

King County Environmental Purchasing 2009 Annual Report



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King County Environmental Purchasing Program 2009 Annual Report

Each April, this annual report is prepared for the County Council and it describes the progress of all departments in implementing the county's environmental purchasing policy (KCC 10.16 and CON 7-1-2-AEP). The report is produced by the Finance and Business Operations Divisions (FBOD) environmental purchasing staff in consultation with the Solid Waste Division (SWD).

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. The policy was expanded in 1995 to include other environmentally preferable products.

The King County Environmental Purchasing Program provides county personnel with information and technical assistance to help them identify, evaluate, and purchase economical and effective environmentally preferable products and services. Environmentally preferable procurement considers multiple product attributes, such as toxicity, durability, emissions, recycled content and conservation of resources, in addition to price, performance and availability.

In 2009, the King County Environmental Purchasing Program won the "Responsible Purchaser of the Year" Award from the Responsible Purchasing Network, in the government organization category, for its "critical role in expanding the principles and practices of responsible purchasing that protects human health and the environment."

The Environmental Purchasing program sent a program manager to Suwon, South Korea to present Metro King County's award winning program at the 3rd International Conference on Green Purchasing.

The program reports annually on the status of policy implementation and the environmental purchasing accomplishments of county agencies.

In 2009, county agencies purchased 37.6 million dollars worth of these products. By purchasing products with recycled content or components and reusing aggregate materials instead of buying new, the County saved 1.5 million dollars. Recycled paper is used for all major government functions, including bus schedules, tax statements, court forms, pet license notifications, business cards, and reports. Other purchases include: remanufactured toner cartridges; re-refined antifreeze and motor-oil; ultra-low sulfur diesel; biodiesel; hybrid vehicles; bio-based oils; compost, shredded wood-waste and tire-retreading services. In addition to their environmental benefits, some products are more economical than those they replace and perform well.

Program success depends on identifying the critical decision-makers in the county and providing them with information to help them make sound environmental decisions.

County employees are gradually linking the environmental impacts of purchases to environmental policy objectives.

King County is working toward integration of environmental standards into jurisdictional purchasing behavior. To get there, several things must occur:

- *The marketplace must adopt meaningful standards of environmental prefer-ability.*
- *Manufacturers must develop, produce, and distribute products that meet these standards.*
- *These products must become available at levels of price and performance that meet the needs of users.*



King County

Department of Executive Services

Finance and Business Operations Division

Procurement and Contract Services Section

Environmental Purchasing Program

2009 Annual Report

Environmental Purchasing Program	1
Policy	1
Program	1
Implementation	2
Challenges.....	2
Opportunities	3
Purchases and Savings	4
2009 Purchase Summary	4
Savings Summary.....	6
Office Products	6
Operations and Maintenance Products	9
Vehicular Products.....	10
Resource Recovery Services	13
Supporting Program Elements	15
Model Procurement Policy.....	15
Grant & Initiatives.....	16

Environmental Purchasing Program

This report summarizes the achievements of King County agencies in their implementation of the King County Environmental Purchasing Policy during 2009.

King County agencies continue to increase their awareness and purchase of environmentally preferable products. The King County Environmental Purchasing Program, housed in the Procurement and Contract Services Section, continues to provide a central resource for internal agencies and for jurisdictions and other organizations. King County maintains its 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 experiences.

Policy

The King County Environmental Purchasing Policy (KCC 10.16, CON 7-1-2-AEP) reflects a long-term commitment to the purchase of environmentally preferable¹ 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.

Program

The Environmental Purchasing Program’s mission is to foster a greater incorporation of environmental considerations in the purchasing decisions of King County agencies. 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. Participation of the people who make purchasing decisions is key.

County agencies continue to respond by developing new ways to use environmentally preferable products, especially where these will reduce costs while still meeting performance standards.

Over the last two years, diminishing revenues has forced the County to make staffing reductions in many of its program areas. Our environmental purchasing program was reduced from two program coordinators to one beginning in 2010.

