

APPENDIX - available by request

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# greenMetro

Sustainability report for  
operations at Metro facilities

November 2012

## About Metro

Clean air and clean water do not stop at city limits or county lines. Neither does the need for jobs, a thriving economy, and sustainable transportation and living choices for people and businesses in the region. Voters have asked Metro to help with the challenges and opportunities that affect the 25 cities and three counties in the Portland metropolitan area.

A regional approach simply makes sense when it comes to making decisions about how the region grows. Metro works with communities to support a resilient economy, keep nature close by and respond to a changing climate. Together we're making a great place, now and for generations to come.

Stay in touch with news, stories and things to do.

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## METRO ENERGY EFFICIENCY PROJECTS COMPLETED

Energy Trust of Oregon Existing Buildings Program, July 1, 2011 to present

Site name	Completion date	Measure(s)	Annual Kwh savings	Annual therms savings	Est. project cost * **	Incentive amount from ETO
Keller Auditorium (PCPA)	12/5/2011	Gas-fired condensing boiler	-	8,760	\$194,472	\$16,000
Arlene Schnitzer Concert Hall (PCPA)	<i>BE15637 in progress</i>		-	-	-	-
	2/21/2012	Custom LED	94,937	-	\$42,156	\$22,132
	8/30/2012	Custom Chillers	86,209	-	\$91,342	\$24,660
EXPO Center	7/14/2011	Lighting & Occ. Sensors	29,333	-	\$13,889	\$4,987
Metro Regional Center	10/7/2011	Custom Demand Control Ventilation	152,491	211	\$128,280	\$38,344
	11/17/2011	Custom Lighting & Occ. Sensors	140,856	-	\$59,963	\$33,780
	12/15/2011	Timer to control DHW recirculation	1,205	-	\$1,035	\$301
	6/19/2012	Custom Building Controls-CO sensors in garage	345,968	-	\$30,210	\$18,126
	8/16/2012	Lighting & Occ. Sensors	23,358	-	\$14,215	\$5,606
	<i>BE19204 in progress</i>		-	-	-	-
Oregon Convention Center	7/21/2011	Custom Lighting	1,918,613	-	\$750,403	\$259,733
	11/3/2011	Grocer Refrigeration Case	5,616	-	\$4,047	\$1,404
	12/22/2011	Custom Building Controls	17,569	-	\$2,400	\$1,440
	<i>BE17549 in progress</i>	Custom Building Controls	164,477	14,461	\$92,500	\$46,250
Metro Latex Paint Recycling	<i>No projects to date</i>					
Metro South Transfer Station	<i>No projects to date</i>					
Metro Central Transfer Station	1/5/2012	T5HO4 lamp fixtures	550,805	-	\$103,390	\$48,741
Oregon Zoo	9/21/2012	NB Program: Design & Custom Track Assistance	10,500	-	-	\$6,320.00
<b>Totals</b>			<b>3,541,937</b>	<b>23,432</b>	<b>\$1,528,302</b>	<b>\$527,824</b>

\* Project costs listed in this spreadsheet are estimates only from ETO's project records. Real project costs should always be verified through Metro's accounting records system.

