

# Sustainable State Government

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## Progress and Success Stories in Resource Conservation for Washington State Fiscal Year (FY) 2008



*Photo credit: Chery Sullivan*

*Caden Sullivan and his friend Clair on the breaks of the Snake River.*

# Acknowledgements

Agency sustainability coordinators, facility and fleet managers, and purchasers are commended for their efforts to determine the ecological footprint of their facilities and fleets for their annual sustainability reports. Ecology thanks the reporting subcommittee for their input.

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# Table of Contents

<b>Executive Summary .....</b>	<b>ES1</b>
<b>Introduction .....</b>	<b>1</b>
<b>Sustainable Government Highlights .....</b>	<b>2</b>
State Parks .....	2
Department of Social and Health Services .....	3
Department of Printing .....	4
Archaeology and Historic Preservation.....	5
<b>Trends toward Sustainable Government .....</b>	<b>6</b>
High-performance Green Buildings.....	6
Transportation Fuel Use and Miles Traveled .....	6
Energy Efficiency .....	9
Paper Use .....	10
Waste and Recycling.....	12
Strategies for Improvements in Sustainability Practices .....	13
<b>Appendices</b>	
A: Summary of FY08 Annual CO <sub>2</sub> -e Emissions for all Agencies.....	15
B: Agencies with Sustainability Coordinators.....	16
C: Non-Reporting Agencies .....	17

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# Executive Summary

As population and energy costs continue to increase, government will have to operate at maximum efficiency to maintain the quality of services. Eliminating waste related to energy, fuel, and products saves revenue and helps to preserve jobs. State government needs to be lean and able to adapt to new conditions. To do this it must acquire the right tools. These tools include:

- Statewide adoption of data import services and utility management software in addition to Energy Star Program.
- Resource conservation managers.
- Detailed facility lease agreements to reduce energy, solid, and hazardous wastes.
- Agency fuel use reduction policies and strategies.
- Agency environmentally preferable purchasing and waste reduction policies and programs.

Between Fiscal Year (FY) 2003 and FY08<sup>1</sup>, government staffing grew by 10.6 percent and square footage of facilities increased by 25 percent. Despite this growth, the agency achieved reductions in a couple of areas mandated by Executive Order 05-01.

## Transportation and Fuel

- Total agency passenger vehicle miles traveled increased one percent while miles per employee decreased 4.2 percent since last year.
- Despite a two percent reduction in fuel use by ferries, combined fuel use increased overall by 3.2 percent since FY03.

## Energy

- Since FY03, overall agency energy use increased 11.7 percent from FY03. Electricity use declined two percent and natural gas use increased by 24 percent since FY03.

## Paper

- Overall office paper use declined 13.2 percent since FY03.

Agencies still have one more year to achieve the reduction targets of ten percent for energy and 30 percent for paper.

Using the energy and fuel numbers provided, an estimated 638,959 metric tons carbon dioxide equivalent (MT CO<sub>2</sub>-e) were emitted by state agencies for FY08. See Appendix A. This represents a two percent increase over FY07. In a 2007 study of carbon emissions for the entire state of Washington, per capita CO<sub>2</sub> emissions were estimated between 15-18 metric tons per year.\* Per Washington State employee, CO<sub>2</sub> emissions for FY08 compare favorably with this study as the average emissions were estimated at 9.1 MT CO<sub>2</sub>-e.\*\* This is slightly less than FY07 of 9.3 MT CO<sub>2</sub>-e.\*\*\*

\*2007 Washington State Greenhouse Gas Inventory and Reference Case Projections, 1990-2020.  
[www.ecy.wa.gov/climatechange/docs/WA\\_GHGInventoryReferenceCaseProjections\\_1990-2020.pdf](http://www.ecy.wa.gov/climatechange/docs/WA_GHGInventoryReferenceCaseProjections_1990-2020.pdf)

\*\*This report does not relieve agencies of their responsibility to report on greenhouse gas emissions if they qualify under Chapter 173-441 WAC.

\*\*\*FY07 carbon emissions were recalculated using the NWPP eGRID2006 Version 2.1 (April 2007) for electricity and the same protocol for determining FTE count as FY08.

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<sup>1</sup> The state Fiscal Year runs from July 1 to June 30.

While government staffing grew over the past year by 3,500 employees, each employee consumed less energy and fuel than the previous fiscal year. For more details, go to the *Trends toward Sustainable Government* section beginning on page 7.

Government can manage what it can track. A determined and focused effort to track and report fuel, energy, and climate emission data is the first step to meeting reduction targets. Agency directors, sustainability coordinators, and facility, purchasing, and fleet managers must strategize as a team within each agency to determine how to meet reduction targets.

Despite fiscal cutbacks, state agencies can still meet reduction targets by using creative solutions, such as:

- Contract with data import services and utility management software providers to attain the greatest energy and carbon emission reductions. This can be accomplished through performance contracting at no additional cost to the taxpayer.
- Hire, reallocate staff time, or contract to add resource conservation managers. Resource conservation manager positions are green jobs that pay for themselves.
- Detail facility lease agreements to reduce energy, solid, and hazardous wastes.
- Establish agency fuel use reduction policies and strategies. One strategy can be using Outlook to schedule trips with other employees in state government.
- Implement agency environmentally preferable purchasing and waste reduction policies and programs. For example, setting printer defaults on duplex printing cuts paper use in half.

All efforts to reduce waste will help preserve agency jobs and allow state government to function as a stabilizing influence on the state's economy.

# Introduction

This annual report captures the progress state agencies have made toward meeting goals set out in the Governor's Executive Orders [02-03](#) and [05-01](#). Data collection has improved each year since 2003, and changes in number values from previous years are factored into calculations each year. Consistency in reporting methods is critical to presenting the general trends in resource conservation for the state.

This year, the Department of Ecology (Ecology) received data from 42 agencies, although not every agency reported on each item requested. Go to Appendix B to see a list of the reporting agencies. The data reflect Fiscal Year (FY) 2008, with comparisons to the baseline, FY03, unless otherwise noted. The state Fiscal Year runs from July 1 to June 30. Non-reporting agencies are listed in Appendix C.