Although staff support is reduced, our goal is to continue the program and we remain committed to responsible and sustainable purchasing practices. We will continue to rely on a network of county staff to help implement the program and produce this report. We will also be exploring additional options for staffing and funding the program in the years ahead and would welcome any of your suggestions.

¹ 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 by policy;
- ▶ maintains a program website; and
- ▶ provides technical assistance, including policy development and implementation strategies, to other jurisdictions, businesses and nonprofit agencies.

Challenges

A number of factors challenge efforts to increase environmental purchasing:

- ▶ 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 in place of 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;
- ▶ the lack of consensus-based standards for many product categories requires customers to define their own criteria for environmental preferability and specifications must balance many attributes, such as consumption of water, energy and other natural resources, toxicity, recyclability, and recycled content;
- ▶ “greenwashing,” or false claims of environmental preferability, complicates consensus on terminology; and
- ▶ collecting data on environmentally preferable purchases through existing accounting information systems 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, pilot programs and sharing the results with agencies, jurisdictions and other users through our website;
- ▶ helping agencies develop specifications and contracts for environmentally preferable products whenever evaluations establish that product performance and cost are acceptable;
- ▶ assembling information and performance data from product users and manufacturers and disseminating this information to potential county users;
- ▶ helping potential suppliers understand county procurement processes and obtain feedback from users to assist them in product development; and
- ▶ As time allows, 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.

Purchases and Savings

In 2009, King County purchased 37.6 million dollars worth of environmentally preferable products. By using recycled materials and purchasing goods with recycled content the County saved approximately 1.5 million dollars. King County strives to buy products that are cost effective, meet performance requirements and are environmentally preferable. These products provide various environmental benefits, including resource efficiency, reduced toxicity, durability, and recycled content.

The tables below summarize environmentally preferable product purchases for 2009. This data is obtained primarily from “term” supply contracts, which are centrally administered goods and service 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.

2009 Purchase Summary

Office Products	Notes	Value
Copy/Bond/Printing Paper	Based on reported purchases of sheets, reams and cases	\$1,090,761
Paper Products	Based on reported purchases of office supplies, tissues, paper towels, etc.	\$722,567
Toner Cartridges	Based on reported purchases of cartridges for printers, fax machines, etc.	\$259,544
Computers	Based on 80% of purchases of laptops, monitors and desktops	\$2,295,069
Can Liners	Based on reported purchased cases	\$284,020
Sub-Total		\$4,651,961

Operations and Maintenance	Notes	Value
Compost	Based on estimated yards	\$135,000
Shredded Wood	Based on reported yards	\$186,252
Cleaners	Based on reported green cleaning products purchased	\$99,901
Carpet	Based on reported square yards	\$71,170
Sub-Total		\$492,323

Vehicular	Notes	Value
Motor Oil	Based on reported gallons purchased	\$723,444
Antifreeze	"	\$115,212
Bio-Based Lubricants	"	\$3,417
Ultra-Low Sulfur Diesel (ULSD)	"	\$28,224,302
Biodiesel (B100)	"	\$151,520
Flexible Fuel Vehicles	Based on reported vehicles purchased	\$2,075,864
Hybrid Vehicles	"	\$381,569
Hybrid Trucks	"	\$540,536
Tire Retreading	Based on reported purchased retreads	\$146,085
Sub-Total		\$32,361,949

Resource Recovery Services	Notes	Value
Electronics Recycling	Based on reported electronics recycled	\$91,046
Fluorescent Lamp Recycling	Based on reported fluorescents recycled	\$17,549
Antifreeze Recycling	Based on reported gallons recycled	\$8,036
Sub-Total		\$116,631

Grand Total of Purchases	\$37,622,864
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Savings Summary

In 2009, the county saved 1.5 million 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, or avoided purchase cost, and does not reflect savings in maintenance and installation. Additional examples of savings can be found in Section IV, "Grants & Initiatives," of this report.