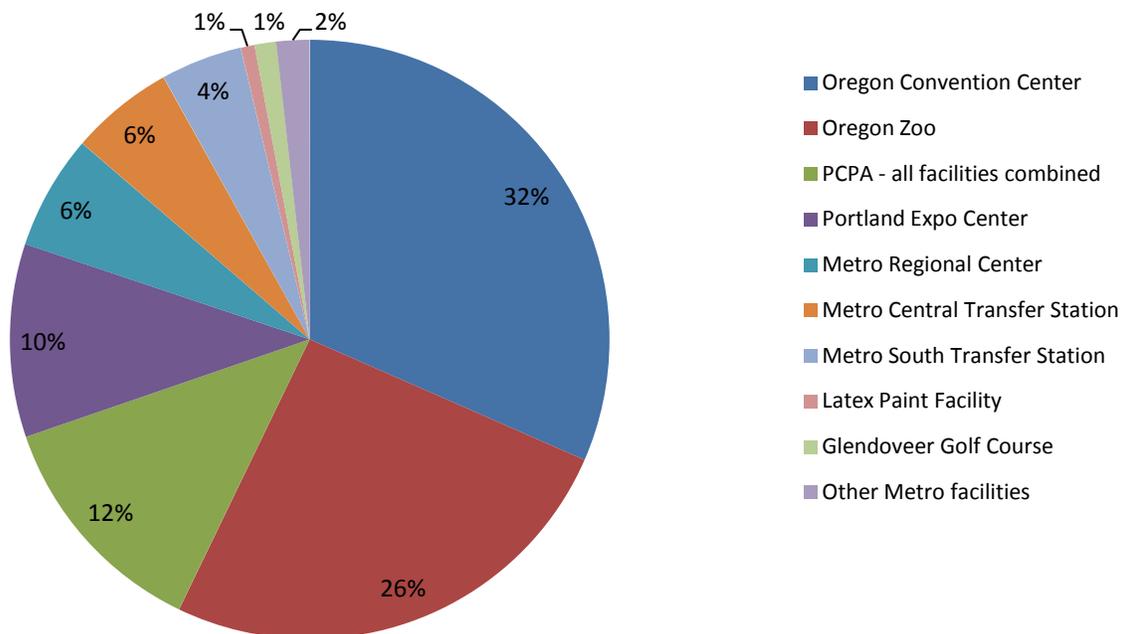
\*\* Return on Investment (ROI) years and projected savings or cost avoidance from energy efficiency projects available from facility managers or Molly Chidsey, either as estimated from ETO during project planning phase or actuals.

List of completed projects does not include a small walkway LED lighting project completed at Metro South Household Hazardous Waste facility in 2011, as the project did not receive any incentive funding from the Energy Trust of Oregon.

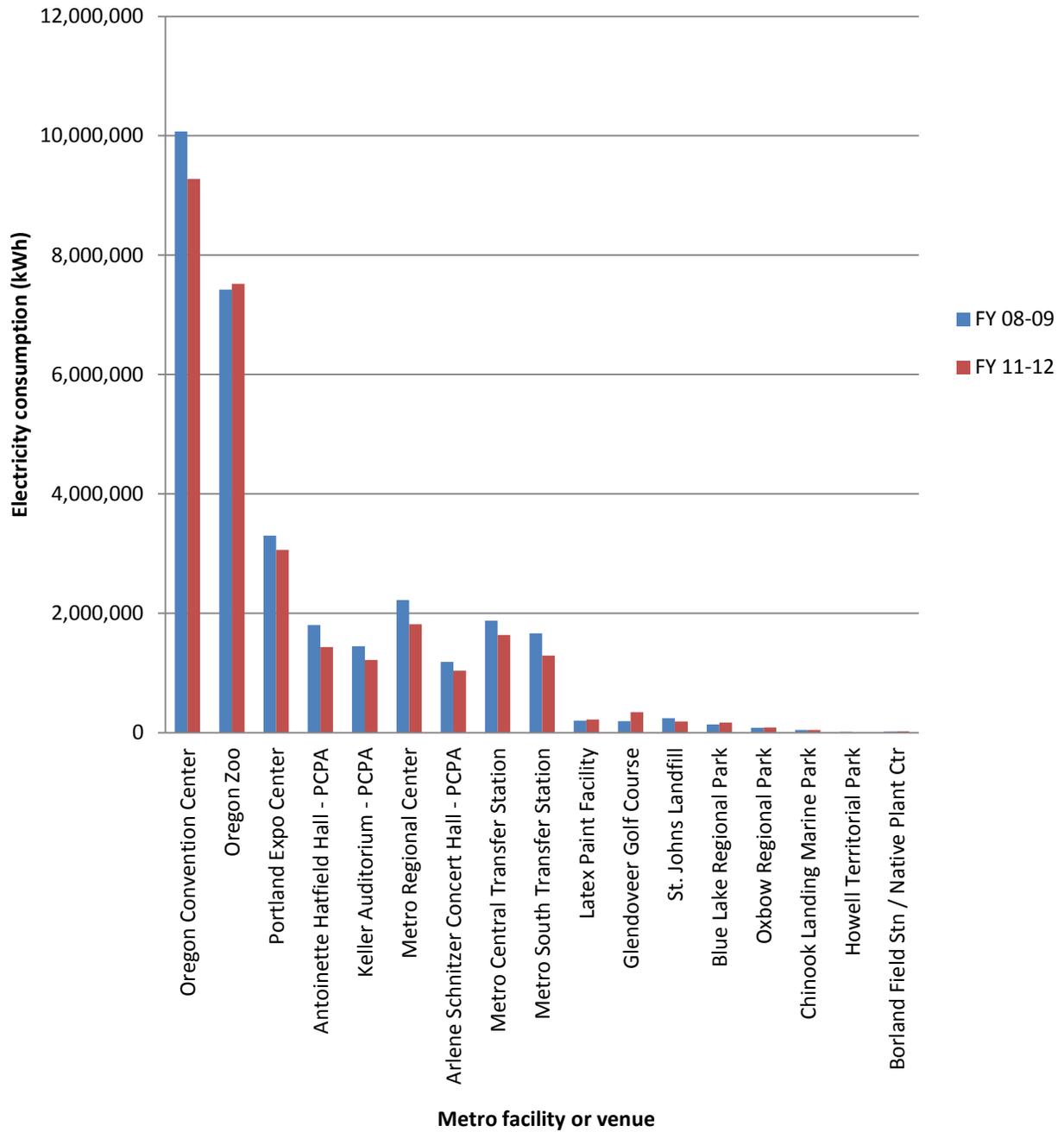
## ELECTRICITY CONSUMPTION (KWH)