Determining which data sets are the most relevant is the challenge when rolling up a report from multiple institutions. Since FY06, fourteen categories of employees exist in the Human Resources Management System (HRMS) payroll. For this report, numbers of full-time, part-time, and temporary employees were used as provided in a staffing report generated by the Department of Personnel. For consistency, extrapolations for FY07 were recalculated in this report.

Sometimes agencies update previous years' data after submitting their reports. These updates are included in the summary spreadsheets. Individual agency reports may not match data in summary spreadsheets if agencies did not update them as well.

In FY09, some agencies will need to report their carbon emissions as outlined in [Chapter 173-441 WAC](#). Reporting is required for agencies whose emissions from operations exceed 10,000 metric tons carbon dioxide equivalent (MT CO<sub>2</sub>-e), or whose emissions from motor vehicles exceed 2,500 MT CO<sub>2</sub>-e. A statewide greenhouse gas emissions summary is included in this report.

Because of notable potential savings from resource conservation in state government, statewide sustainability metrics will be presented through Government Management, Accountability and Performance (GMAP).

Higher education is not included in this report. However, they are encouraged to compile a similar statewide report so that state government can determine its aggregate resource consumption.





# Sustainable Government Highlights

## State Parks

### ***State Parks Sets Highest Sustainability Goal***

The State Parks and Recreation Commission's Sustainability Policy recently set the goal to become the "greenest park system" in the nation. Parks has demonstrated that they are serious in meeting this goal through many outstanding success stories. In fact, they have too many success stories in FY08 to list in this report. To see outstanding state government in action, be sure to read their entire sustainability report posted on the [Office of Financial Management's Sustainable Washington Web site](http://www.ofm.wa.gov/sustainability/default.asp) at [www.ofm.wa.gov/sustainability/default.asp](http://www.ofm.wa.gov/sustainability/default.asp).



Some of the highlights include the bathhouse at Lake Sammamish State Park Beach, in Issaquah, which now has a green roof and solar panels that will generate energy back to the grid. The American Institute of Architects (AIA) Seattle Committee on the Environment chose the bathhouse as one of the top 10 "What Makes it Green" projects in the region.



Thousands of volunteers organized by Parks accomplished four major volunteer clean ups relieving coastal beaches of 120,000 pounds of trash and marine debris.

Parks installed a green roof at Fort Casey, which is now considered a model stewardship park. The living roof was installed on a restroom and has skylight tubes for natural lighting. The lawn and the roof at Fort Casey do not need irrigation in the summer because they were planted with drought resistant plants such as sedums, thyme, and Scotch and Irish mosses.



The public should be proud of all of the major accomplishments the staff at Parks has made.

Billie-Gwen Russell  
State Parks

# Department of Social and Health Services

## ***DSHS eliminates virgin paper and reduces paper purchases by 7.5 percent***

In fiscal year (FY) 2008, the Department of Social and Health Services (DSHS) employed 20,091 staff and provided services to 1.5 million clients each year. One of every four residents in the state and two of every five children and youth received services from DSHS. DSHS occupied 9.2 million square feet of space in 166 leased worksites and 22 owned residential facilities.



DSHS's mission is to improve the quality of life for individuals and families in need - we help people achieve safe, self-sufficient, healthy, and secure lives. We are dedicated through our sustainability plan to improve the quality of life and to promote healthy environments for the communities in which we work and live.

We strive continuously to reduce the environmental impact of the Department. For FY08 we worked hard to reduce our paper use. Despite a 2+ percent increase in agency staff in FY08, we decreased overall paper purchases by 7.5 percent over FY 2007 and reams per staff member decreased by 11 percent, from 21.3 to 19.1 reams per staff. While decreasing our paper purchases, we significantly increased the recycled content in our paper purchases. We more than doubled the purchases of 100 percent recycled paper and we reduced virgin paper purchases from over 73,000 reams to less than 5,000 reams.

Our large agency accomplished such feats through education, awareness, and communication-- one email at a time. In March 2007 our 20 member DSHS Sustainability Team began to emphasize the elimination of purchases of virgin paper by identifying and communicating with offices still purchasing virgin paper. By December 2007, virgin paper purchases were eliminated.

Next, we set out to remind the agency staff of the Executive Orders and the agency's goals regarding paper purchases, then spoke about our paper purchases' impact on trees and the environment then things each of us could do. We created a "how to set up your print jobs to duplex" document and sent out an announcement about the document. This announcement made quite an impression on our staff and soon after we started seeing the numbers drop and our purchases move to higher recycled content.

Our FY08 numbers improved greatly because of the communication efforts regarding paper goals and our usage. Due to the higher cost of recycled paper and our recent budget shortfalls, for FY09, the DSHS Sustainability Team is focusing staff attention on reducing paper use rather than on amount of recycled content. Our second fiscal quarter results show DSHS at an 11% reduction over FY08's year to date average. If we continue at this rate, it will translate to approximately \$165,000 in savings!

Linda Hodgson and Nancy Deakins  
Department of Social and Health Services

# Department of Printing

## *Washington's State Printer Goes beyond Recycling*



The Department of Printing (PRT) has a long tradition of applying the original “three R’s” of sustainability in providing printing and related products and services to Washington State government. For years the agency has focused on Reducing, Reusing, and Recycling. PRT has also “greened” manufacturing processes by replacing petro-chemicals with bio-based inks and solvents.

As of October 2008, the agency is leading the state to an even higher level of environmental stewardship. PRT is proud to be the first state printer certified by the Forest Stewardship Council (FSC) – going beyond the “three R’s of sustainability” to responsible resource management.

The FSC is a nonprofit organization that sets the world’s most comprehensive standards for responsible forestry. They ensure that certified forests are environmentally responsible and ensure the health and well-being of forest workers and their communities. This shifts the focus of sustainability to the entire product life cycle of our primary consumable – paper.

