purchasing Report is highlighted.
www.pprc.org/news/index1.cfm

Sanitary Maintenance

“Green Certification: Helping Distributors See the Forest for the Trees” December, 2006
www.cleanlink.com/sm



**King County EPP featured
in a research report**

Model Procurement Policy

Program personnel continued to promote the development of recycled and environmentally preferable procurement policies in suburban cities by providing policy guidance, including a model policy, through its website. Program personnel also provide direct technical assistance to suburban cities for policy implementation by sharing contracts, specifications, and procurement strategies. According to the Solid Waste Division, twenty-one cities have adopted policies, based on King County's model, since 1992.

Allied King County Programs

Many King County programs offer information and technical assistance to help citizens, businesses and county agencies find ways to improve their environmental performance. The Environmental Purchasing Program has collaborated with the following programs for the dissemination of information in 2006:

Energy/Resource Conservation, Department of Natural Resources and Parks

Worked with program staff.

<http://dnr.metrokc.gov/>

Integrated Pest Management (IPM), Local Hazardous Waste Management Program:

Contribute to regular meetings.

www.govlink.org/hazwaste/interagency/ipm

WasteWise, Recycling and Environmental Services, Solid Waste Division:

Participated and promoted Lead-Free Wheel Weight Product Demonstration

www.metrokc.gov/dnrp/swd/about/waste-wise

Green Building, Recycling and Environmental Services, Solid Waste Division:

Participated and promoted two of their events: Certified-wood training and Green Building Summit www.metrokc.gov/dnrp/swd/greenbuilding

LinkUp, Recycling and Environmental Services, Solid Waste Division:

Provided assistance to program staff and its consultants.

www.metrokc.gov/dnrp/swd/LinkUp

IV. Environmental Initiatives of County Agencies

King County government includes environmental conservation and protection considerations in many environmentally beneficial programs, from green building to resource conservation. This section contains information about several initiatives undertaken by county agencies that are reducing the impact of county operations on the environment. This year's categories include:

Air Quality

Energy Conservation

Water Quality and Conservation

Green Building

Waste Reduction & Recycling

Air Quality

Chicago Climate Exchange

In 2006, King County became the first county in the United States to join the Chicago Climate Exchange and has committed to reduce emissions from county operations by six percent from its baseline of year 2000. The county has undertaken major investment in biofuels and renewable energy and significant initiatives and strategies to reduce travel in single-occupancy vehicles and regional transportation emissions. For more information, read the press release at:

<http://www.metrokc.gov/exec/news/2006/0515transit.aspx>.

Executive Orders to Reduce Global Warming

In March, 2006, **King County Executive Ron Sims** issued four executive orders aimed at reducing global warming. These orders ranged from land use, environmental management, renewable energy and transportation and include a broad range of goals from reducing fossil fuel consumption and using more biodiesel to capturing methane at the landfill to purchasing electricity from renewable sources. For more information,

read the executive orders at:

www.metrokc.gov/globalwarming/.

Slag Cement

In 2005, King County **Department of Natural Resources and Parks** and the **Department of Transportation Roads Division** began exploring the use of slag cement for county projects. Slag is a by-product generated in the blast furnaces used to produce steel. Once a waste material, slag is becoming increasingly useful as a replacement for Portland-cement. This substitution can reduce greenhouse gas emissions and uses less energy to produce. King County's **Roads Materials Lab** conducted tests on slag and confirmed its efficacy as a substitute.



Roads used a 50 percent blend of slag cement in a sidewalk project

Last year, **Roads Engineering** successfully used a 50 percent blend of slag cement for a walkway project in Woodinville. It was used on the curb and gutter next to the roadway. Roads staff wanted to experiment with the slag cement first on a small scale project like the walkway to see how the finishing and curing works. They found that it takes a little longer to harden, but ends up stronger as it cures. For more information about this project, visit the website at:

www.metrokc.gov/kcdot/transtoday/2006news/jun/tt060506_roadoverlays.htm.

Hybrid Trucks

King County, already a leader in hybrid car and bus procurement, will soon be adding hybrid trucks to its fleet. The **Fleet Administration Division** is leading a regional consortium of local and state government agencies interested in purchasing hybrid trucks. The county will be taking delivery of two new lift trucks, used to maintain traffic signals and streetlights, in 2007. For more information, please see the press releases at:

www.metrokc.gov/kcdot/news/2006/nr061115_hybridtrucks.htm.