Site	FY 08-09	FY 09-10	FY 10-11	FY 11-12	% change over baseline
Oregon Convention Center	10,070,371	10,690,641	10,584,885	9,277,110	-8%
Oregon Zoo	7,420,929	6,943,183	7,187,460	7,518,906	1%
Portland Expo Center	3,300,198	2,995,153	2,874,039	3,062,346	-7%
Antoinette Hatfield Hall - PCPA	1,803,642	1,783,113	1,540,820	1,434,208	-20%
Keller Auditorium - PCPA	1,448,495	1,276,462	1,203,401	1,216,614	-16%
Metro Regional Center	2,220,226	2,222,805	2,183,565	1,818,167	-18%
Arlene Schnitzer Concert Hall - PCPA	1,186,160	1,124,452	1,079,901	1,037,174	-13%
Metro Central Transfer Station	1,878,316	1,919,756	1,805,321	1,637,252	-13%
Metro South Transfer Station	1,662,963	1,670,860	1,336,227	1,292,748	-22%
Latex Paint Facility	200,103	198,694	214,520	218,360	9%
Glendoveer Golf Course	193,122	359,830	338,388	343,885	78%
St. Johns Landfill	243,105	240,321	216,857	186,176	-23%
Blue Lake Regional Park	138,886	156,714	165,040	172,201	24%
Oxbow Regional Park	80,580	77,186	91,846	87,966	9%
Chinook Landing Marine Park	46,390	46,509	46,865	47,101	2%
Howell Territorial Park	14,017	13,425	7,518	4,955	-65%
Borland Field Stn/Native Plant Center	16,825	20,821	22,503	22,594	34%
Cooper Mountain Nature Park	2,686	0	0	0	
Graham Oaks Park	0	291	1,417	1,888	
<b>Annual totals kWh</b>	<b>31,927,014</b>	<b>31,740,216</b>	<b>30,900,573</b>	<b>29,379,651</b>	<b>-8%</b>