Printing continues to be an important tool for government to serve citizens. While recycling paper helps, it cannot eliminate the need to harvest trees. Paper fiber can only be recycled five to seven times before it wears out and needs to be replaced. Consumption of paper continues to grow beyond the amount of available recycled fiber. Trees are crops, a renewable resource. The important issue is not whether trees are being cut, but how and where they are cut, and how paper pulp is processed.

PRT recognizes that recycling is not enough. Now Washington State government can support sustainable forestry practices by ordering FSC printing and related products from PRT. The FSC focuses on the entire product life cycle (printers who use the FSC logo must have a “chain of custody” certificate that includes suppliers at all stages in the paper producing process). FSC certified paper is harvested from forests that are sustainably managed for the long term, ensuring the well-being of the forest ecosystem, the survival of biodiversity, and the protection of the habitat.

Find out how you can get the FSC symbol of good stewardship on your print jobs, and learn about other sustainable print and copy practices by calling (360) 570-5555 to be connected with your Customer Service Representative. PRT also invites you to call and schedule a plant tour – let us show you how we are good stewards of the earth. We’re not the State Printer you used to know. Call us and see!

Crystal Hart  
Department of Printing

# Archaeology and Historic Preservation

## ***Department of Archaeology and Historic Preservation Hosts Green Workshop***



Photo caption: Participants of the New Pathways: Historic Preservation & Sustainability Conference gather on a chilly morning for a field exercise on historic rehabilitation projects and sustainability. The photo is taken inside the historic Furuya Building in Seattle's Pioneer Square Historic District.

In April of 2008, the Department of Archaeology and Historic Preservation (DAHP) sponsored a workshop on sustainability and historic preservation. It brought together a large and diverse group of partners from both the public and private sectors. The workshop was designed to tackle a widespread perception that preservation and rehabilitation of historic buildings does not fit with green building rating systems, predominantly LEED. The key global strategy conveyed at the workshop is that the preservation of the existing built environment reduces carbon emissions and saves energy while enhancing quality of life.

The workshop, titled *New Pathways: Historic Preservation & Sustainability*, attracted over 100 participants to the new U.S. Courthouse in downtown Seattle to hear leaders and authorities in historic preservation, green building standards, architecture, planning, and building codes. The keynote speaker was Barbara Campagna, AIA, of the National Trust for Historic Preservation and point person on the Trust's Sustainability Initiative. DAHP has posted links to speaker presentations on its website. <http://dahp.wa.gov/pages/HistoricSites/HistoricPreservationandSustainability.htm>

Aside from the many great speakers, DAHP acknowledges and appreciates the contributions to the workshop of the following: U.S. General Services Administration, Washington Association of Building Officials, Washington State Building Code Council, City of Seattle Historic Preservation Program, and City of Seattle Sustainability Office, Artifacts Consulting, Conover-Bond Development Corporation, GGLO Architects, Seattle Chapter of the American Institute of Architects, Washington Trust for Historic Preservation, and National Trust for Historic Preservation.

Greg Griffith  
Department of Archaeology and Historic Preservation

# Trends toward Sustainable Government

## High-performance Green Buildings

*“Agencies shall incorporate green building practices in all new construction projects and in major remodels that cost over 60% of the facility’s assessed value. These will be built and certified to U.S. Green Building Council Leadership in Energy and Environmental Design (LEED) Silver Standard, or certified by the Department of General Administration (GA) to an equivalent standard.*

*Executive Order 05-01*

The Department of General Administration is tracking the State’s Green Building activities as they relate to Executive Order 05-01. No projects received LEED certification during FY-08; however, several projects are under construction and expected to receive LEED certification in FY-09:

FY09 Projects include:

Certified LEED Projects by Executive Agencies:

- DOC – 5 Projects (1 targets LEED Gold and 4 target LEED Silver)

Certified LEED Projects Managed by Executive Agencies for Others:

- GA – 16 Projects (1 has received LEED Gold, 7 target LEED Gold, and 8 target LEED Silver)

Certified LEED Leased Projects Managed by Executive Agencies for Others:

- GA – 1 Project (targeting LEED Gold – State Parks)

## Transportation Fuel Use and Miles Traveled

### *Reductions in use of passenger vehicle gasoline*

*“Agencies take all reasonable actions to achieve a target of a twenty percent reduction in petroleum use in the operation of state vehicles and privately owned vehicles used for state business by September 1, 2009.”*

*Executive Order 05-01*

Data for gasoline fuel use is taken from three different categories of vehicles driven: agency owned, privately owned, and Motor Pool managed vehicles. Agencies provide fuel numbers for their agency owned vehicles. Fuel use for privately owned vehicles used for state travel is calculated using the average on-road vehicle fuel efficiency as provided by the Energy Information Administration for the national fleet in FY08. Motor Pool fuel use is calculated for daily use and permanently assigned vehicles. The fuel use for permanently assigned vehicles is based on gasoline charges reported on the fuel and purchasing cards assigned to the vehicle. The daily use vehicle fuel is calculated for each vehicle by dividing the number of miles driven by the average fuel efficiency for the class of vehicle.

Agencies also provide information regarding gasoline fuel use for boats, task, and on-demand vehicles. These represent everything else beside passenger vehicles. In FY08, the Department of Transportation (DOT) consumed 1,326,636 gallons of gasoline to fuel these vehicles, 2.5 percent less than FY07. DOT was the only agency who reported task and on-demand vehicles separately since this represents a

significant portion of their fleet. This number was not extrapolated for all agencies since few other agencies own these types of vehicles.

In 2008, 42 agencies reported a total use of 8,718,479 gallons of gasoline used in passenger vehicles for transportation. This is approximately 134 gallons per employee. If each of the 70,624 state employees working in 2008 used 134 gallons of gasoline, we estimate that all agencies used 9,463,616 gallons of gasoline in total.

FY07 was chosen to be the new baseline for gasoline use because it was unclear before FY07 if agencies provided fuel use from all three categories of vehicles. Using the adjusted employee count for FY07, the average fuel use per employee was 123 gallons. This extrapolates to 8,244,936 gallons in all. The overall increase from FY07 to FY08 is 14.8 percent and an 8.9 percent increase per employee.