Commodity	2009 Savings
Aggregates ²	300,000
Toner Cartridges	259,000
Tire Retreading	146,000
Antifreeze	27,000
Purchase of recycle oil	18,000
Energy Saving Software	150,000
Motor Oil (sell used oil)	50,000
Avoided Landfill	600,000
Total Dollars:	\$1,550,000

Office Products

Copy/Bond / Printing Paper

Printing and copying performed by various county agencies use recycled paper whenever practicable. This includes all copying and printing, from business

cards to tax and court forms, reports and bus timetables. The recycled content of this paper varies from 20% to 100% depending on the type of paper needed.

In 2008, the Recycling and Environmental Services Section of the Solid Waste Division committed to 30% post consumer content paper exclusively, in line with their mission. Solid Waste is currently working on a new policy moving the county toward greater use of 100% recycled content paper.

Using recycled content paper instead of virgin paper saves trees and helps to lower levels of greenhouse gases.



² Aggregates – avoided purchase costs for reuse of asphalt and concrete that are stockpiled, then used as fill-material in road projects by Roads Division

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



**US Green Building Council
certified paper towels.**

Computers

King County purchases most desktop computer equipment through centralized contracts. The county uses the Electronic Products Environmental Assessment Tool, or EPEAT, an environmental procurement tool sponsored by the Environmental Protection Agency (EPA) and managed by the Green Electronics Council to evaluate, compare and select desktop computer, laptops and monitors based on their environmental attributes. The county has a policy to encourage agencies to buy EPEAT compliant products.

In 2009, the primary vendor for purchases of desktop computers, laptop computers and monitors supplied the county with approximately \$2.3 million compliant products. Most desktops and laptops met the EPEAT gold rating, which means they met the 23 required criteria plus at least 75% of the optional criteria.

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. Several unbleached and non-chlorine bleached products are available on contract.

Toner Cartridges

King County has purchased remanufactured toner cartridges for laser printers, fax machines and ink-jets since 1991. Cartridges supplied under contract must meet original equipment manufacturer's (OEM) standards and provide full performance guarantees. A new contract was awarded in 2008 which contained additional requirements for the remanufacturing process, beyond OEM and brought good prices.

In 2009, the county purchased 4,970 cartridges. The cost of recycled cartridges varies, but is about 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.



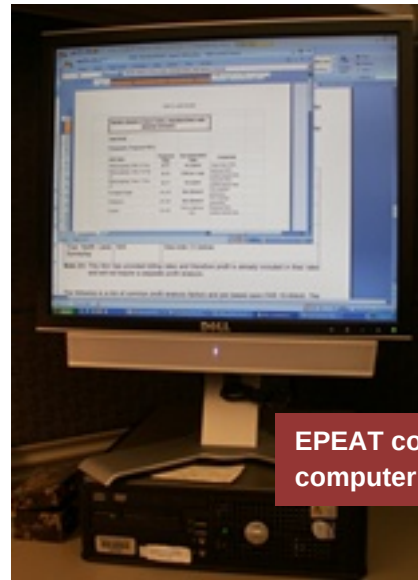
**The county purchased 4,970
remanufactured cartridges, an
estimated savings of \$259,000.**

In 2007, the Office of Information Resource Management (OIRM) installed energy savings software on networked computers that powers them down when not in use. King County government agencies have cut the energy use of personal computers by an average of 38 percent since installing software that reduces PC's energy use when they sit unused for more than 15 minutes.

By turning off monitors after 15 minutes and reducing power to the County's 10,000 networked PCs when they aren't used for an hour, the County reduces carbon-dioxide emissions by 3 million pounds and saves about \$150,000 in energy costs annually.

Can-Linear

In 2009, King County purchased over 9,735 cases of can-liners. 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 vendors with good results since 1991.



**EPEAT compliant
computer and monitor.**

Operations and Maintenance Products

Compost

Compost-amended topsoil is specified for use in maintenance and construction projects. Although several agencies require their contractors to use compost in their construction projects, they do not ordinarily require compilation and reporting of data on compost usage for all projects. King County used approximately 4,500 square yards of compost in 2009.