### FY 11-12 electricity consumption (kWh) at Metro facilities



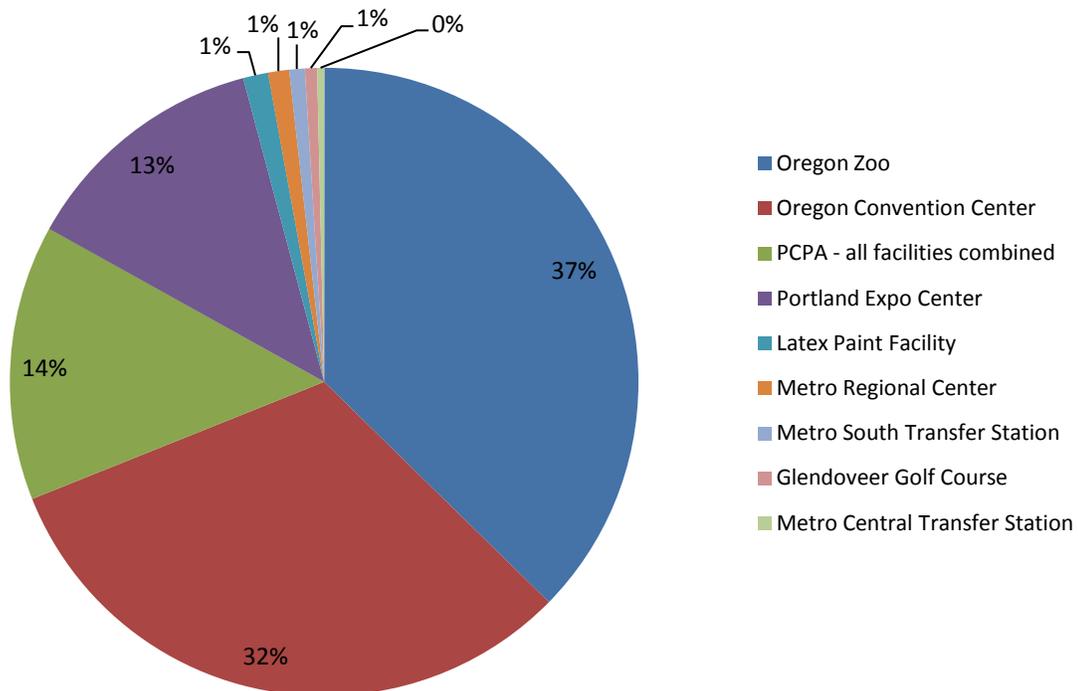
### Electricity usage FY 11-12 compared with FY 08-09 baseline (kWh)