Energy Conservation

Energy Recovery

King County's **Wastewater Treatment Division** manages two wastewater treatment plants with a third one in construction. They have a lot of experience with recycling and reusing many of the byproducts from the plants, such as reclaiming the treated water for reuse in irrigation and composting the solids, called biosolids, for use as a soil amendment. Most recently, the South Treatment plant has undergone a two-year demonstration that installed a 1-megawatt fuel cell and using gas turbines to generate energy.

For more information about these processes that conserve resources and save money, visit the website at:

<http://dnr.metrokc.gov/wtd/energy/index.htm>.

Energy Conservation Program

The King County **Department of Natural Resources and Parks** manages a Resource Conservation Program that focuses on energy conservation and saving money. In 2006, this program focused on making small changes and finding efficiencies for energy reduction and crafting proposals for further reductions. This program is working on a countywide Energy Plan that will be submitted to the County Council in February, 2007 that will state goals and tasks to achieve the purchase

and generation of renewable energy, and other energy reductions. For more information, visit the website at: <http://dnr.metrokc.gov/>.

Water Quality and Conservation

Brightwater Sewage Treatment Plant

In response to growth in our region, the King County's **Wastewater Treatment Division** is designing and constructing a new regional wastewater treatment plant, called "Brightwater." Construction officially began in 2006 and the plant is expected to begin operations in 2010. Brightwater will serve portions of King and Snohomish counties, and support our mission to protect public health and the environment. The new facilities will include a treatment plant, pipes and pumps to take wastewater to and from the plant, and a marine outfall. The advanced treatment technology at Brightwater will also enable the plant to become a significant source of high-quality reclaimed water for non-drinking uses such as irrigation and industrial processes. For more information visit the website at:

www.metrokc.gov/exec/news/2006/0412brightwater.aspx.

Water Conservation Program

The **Wastewater Treatment Division** manages a water conservation program. Projects completed since 2001 have resulted in annual savings of more than 43 million gallons of water and \$472,000 in water and sewer costs for regional public service organizations. For more information, visit the website at:

<http://dnr.metrokc.gov/wtd/waterconservation/>.

Pervious Concrete

King County **Roads Engineering Services** has designed, advertised and selected a contractor for a project that will use pervious concrete in a sidewalk project. Construction for this project has been delayed until 2007. Pervious concrete is only one aspect of this intersection project that will also include a bio-retention system, known as a hybrid rain garden, which will improve water quality on the site

by capturing and filtering surface runoff. In addition, Roads **Environmental Unit** received a \$420,000 grant from the Washington State Department of Ecology, part of which will be used for a monitoring plan and educational outreach.

Green Building

Green Building Program

King County adopted its original Green Building Initiative in 2001. This initiative created an interagency Green Team and adopted the Leadership in Energy and Environmental Design (LEED) rating system developed by the US Green Building Council (USGBC) as a standard for all buildings the county constructs, remodels, and renovates. An ordinance was passed in early 2005 that solidified the county's commitment to green building practices in all county buildings using LEED to guide the use of green building practices in constructing and operating county facilities. In 2006, they held the first annual Green Building Summit that was attended by more than 100 county and city employees.

For more information about King County's **Solid Waste Division** Green Building Program and ordinance visit the website: www.metrokc.gov/dnrp/swd/greenbuilding.

constructing a new office building in downtown Seattle. This building will be LEED certified and is set to open in mid-2007. In order to ready the site for the new building, an old county-owned parking garage had to be torn down. The contractor tore down the garage and cleared the site of over 9,000 tons of rubble, 99% of which was recycled for reuse as gravel, rather than going to the landfill. For more information about construction recycling, visit the website:

www.metrokc.gov/dnrp/swd/construction-recycling/.

Reused Materials

The **Wastewater Treatment Division** (WTD) and the **Solid Waste Division** (SWD) have undertaken trials of sandy materials from digesters at the West Point Sewage Treatment Plant as daily cover at the landfill. This sandy material enters the system via storm water drains and was evaluated by the **Department of Health** to be safe for daily cover. Initial volumes are projected to be one truckload of material per day, possibly increasing to multiple truckloads per day as the project progresses, which amounts to 700 tons of material. WTD saves money on disposal and SWD saves money on buying material for daily cover in the future.

Waste Reduction and Recycling

Deconstruction Projects

King County **Solid Waste Division's Green Building Program** has documented six projects that used deconstruction techniques to dismantle buildings and remove materials for reuse and recycling. Case studies are available on the website at:

<http://www.metrokc.gov/dnrp/swd/construction-recycling/documents.asp>

Construction Recycling

King County **Facilities Management Division** and a local developer are currently



Text: 60# Text, 30% post-consumer recycled content
Cover: 80# Cover, 30% post-consumer recycled content



70164jp.indd



King County

Environmental Purchasing Program

www.metrokc.gov/procure/green