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 (SWD) used 25,080 yards of shredded wood, or “hogfuel,” to stabilize temporary driving surfaces at the Cedar Hills landfill, especially during rainy seasons. They also improved their operating procedures and are able to cover the same acreage with less material, which is timely, as the cost of this material significantly increased over the past year.

Cleaners

King County agencies have tested and used many cleaners that have been marketed as “green” with varying degrees of success. The market has improved dramatically for environmentally preferable cleaners in the past few years, as standards and certification programs have begun to emerge and more products have become certified. The use of environmental standards will help counter the unsubstantiated marketing claims, often called “greenwashing,” that can be confusing to users.

The program continues to participate in various efforts around the country to facilitate the advancement of reliable standards, certifications, and labeling programs that can make it possible for small

jurisdictions and consumers to purchase chemistries that are demonstrably better for worker health and the environment than some we have used in the past.

The Facilities Management Division, the Department of Adult and Juvenile Detention and the Department of Public Health are currently using Green Seal certified cleaning products.

These agencies purchased \$99,901 of green cleaners in 2009. Most of these were sold in concentrate form and then diluted with water, as appropriate for the application.

LED Solar Lighting Systems for Bus Shelters

Since 2004, King County Metro Transit Division has been installing energy efficient solar light-emitting diode (LED) bus shelter lighting systems to enhance passenger safety. Solar-powered lighting allows Metro to install lighted bus stops without the expense

and construction of connecting the facility to the regional power grid and LED technology consumes far less power than typical lighting systems. Metro Transit has 176 solar-lit shelters.

Transit has also installed solar powered “iStops”. Metro customers push a button on the iStop to light a signal lamp to alert transit operators that a passenger is waiting in the bus zone. The use of this technology will decrease the number of passengers that are passed-by at dark bus stops.



Purchased \$99,901 of green cleaners in 2009.

Carpet

King County agencies buy carpet, cushions, adhesives and installation services for small remodels and renovation work.

Many of the products available have various certifications for recycled content and other elements

of environmental preferability, including low emissions of volatile organic compounds (VOCs).

Little remodeling or new construction occurred in 2009. Carpet replacements were minimal and related to flood damaged carpets. Flood damaged carpet could not be recycled. Total carpet purchased this year equaled 978 square yards.

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 2009, the county purchased 101,334 gallons of re-refined oil, primarily 15w40 and 10w30.

Purchasing re-refined oil saves the county an estimated \$.20 a gallon. In addition to purchasing re-refined motor oil, the county gets paid for the motor oil that is used and then held for recycle. The county recycled 103,456 gallons of used motor oil.

Antifreeze

County agencies, including Motor Pool, Solid Waste Operations, Fleet's Renton Maintenance Facility and Metro Transit purchase antifreeze manufactured with re-refined ethylene glycol. Metro Transit uses a



concentrated re-refined ethylene glycol antifreeze product for buses and they introduce the necessary "additive packages" in

Metro uses re-refined ethylene glycol antifreeze for buses.

the maintenance shops. In 2009, the county purchased 29,542 gallons of re-refined antifreeze.

Bio-Based Lubricants

The Renton Maintenance Facility of the Fleet Administration Division (Fleet) has purchased vegetable-based hydraulic oils for use in their equipment since 2001. Bio-based lubricants were tested by Fleet and found to perform as well or better than petroleum oils. They are readily biodegradable, low in toxicity, and are safer for workers. The agency also requires manufacturers to fill new equipment with vegetable-based hydraulic fluid. In the past year, they required four pieces of equipment, a compact tractor, grader, vibratory soil compactor and vibratory roller to be filled and labeled with "Use only Biodegradable Hydraulic Oil in This Unit." In the past year, they purchased 275 gallons of bio-based lubricants.

Ultra-Low Sulfur Diesel

In 2002, five years ahead of the EPA requirement, known as the "2007 Highway Rule", King County began purchasing ultra-low sulfur diesel (ULSD) fuel. The fuel switch, along with the addition of diesel particulate 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.