	FY07	FY08	Target FY09
Gallons Reported	7,588,992	8,718,479	6,071,194
Extrapolated	8,244,936	9,463,616	6,595,949
Gallons per FTE	123	134	98

FTE: full-time equivalent

### **Increased use of biodiesel**

*“By September 1, 2009, state agencies shall replace standard diesel with a twenty percent biodiesel blend. As soon as practicable, agencies will begin using a minimum five percent biodiesel blend.”*  
**Executive Order 05-01**

GA provides quarterly reports to the legislature on the amount of bulk biodiesel purchased compared to the bulk petroleum diesel purchased by state agencies. Based on the report for the third and fourth quarter of FY08 (the only data available), 3.13 percent of all diesel used was biodiesel.

The total amount of all diesel fuels consumed by the agencies reporting in FY08 was 20,259,564 gallons. Of the total, 85 percent or 17,078,394 gallons were consumed by ferries. Efforts by DOT to shift their petrodiesel to biodiesel for the ferries will likely provide the quickest means to meeting the 20 percent biodiesel blend goals. Total diesel fuel use for FY08 decreased less than one percent from FY07.

Gallons Reported	FY07	FY08	Target FY09
Total	20,317,922	20,270,120	19,302,025
Ferries	17,447,185	17,078,394	16,574,875
Task and On-Demand Vehicles	2,870,737	3,191,726	2,727,200

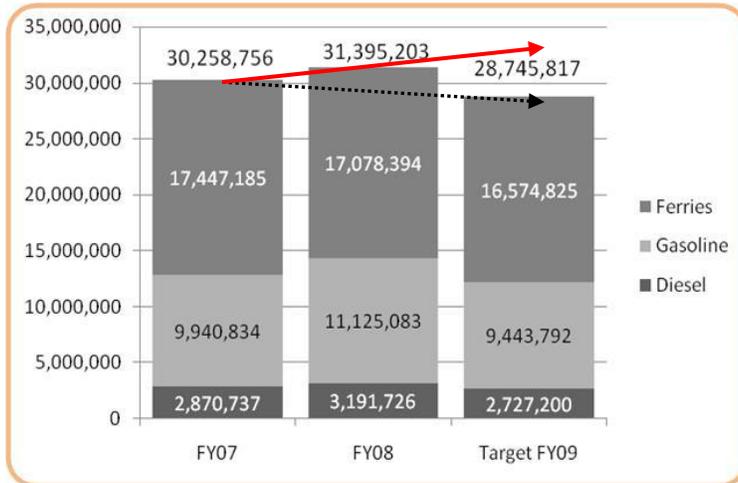
Neither biodiesel nor diesel fuel use by agencies was extrapolated based on the numbers of employees because only a small number of agencies have a need for equipment fueled by diesel. An extrapolation would lead to exaggerated use of diesel fuels.

Outside of ferries, DOT is still by far the largest consumer of diesel fuels and biodiesel for on-land fleets. 2,407,763 gallons of diesel, 12 percent of the total, is consumed by on-demand and task oriented vehicles, which include heavy equipment used in building and maintaining roads. For a full description of DOT fuel use, see their [2008 Sustainability Plan and Progress Report Update](#).

## Total gasoline and diesel consumption

The Governor issued a letter dated August 4<sup>th</sup>, 2008, requesting that gasoline and diesel consumption be reduced by five percent by FY09, compared to consumption in FY07.

**Figure 1**  
State Fuel Consumption (gallons)



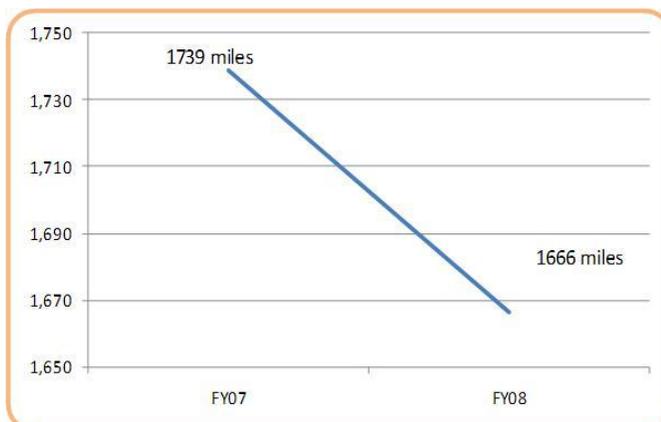
The total gasoline and diesel fuel consumption for FY08 for all agencies was 31,395,203 gallons. For FY07 30,258,756 gallons were consumed in total. This amounts to a 3.85 percent increase in fuel use over FY07. FY03 is not included because of incomplete reporting of passenger vehicle fuel data.

## Reduction of vehicle miles traveled

To calculate the number of miles driven by state employees, Motor Pool, agency owned and privately owned vehicle miles traveled must be combined. In FY08, the average miles traveled per employee was 1,666 as compared to 1,732 miles traveled in FY07.

	FY07	FY08	Percent change from FY07 to FY08	Target FY09 5% reduction
Miles Traveled	116,572,969	117,675,809	+1.0	110,744,320
Miles Traveled/FTE	1739	1666	- 4.2	1652

**Figure 2**  
Miles Driven at Work per State Employee



The total miles traveled in FY08 were approximately 117,675,809 after extrapolating for those who did not report. This represents a 1.0 percent increase in number of miles traveled over FY07; however, the vehicle miles per employee decreased 4.2 percent over FY07. This report does not include FY03 because agencies were not tracking personally owned vehicle miles traveled at that time. This means that while the state had more employees in FY08 than in FY07, most drove fewer miles. This report does not include employee commute-to-work.

# Energy Efficiency

## **Energy use by state facilities**

*“Agencies reduce energy use by 10% by September 1, 2009.”  
Executive Order 05-01*

### **Electricity**

Multiple challenges exist for capturing energy use data. Unless agencies have utility management software, they may still be manually entering data each month from paper or electronic bills into spreadsheets. Other challenges include obtaining data for multiple buildings, owned and/or leased spaces, shared spaces, and from multiple energy providers. In addition, some buildings may not be metered and energy may be reported in costs rather than in energy used.