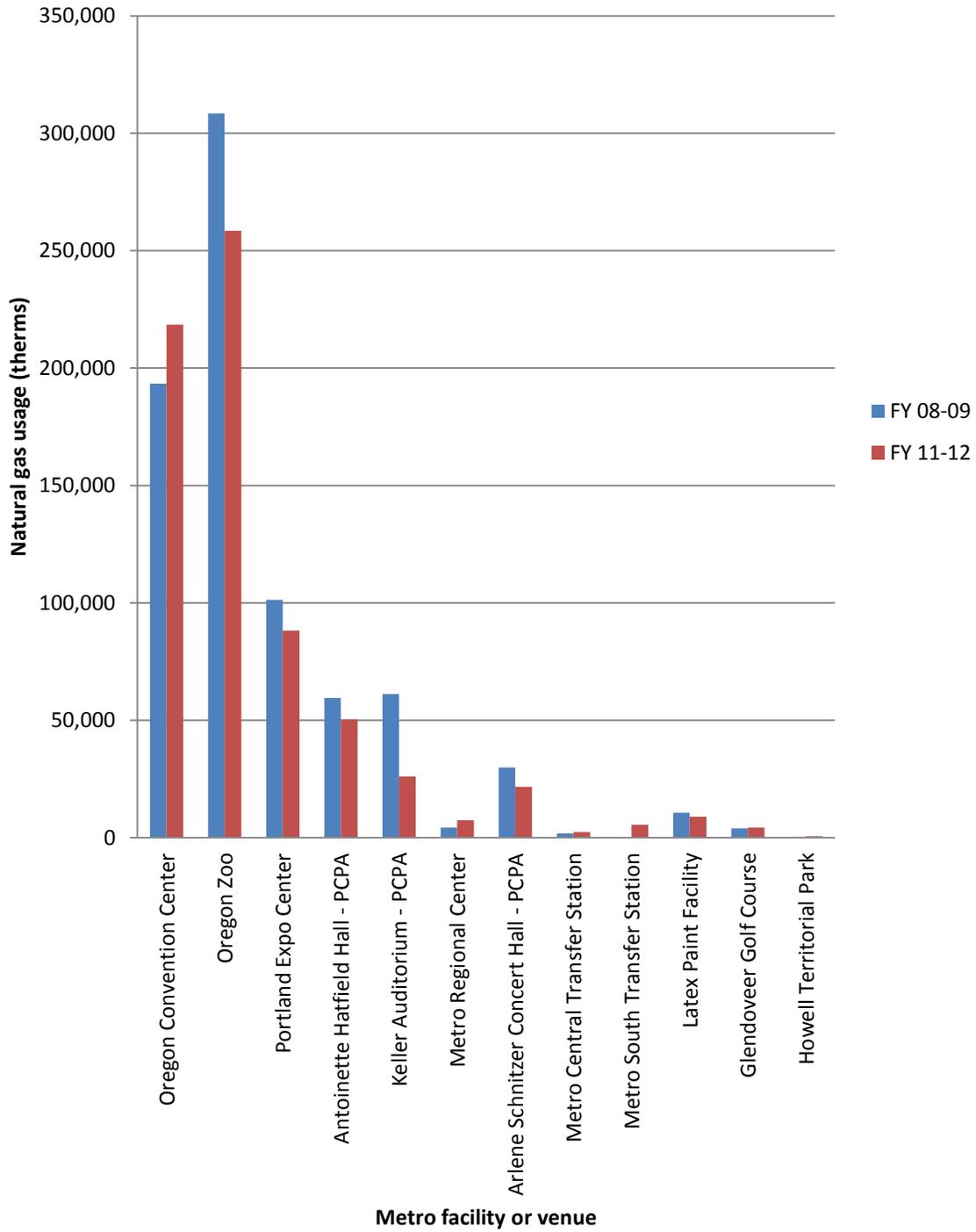
## NATURAL GAS CONSUMPTION, THERMS

Site	FY 08-09	FY 09-10	FY 10-11	FY 11-12	% change over baseline
Oregon Convention Center	193,433	177,651	218,199	218,478	13%
Oregon Zoo	308,392	297,202	345,670	258,480	-16%
Portland Expo Center	101,346	80,225	87,518	88,259	-13%
Antoinette Hatfield Hall - PCPA	59,581	64,237	53,220	50,323	-16%
Keller Auditorium - PCPA	61,138	34,249	36,723	26,096	-57%
Metro Regional Center	4,337	3,842	5,049	7,470	72%
Arlene Schnitzer Concert Hall - PCPA	29,924	28,654	25,154	21,704	-27%
Metro Central Transfer Station	1,836	1,670	2,461	2,469	34%
Metro South Transfer Station	0	0	6,490	5,519	
Latex Paint Facility	10,586	7,750	11,534	8,975	-15%
Glendoveer Golf Course	4,015	4,144	4,364	4,346	8%
Howell Territorial Park	432	382	639	633	47%
<b>Annual totals therms</b>	<b>775,020</b>	<b>700,006</b>	<b>797,021</b>	<b>692,752</b>	<b>-11%</b>