In 2009, Metro Transit, Fleet Administration and Solid Waste Divisions purchased 13.12 million gallons of ULSD fuel. The county purchases 100% biodiesel (B100), blended by the supplier, to create B20 (20% biodiesel, 80% ULSD).

Biodiesel

Biodiesel is a diesel-fuel substitute produced from renewable, non-petroleum, sources, such as vegetable oils, animal fats and recycled cooking oils, and reduces our dependence on petroleum products.

In 2004, King County Metro Transit began testing the use of a 5% biodiesel blend in buses, with good results. After a successful two year trial, all county fleets began using B20 and initial results showed lower greenhouse-gas emissions. In 2007, the

county made a commitment to use locally harvested canola oil for the biodiesel feedstock, for a few more cents per gallon.

By 2008, prices of biodiesel had almost doubled and many experts blame biofuel production for driving up food prices worldwide.

In 2009, Metro Transit, Fleet Administration and Solid Waste Divisions purchased 49,665 gallons of B100 biodiesel.

Hybrid and Alternative Fuel Vehicles

King County has been purchasing alternative fuel vehicles since the 1990's. The county also began purchasing gasoline-electric hybrid passenger vehicles in 2001, hybrid buses in 2004, and heavy-duty hybrid trucks in 2007.

county purchased 15 hybrid vehicles for. The county now maintains around 220 hybrid vehicles.

Hybrid Trucks

The King County Department of Transportation's Fleet Administration Division purchased 2 hybrid trucks in 2009. One is a utility work truck; the other a "trouble truck." It is a medium-duty vehicle designed to transport damaged or broken-down vehicles to and from Fleet maintenance shops. All the tow functions can be operated in the electric-only mode, so the engine does not have to be idling. "We're easily seeing a 30 percent fuel savings with the new hybrid trucks," said Fleet Equipment Manager Bob Toppen. "They have been performing at or above our expectations in all areas. "



County increases purchase of hybrid vehicles. Metro Transit is projected to own 285 hybrid buses in 2010.

Flexible Fuel Vehicles

In 2009, King County Fleet Administration Division purchased 89 flexible-fuel vehicles (FFV). 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.

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

Hybrid Buses

King County Metro Transit received delivery of 35 sixty-foot hybrid buses in 2009, and expects to receive 40 sixty-foot hybrid buses and 43 forty-foot hybrid buses in 2010. This brings the total number of hybrid buses in the Metro system to 285. These buses have demonstrated a reduction in greenhouse gas emissions, saved fuel, and shown increased reliability. They achieve better fuel economy than regular buses and deliver a smoother and quieter ride for passengers. Metro Transit estimates their use of hybrid buses reduces diesel fuel consumption by about 36 percent.

Tire Retreading

The county spent \$146,085 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 half of the new-tire expense in 2009, as retreading a tire is half the cost of buying a new tire.

Lead-Free Wheel Weights

Lead weights have typically been used to balance wheels on vehicles. Because these frequently fall onto the roadway and are pulverized by traffic, they are increasingly understood to represent a public-health hazard and are receiving increasing attention from regulators.

In 2005, Fleet tested an alternative product consisting of adhesive flexible plastic cartridges filled with steel media in various weights and concluded that the environmental benefits justify their slightly higher cost.

King County's experience has led to the adoption of lead-free weights by other jurisdictions. To share these efforts and to learn about others, the county also participates in bi-monthly national conference calls with the Lead Free Wheels campaign, led by the Ecology Center in Michigan, with other jurisdictions and organizations.

Resource Recovery Services

Electronics Recycling

King County agencies have been recycling obsolete computers, television sets and other electronic equipment with a local recycling firm since 2002. There is growing concern about the ultimate effects of landfill, disassembly, 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.



County recycled 4,656 pounds of batteries and 1,595 computer hard drives in 2009.

King County Code requires working equipment to be surplus for redistribution within the county, donated or auctioned. Non-working equipment is recycled through a local recycler, through the Washington State contract for electronics recycling services that include strict requirements for recycling electronic components domestically.