Despite these multiple challenges, 34 agencies reported 432,963,055 kilowatt hours (kWh) of electricity use in FY08. This calculates to 6,945 kWhs per employee for the year. The extrapolated total use for FY08 is 490,483,680 kWhs or 1.67 trillion British Thermal Units (BTUs). The rate of electricity used per employee declined 11.4 percent and total electricity consumption for all agencies declined by 2.3 percent from FY03.

### **Natural Gas**

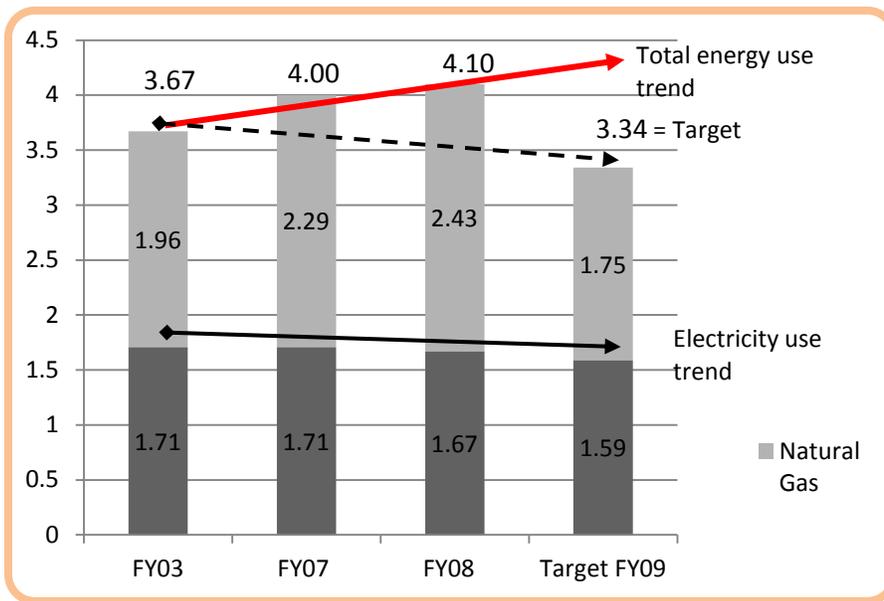
Total natural gas used by 31 agencies reporting in FY08 was 21,361,749 therms. The extrapolated natural gas use was 24,294,656 therms or 2.4 trillion (BTUs). This represents a 24 percent increase in use of natural gas from FY03. (One therm equals 100,000 BTUs.)

### **Electricity and Natural Gas Combined**

By standardizing the energy data into BTUs, electricity and natural gas can be combined into one aggregate number. The FY08 extrapolated 4.10 trillion BTUs means a total energy increase of 11.7 percent since FY03, moving us further away from the target. The good news is that agencies purchased 21 percent more energy offsets in FY08 compared to FY07 (10.6 million kWh up from 8.4 million kWh). Energy offsets are purchases of green power from wind and solar electricity generation.

The Departments of Natural Resources and Corrections, and State Patrol reported consuming a total of 1,353,250 gallons of propane and fuel oil in FY08.

**Figure 3**  
**Estimated BTUs (in Trillions) of Electricity and Natural Gas Used by the State in FY08**



## Paper Use

### *Reductions in use of paper*

*“Agencies take all reasonable actions to reduce the lifecycle impacts of paper products and achieve the following goals by September 1, 2009. Reduce the use of office paper by 30%, based on data reported in 2003 agency Sustainability Plans.”*

***Executive Order 05-01***

Paper use is measured by number of reams of 8 ½ X 11” office paper used in agency printers. It does not include other paper sizes or any print jobs completed by the Department of Printing or other print shops.

Sixteen agencies reduced their total cut office paper more than ten percent for the year and are shaded in the chart below. The Departments of Social and Health Services, Transportation, State Patrol, Information Services, and Personnel reported significant reductions in the use of virgin fiber paper.

In FY08, the total paper purchased by the 40 agencies reporting on cut office paper was 919,596 reams. This is equal to 14.6 reams per employee for the year. The extrapolated value for FY08 is 1,029,590 reams. This amounts to a 13.2 percent reduction from FY03 and a 4.4 percent reduction from FY07. Each ream is 500 sheets; agencies averaged approximately 30 sheets per employee, per eight-hour day (based on 240 workdays per year). This represents a five page per day decrease from FY07. To meet the reduction goals in Executive Order 05-01, employees will need to reduce paper consumption by an additional ten sheets per day.

## FY08 8 1/2 X 11" Cut Office Paper Use by Agency (reams)

Agencies are listed from greatest paper use to least in FY08.

Agency Name Shaded agencies below have reduced their total office paper by >10 percent since FY07.	FY03 Total	FY07 Total	FY08 Total	Percent Change from FY03-FY07	FY08 Virgin	FY08 30 - 40% recycled content	FY08 100% recycled content
Social and Health Services	386,675	412,270	383,181	-0.90	4,715	266,621	111,845
Transportation	137,407	87,564	116,057	-15.54	17,712	96,531	1,814
Corrections	84,175	81,661	86,077	2.26	0	46,265	39,812
Employment Security	89,349	63,813	56,249	-37.05	1,081	47,064	8,104
Labor and Industries	33,124	49,159	51,838	56.50	1,307	43,408	7,123
Attorney General's Office	55,200	45,895	44,062	-20.18	0	44,062	0
Licensing	25,589	27,550	27,587	7.81	93	1,392	26,102
Health	22,978	28,696	22,348	-2.74	40	18,396	3,912
Ecology	17,199	16,464	16,259	-5.47	0	922	15,337
Liquor Control Board	NG	7,808	16,211	-	0	13,481	2,730
Revenue	15,647	15,543	14,591	-6.75	355	4,181	10,055
Fish & Wildlife	22,251	10,613	10,613	-52.30	156	1,018	9,439
Com. Trade & Econ.Development	6,198	6,462	7,346	18.52	437	6,369	540
Financial Management	NG	7,150	6,590	-	0	50	6,540
Industrial Appeals	6,530	8,040	5,650	-13.48	0	5,650	0
General Administration	7,500	5,791	5,181	-30.92	142	2,779	2,260
Information Services	13,604	23,510	5,000	-63.25	1,620	0	3,380
Personnel	15,460	6,605	4,820	-68.82	850	2,180	1,790
Retirement Systems	4,599	4,404	4,698	2.15	0	4,698	0
Utilities and Transportation	3,630	3,175	4,419	21.74	0	0	4,419
Agriculture	NG	4,950	4,100	0	0	4,100	0
Parks	6,096	4,488	4,029	-33.91	190	3,260	579
Financial Institutions	2,247	3,282	3,832	70.54	32	0	3,800
Veterans Affairs	NG	1,677	3,452	-	0	3,452	0
State Patrol	NG	23,903	3,449	-	2,697	702	50
Criminal Justice Training	3,974	2,072	3,257	-18.04	0	57	3,200
Lottery	2,310	2,116	1,779	-22.99	0	52	1,727
Printing	1,417	NG	1,460	3.03	0	1,460	0
School for the Deaf	1,452	1,173	1,416	-2.48	0	795	621
Workforce Training & Ed Board	NG	720	716	-	0	716	0
Outdoor Recreation Commission	3,965	972	709	-82.12	0	232	477
Early Learning	NG	NG	576	-	0	0	576
School for the Blind	NG	770	486	-	7	479	0
Health Care Authority	1,000	2,416	455	-54.5	20	35	400
Public Disclosure Commission	420	311	366	-12.86	0	4	362
Environmental Hearings Office	351	275	303	-13.68	0	303	0
Traffic Safety Commission	NG	279	209	-	0	0	209
Puget Sound Partnership	480	365	158	-67.08	0	158	0
Pollution Liability	120	43	40	-66.66	0	0	40
Forecast Council	50	27	27	46.00	0	0	27
Natural Resources	NG	NG	NG	-	NG	NG	NG
Conservation Commission	NG	NG	NG	-	NG	NG	NG
<b>Total</b>	<b>970,997</b>	<b>962,012</b>	<b>919,596</b>	<b>-5.29</b>	<b>31,454</b>	<b>620,872</b>	<b>267,270</b>

NG= not given

## Recycled-content of office paper

*“Office paper purchased by state agencies must have a minimum 30% post consumer recycled content, with reasonable consideration allowed for product availability, cost and quality. Agencies should increase the percentage of environmentally preferable paper (EPP) purchased to at least 50%. Environmentally preferable paper is defined as 100% recycled content paper with a minimum of 50% post consumer waste.”*

**Executive Order 05-01**

Agencies made big gains in the use of recycled content paper in FY08.

- All 40 agencies reporting on paper use purchased some recycled-content paper.
- 67.5 percent of total office paper used in 2008 consisted of at least 30 – 40 percent post-consumer recycled fiber.
- Purchase of 100 percent recycled-content paper nearly doubled from 15 percent in FY07 to 29 percent in FY08.
- Agencies are still 20 percent shy of meeting the goal of having half of their paper be 100 percent recycled content.

## Recycled-content janitorial paper

*“Significantly reduce the environmental impacts of janitorial paper products through increased use of post consumer recycled products.”*

**Executive Order 05-01**

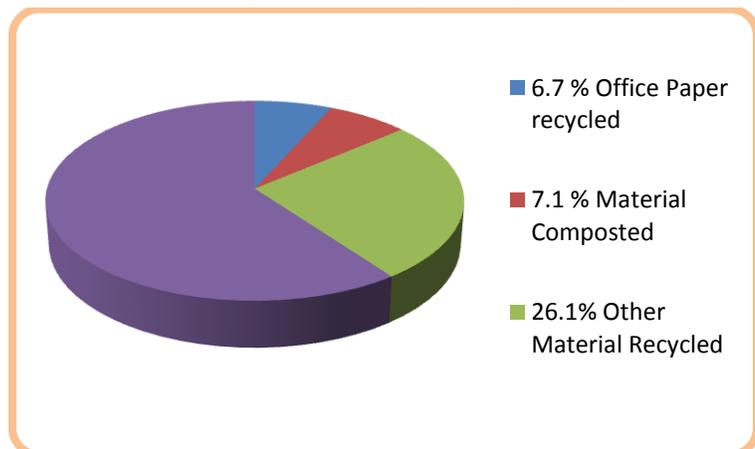
Janitorial paper includes paper towels, toilet paper, and seat covers. Nineteen agencies reported purchasing a total of 88,402 cases of janitorial paper in FY08, and 98.5 percent was 100 percent recycled-content fiber. Overall janitorial paper use increased 1.5 percent over last year. The extrapolated total for all state agencies equals 197,747 cases.

Agencies can specify high recycled content janitorial paper in their new and renewing lease agreements. More importantly, agencies can reduce the quantity of paper towels used by requesting the use of personal hand-towels or blow dryers.

## Waste and Recycling

Forty-seven percent more agencies reported in FY08 than in FY07. Twenty-three agencies reported on the handling of their solid waste in FY08. Of those that reported, Department of Corrections (DOC) dwarfs the other agencies in total amount of solid waste generated at 20 million pounds. This is 72 percent of the total 28,190,868 pounds reported. DOC recycled or composted three percent more waste in FY08 than FY07. In addition, since FY07, DOC has reduced total waste

**Figure 4**  
Waste created, recycled, and disposed by state agencies FY08.



by 2.5 percent.

# Strategies for Improvements in Sustainability Practices

Tracking and reporting are the essential first steps to reducing costs associated with the use of energy, fuel, and paper. Agencies that report on the required and suggested indicators will be able to institutionalize sustainability changes faster than agencies that do not.