In 2009, The County's recycling in this area includes but was not limited to:

- ▶ 804 copiers
- ▶ 230 CPUs
- ▶ 1,595 Hard Drives
- ▶ 1,728-monitors/ televisions
- ▶ 4,656 pounds of batteries

- ▶ 32,061 pounds of miscellaneous electronic equipment.

Fluorescent Lamp Recycling

King County businesses and residents are now required to recycle products containing mercury, including fluorescent lamps, as they are no longer allowed in the garbage or accepted at transfer stations. King County established a contract for recycling waste lamps, including fluorescent tubes and high-intensity discharge (HID) lamps from its own facilities in 2000. Using fluorescent lamps makes sense, as they are three to four times more energy efficient than incandescent lamps, they last up to ten times longer and reduce greenhouse gas emissions. In the past year, King County recycled various lamps, including 30,785 compact and straight fluorescent tubes/lamps; 2,386 HID lamps and 2,697 ballasts.

Antifreeze Recycling

King County agencies, including Metro Transit, Fleet Equipment Shop and Solid Waste Division, recycled over 13,620 gallons of ethylene glycol antifreeze back into new antifreeze, through the same contract used for the purchase of re-refined antifreeze.



Asphalt and Concrete Recycling

The Road Services Division Coordinated Reduction of Waste program (CROW), has been sorting and recycling materials, such as asphalt, concrete, and fill from road operations since 1991. They are often able to recover asphalt and concrete and stockpile these for use as fill-material in road projects. The recycling efforts of the CROW Program save more than \$300,000 every year.

Since 2003, the Division's Street Waste Alternative Program (SWAP) has been processing and reusing street-sweeping waste and catch basin solids to create a berm that serves as a visual and auditory barrier around maintenance operations at the Summit Maintenance Facility. In the past year, they have recycled over 17,318 tons of treated waste from street sweepings, storm drain cleaning, and other road operations. SWAP saved approximately \$600,000 in 2009 by avoiding landfill disposal for this material.

Office Recycling Programs

King County agencies recycle paper, cardboard, newspaper, aluminum cans, and plastic and glass bottles from all offices. These are collected by a local recycler and sold as feedstock for the manufacture of various recycled products. In 2009, agencies recycled 875,461 pounds of material.



875,461 pounds of office materials recycled in 2009.

Supporting Program Elements

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

Responsible Purchasing Network Steering Committee



The King County

Environmental Purchasing Program managers serve on the steering committee for a national membership organization called the Responsible Purchasing Network (RPN). RPN is a program of the Center for a New American Dream, a national non-profit organization, with the mission to promote environmentally preferable purchasing practices and provide assistance to governments and businesses for this purpose. King County staff has participated since the inception of this group in 2005 and has contributed to monthly telephone conferences to shape the mission and further the work of this network. For more information, please visit the website at www.responsiblepurchasing.org.

Model Procurement Policy

The program continues to promote the development of recycled and environmentally preferable procurement policies in suburban cities by providing policy guidance, including a model policy, through a County website. The program also provides direct technical assistance to suburban cities for policy implementation by sharing contracts, specifications, and procurement strategies.

Grant & Initiatives

Hybrid Bus Grant

The Federal Transit Administration (FTA) American Recovery and Reinvestment Act (ARRA) awarded Metro Transit 45.9 million dollars to increase the number of hybrid buses. The FTA Administrator, released 13.8 million dollars of the federal stimulus grant, to help fund with the acquisition of new articulated hybrid-electric coaches and other system improvements to support Metro's first RapidRide line.

Grant funding will help pay for 16 new buses, various station and shelter enhancements and real-time information systems for the "A Line" serving the cities of Tukwila, Sea Tac, Des Moines, Kent and Federal Way beginning in 2010. The release of federal funding and arrival of this new coach will help Transit deliver on its promise of offering more frequent, all-day bus rapid transit (BRT) service on five of the County's busiest transit corridors as part of its "Transit Now" program.