We recommend:

1. The state embrace social equity and green economics along with the environment as it advances sustainability in Washington.
2. Directors of state agencies take an active role in learning about and supporting sustainability and resource conservation efforts at their respective agencies. They need to ensure that facility, purchasing, and fleet managers provide agency fiscal year end statistics to sustainability coordinators by July 31<sup>st</sup> each year. They also need to provide on-going visibility and recognition for sustainability efforts.
3. Agencies use the free U.S. EPA Energy Star Program to track energy use and performance of buildings. For the greatest amount of savings from utility tracking and management, the state enters a performance contract with a utility management company. Data entry for all utilities is provided through this service and the data can be uploaded into the Energy Star Program.
4. Agencies acquire the appropriate number of Resource Conservation Managers (RCM). RCMs typically save 10% to 15% of the utility budget (energy, water, and garbage). Small agencies can pool resources to share an RCM. RCMs are prime examples of green jobs.
  - For more information about the services an RCM can provide, please see: [www.energy.wsu.edu/projects/rem/rcm.cfm](http://www.energy.wsu.edu/projects/rem/rcm.cfm) and [www.oregon.gov/ENERGY/CONS/RCM/rcmhm.shtml](http://www.oregon.gov/ENERGY/CONS/RCM/rcmhm.shtml).
  - The Department of Fish and Wildlife has saved close to \$500,000 over the past four years due to the efforts of the RCM. The savings came from use reductions in electricity, natural gas, fuel, and paper at our offices, hatcheries, residences, and wildlife areas throughout the state.
  - The Department of Health and Human Services estimates it will save close to \$350,000 in FY09 based on work performed by its new resource conservation manager.
5. Agencies take responsibility to ensure that renewing facility lease agreements include:
  - Energy efficiency requirements including lighting, heat, ventilation and cooling (HVAC) equipment and controls, and building envelope performance standards.
  - Reporting on monthly energy and water use along with square footage of leased space.
  - Use and reporting of efficient low-mercury fluorescent lighting and recycling at end-of-life.
  - Use and reporting of recycled content janitorial papers.
  - Use and reporting of janitorial products, including more sustainable products such as Green Seal, EcoLogo, or the US Environmental Protection Agency's Design for the Environment (DfE) recognized cleaning products.
  - Recycling of batteries, food waste, office paper, plastic bottles, metal cans, and cardboard.

6. Agencies implement strategies and policies for reduction of fuel, including:
  - Carpooling to meetings.
  - Web based meetings.
  - Webinars to reduce the number of workshops and conferences.
  - Purchase of hybrids.
  - Use of hybrids from General Administration Motor Pool.
  - Use of Outlook Express to manage ride sharing to meetings within each agency.
7. Agencies track and reduce large commodity purchases. When purchasing is required, purchase the least toxic products with the lowest associated greenhouse gas emissions. Vendor contracts include quarterly reporting requirements on quantities of environmentally responsible products purchased.
8. Agencies develop a tracking system to track and report all waste leaving state facilities. Reports should be developed and given to sustainability coordinators annually. Waste that is recycled or taken back at the end-of-life saves taxpayers' money.
9. Agencies conduct biannual waste audits to assess their solid waste. Audits should assess quantity, life-cycle, and cost of solid waste and should be submitted to sustainability coordinators no later than six months following the audit.

## Appendix A

### Summary of FY08 annual CO<sub>2</sub>-e emissions for all agencies based on extrapolated totals

<b>Transportation</b>				
		<b>Quantity</b>	<b>GHG Conversion Factors</b>	<b>CO<sub>2</sub> (Kilograms)</b>
Gasoline	(gallons)	11,125,083	8.81 kg CO <sub>2</sub> /gallon	98,011,981
Diesel	(gallons)	20,300,080	10.15 kg CO <sub>2</sub> /gallon	206,045,810
Aviation Fuel	(gallons)	116,826	8.32kg CO <sub>2</sub> /gallon	971,992
<b>Subtotal</b>				<b>305,029,783</b>
<b>Energy</b>				
		<b>Quantity</b>		<b>CO<sub>2</sub> (Kilograms)</b>
Natural gas	(therms)	24,294,656	5.306 kg CO <sub>2</sub> /therm	128,907,440
Electricity	(kWh)	490,483,680	*0.418 kg CO <sub>2</sub> /kWh	205,022,170
<b>Subtotal</b>				<b>333,929,610</b>
<b>Total CO<sub>2</sub> Emissions In Kilograms</b>				<b>638,959,393</b>
<b>638,959 metric tons of CO<sub>2</sub>-e/ year (not including commute trip reduction)</b>				<b>9.1 metric tons CO<sub>2</sub>-e / employee/ year**</b>

\*\*Based on 70,624 employees for FY08.

### Summary of FY07 annual CO<sub>2</sub>-e emissions for all agencies based on extrapolated totals

<b>Transportation</b>				
		<b>Quantity</b>	<b>GHG Conversion Factors</b>	<b>CO<sub>2</sub> (Kilograms)</b>
Gasoline	(gallons)	9,940,834	8.81 kg CO <sub>2</sub> /gallon	87,578,747
Diesel	(gallons)	20,317,185	10.15 kg CO <sub>2</sub> /gallon	206,219,420
Aviation Fuel	(gallons)	88,299	8.32kg CO <sub>2</sub> /gallon	734,648
<b>Subtotal</b>				<b>294,532,815</b>
<b>Energy</b>				
		<b>Quantity</b>		<b>CO<sub>2</sub> (Kilograms)</b>
Natural gas	(therms)	22,912,617	5.306 kg CO <sub>2</sub> /therm	121,574,340
Electricity	(kWh)	500,409,087	*0.418 kg CO <sub>2</sub> /kWh	209,170,998
<b>Subtotal</b>				<b>330,745,338</b>
<b>Total CO<sub>2</sub> Emissions in Kilograms</b>				<b>625,278,153</b>
<b>625,278 metric tons of CO<sub>2</sub>-e/ year (not including commute trip reduction)</b>				<b>9.3 metric tons CO<sub>2</sub>-e / employee/year**</b>

\*\*Based on 67,032 employees for FY07.