King County Metro Transit has entered into an agreement with Daimler Buses North America to purchase a fleet of new hybrid-electric buses with the award of the federal stimulus grant. This agreement will allow the purchase of up to 500 Orion buses.

Another positive feature of this agreement with Daimler is flexibility. This agreement will allow Metro to purchase buses as funding becomes available to replace its 40-foot fleet. These buses, along with larger articulated buses in the Metro fleet, will allow for the efficient placement of the right size –bus on more than 200 transit routes. The new 40-foot hybrid electric buses will complement the hybrid articulated coaches that have been part of Metro's fleet since 2004. Transit expects to see an estimated 30 percent fuel savings and an equal reduction in greenhouse gas emissions compared to its conventional diesel buses being retired.

Landfill Gas Energy Project

Landfill gas is generated through the decomposition of waste buried in the landfill. The gas consists of about 55 percent methane and about 45 percent

carbon dioxide, with less than 1 percent hydrogen, oxygen, nitrogen and other trace gases.

Prior to 2009, the landfill gas from Cedar Hills was collected in a series of pipes and routed to high-temperature flares, where it was burned to safely destroy any harmful emissions.

In May 2009, a landfill gas-to-energy facility began operations at the Cedar Hills landfill to convert methane gas into pipeline-quality natural gas. The clean gas is routed to a nearby gas line and into the Puget Sound Energy grid.

The gas-to-energy facility, owned and operated by the private firm Bio Energy Washington, is expected to generate enough natural gas to supply 24,000 homes with energy. The facility will also contribute energy to support plant operations.

Because the converted methane gas from the landfill replaces an equal amount of natural gas from a nonrenewable source, the landfill gas-to-energy project results in an overall reduction of emissions, including greenhouse gas emissions.

Energy Savings: King County Jail and Courthouse install new boilers to cut heating energy costs in half

In November 2009, King County started installing new steel boilers on top of the King County Courthouse and jail. The boilers are estimated to be online and running the first quarter of 2010. The new boiler-system is projected to cut heating costs in half for an \$820,000 annual savings, eliminate 6.7 million gallons of wastewater from entering Puget Sound, and dramatically reduce county carbon emissions by an estimated 1,715 metric tons annually.

The new boilers will reduce carbon emissions due to the increased efficiency of on-site boilers compared to the old steam heating system. The new boilers will re-circulate the hot water it uses, thus closing the system and ending the 6.7 million gallons per year of condensate discharge into the sewer.

Shoreline Transfer and Recycling Station awarded LEED Platinum Certification

The U.S. Green Building Council awarded the Shoreline station with its highest designation- the Leadership in Energy and Environmental Design (LEED) platinum certification. There are only 60 projects in the United States and 65 projects worldwide with a LEED platinum certification.

Shoreline is the only transfer station to achieve the highest rating.

The facility's green features that earned it a platinum rating include:

- ▶ Solar panels generate electricity even during cloudy days and will provide up to five percent of the building's energy needs.
- ▶ The facility uses natural daylight as the primary light source through the translucent wall panels and overhead skylights, reducing energy costs by 50 percent a year.
- ▶ A natural ventilation system pushes air through the building, reducing energy needs for ventilation by 80 percent.
- ▶ Low volatile organic compound paints and adhesives contribute to healthy indoor air.
- ▶ Green building materials include: recycled content steel, Forest Stewardship Council-certified wood, and fly ash concrete.

- ▶ Landscaped bioswales slow water flow to reduce stream bank erosion along Thornton Creek, a nearby salmon-bearing stream.
- ▶ Plants filter contaminants and sediment from surface water runoff.



Overhead skylights reduces energy costs by 50 %.



Solar roof panels provide up to 5% of the building's energy.



Shoreline is the only Transfer and Recycling Station to receive the Leadership in Energy and Environmental Design award.

Cover Page photos:

Upper – Recycled metal
Middle – Metro Hybrid-Electric Powered Bus
Lower – Hybrid Car

Text:

80# book, 50% recycled, 25% post-consumer waste

Cover:

80# cover, 50% recycled, 25% post-consumer waste





King County

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