Energy Information Agency (1999): Fuel and Energy Source Codes and Emissions Coefficients, U.S. Department of Energy, Washington DC, web reference:

<http://www.eia.doe.gov/oiaf/1605/factors.html>

\*NWPP eGRID2006 Version 2.1 (April 2007)

# Appendix B

## Agencies with sustainability coordinators, # of staff, and reports on file

Agency (Those in bold have a sustainability coordinator. Those shaded are cabinet agencies.)	FY08 Staff	FY 08 Report	FY07 Report	FY06 Report	FY05 Report	FY04 Report
Administrative Hearings	156			X	X	X
<b>Agriculture</b>	813	X	X	X		X
<b>Attorney General</b>	1,340	X	X	X	X	X
<b>Board of Industrial Appeals</b>	154	X	X		X	X
Commission on Judicial Conduct	7					X
<b>Community, Trade and Economic Development</b>	378	X	X	X	X	X
<b>Conservation Commission</b>	25	X	X	X	X	X
<b>Corrections</b>	8,763	X	X	X	X	X
<b>Criminal Justice Training Commission</b>	45	X	X		X	X
<b>Early Learning (new in 2006)</b>	212	X		*	*	*
<b>Ecology</b>	1,986	X	X	X		X
<b>Economic Revenue and Forecast Council</b>	5	X	X		X	X
<b>Employment Security</b>	2,652	X	X	X	X	X
<b>Environmental Hearings</b>	9	X	X		X	
<b>Financial Institutions</b>	200	X	X	X	X	X
<b>Financial Management</b>	368	X	X		X	X
<b>Fish &amp; Wildlife</b>	1,788	X	X	X	X	X
<b>General Administration</b>	668	X	X	X	X	X
<b>Health</b>	1,533	X	X	X	X	X
<b>Health Care Authority</b>	302	X	X		X	X
Home Care Quality Authority	6				X	
Housing Finance Commission	66			X		
<b>Information Services</b>	453	X	X		X	X
<b>Labor and Industries</b>	2,752	X	X	X	X	X
<b>Licensing</b>	1,384	X	X	X		
<b>Liquor Control Board</b>	1,431	X	X	X		X
<b>Lottery</b>	141	X	X	X		X
Marine Employees' Commission	2			X	X	X
<b>Military Department</b>	841		X			X
Natural Resources	2,008	X				
<b>Parks and Recreation Comm.</b>	1,074	X	X	X	X	X
<b>Personnel</b>	228	X	X	X		X
<b>Pollution Liability Insurance Agency</b>	1	X	X	X	X	X
<b>Printing</b>	128	X	X	X	X	X
<b>Public Disclosure Commission</b>	25	X		X		X
<b>Puget Sound Partnership (formerly PSAT)</b>	27	X	X	X	X	X
<b>Recreation and Conservation (formerly ICOR)</b>	61	X	X		X	X
<b>Retirement Systems</b>	249	X	X	X	X	X
<b>Revenue</b>	1,083	X	X	X	X	X
<b>School for the Blind</b>	114	X	X	X		X

<b>Agency</b> (Those in bold have sustainability coordinator.)	<b>FY08 Staff</b>	<b>FY 08 Report</b>	<b>FY07 Report</b>	<b>FY06 Report</b>	<b>FY05 Report</b>	<b>FY04 Report</b>
<b>School for the Deaf</b>	153	X	X	X	X	X
<b>Social and Health Services</b>	19,984	X	X	X	X	X
<b>State Patrol</b>	3,419	X				
<b>Traffic Safety Commission</b>	20	X	X	X		X
<b>Transportation</b>	8,236	X	X	X	X	
Utilities and Transportation Commission	135	X	X	X	X	
<b>Veterans' Affairs</b>	738	X	X	X	X	X
Work Force Train & Education Coordinating Board	27	X	X			
Total Staff from Reporting Agencies	66,190					

## Appendix C

### Non-Reporting Agencies, Boards and Commissions with # of staff

<b>Non-Reporting Agencies, Boards, and Commissions</b>	<b>FY08 Staff</b>
Administrator Courts	350
Archaeology and Historic Preservation	22
Arts Commission	19
Board for Volunteer Firefighters	5
Board of Pilotage Commissioner	2
Board of Tax Appeals	13
Caseload Forecast Council	5
Citizen's Commission on Salaries	2
Civil Legal Aid	1
Columbia River Gorge Commission	11
Commission African-American Affairs	2
Commission on Asian-Pacific American Affairs	2
Commission on Hispanic Affairs	2
Commission on Judicial Conduct	7
County Road Administration Board	16
Court of Appeals	150
East WA St Historical Society	57
Economic Division of Finance Authority	2
Freight Mobility Strategic Investments	3
Gambling Commission	180
Governor's Office of Indian Affairs	3
Growth Management Hearings Board	15
Health Care Facilities Authority	5
Higher Education Facilities Authority	5
<b>Higher Education Coordinating Board</b>	123
Historical Society	71
Horse Racing Commission	39
House of Representatives	367
Human Rights Commission	44
Indeterminate Sentence Review	17
Insurance Commissioner	213
Joint Leg Audit and Review Commission	23

Joint Leg Systems Committee	46
Joint Transportation Commission	5
Legislative Evaluation & Account Progress Commission	11
Plan 2 Retirement Board	6
Marine Employees' Commission	2
Military Department	841
Minority & Women's Businesses	17
Office of the Governor	68
Office of the Lieutenant Governor	7
Public Defense	11
Public Employment Relations Commission	39
Secretary of State	339
Sentencing Guidelines Commission	13
Services for the Blind	85
State Actuary	13
State Auditor	399
State Board of Accountancy	12
State Convention & Trade Center	232
State Investment Board	71
State Law Library	13
State Senate	259
State Treasurer	66
Statute Law Committee	41
Superintendent of Public Instruction	437
Supreme Court	66
Tobacco Settlement Authority	3
Transportation Commission	11
Transportation Improvement Board	11
Not Assigned	384
Total staff from non-reporting agencies	5,284