### FY 11-12 natural gas consumption (therms)



**Natural gas usage FY 11-12 compared with FY 08-09 baseline (therms)**

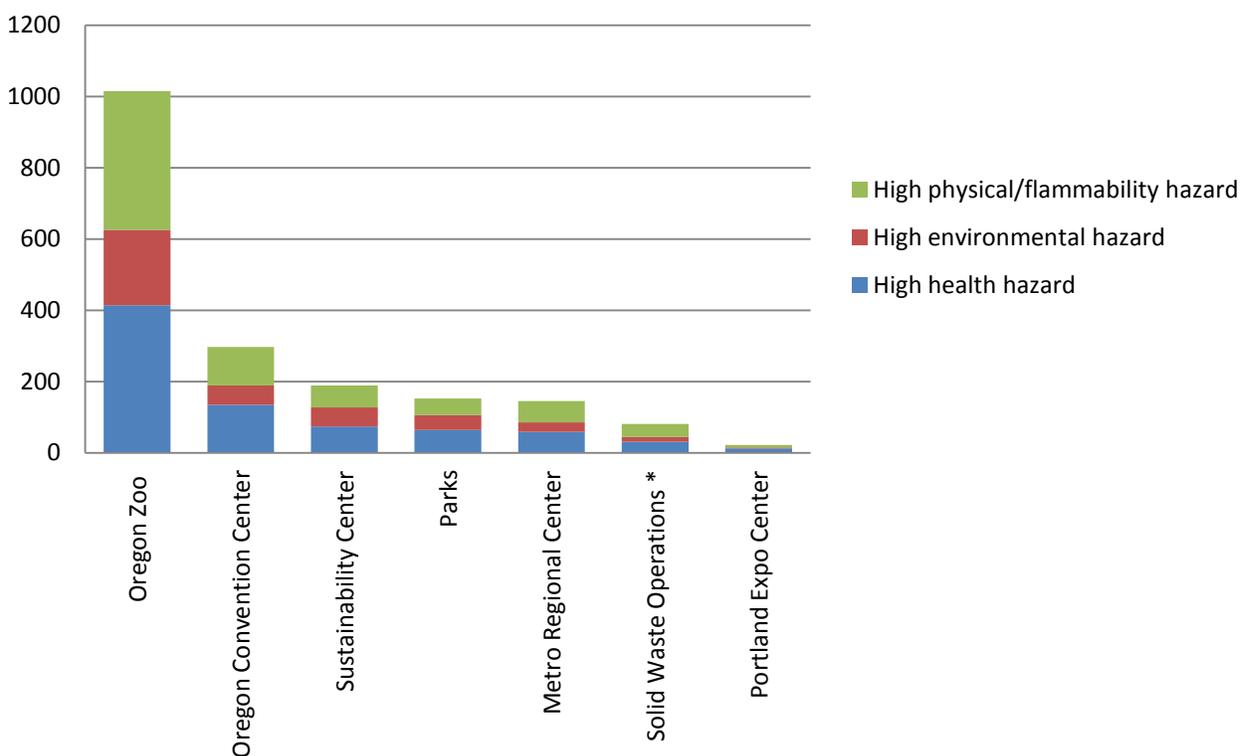


## TOXICS, MEASURED BY NUMBER OF PRODUCTS WITH A HIGH HAZARD RATING IN METRO'S MSDS DATABASE

	Total products in inventory	High health hazard	High environmental hazard	High physical/flammability hazard	Total products with high hazard rating <sup>1</sup>	% with high hazard rating
Oregon Zoo	1,086	414	212	389	547	50%
Oregon Convention Center	249	135	54	108	159	64%
Sustainability Center	177	74	53	62	103	58%
Parks	135	64	42	46	87	64%
Metro Regional Center	163	59	26	60	87	53%
Solid Waste Operations *	89	31	13	37	41	46%
Portland Expo Center	26	12	3	7	12	46%
<b>Totals</b>	<b>1,925</b>	<b>789</b>	<b>403</b>	<b>709</b>	<b>1,036</b>	<b>54%</b>

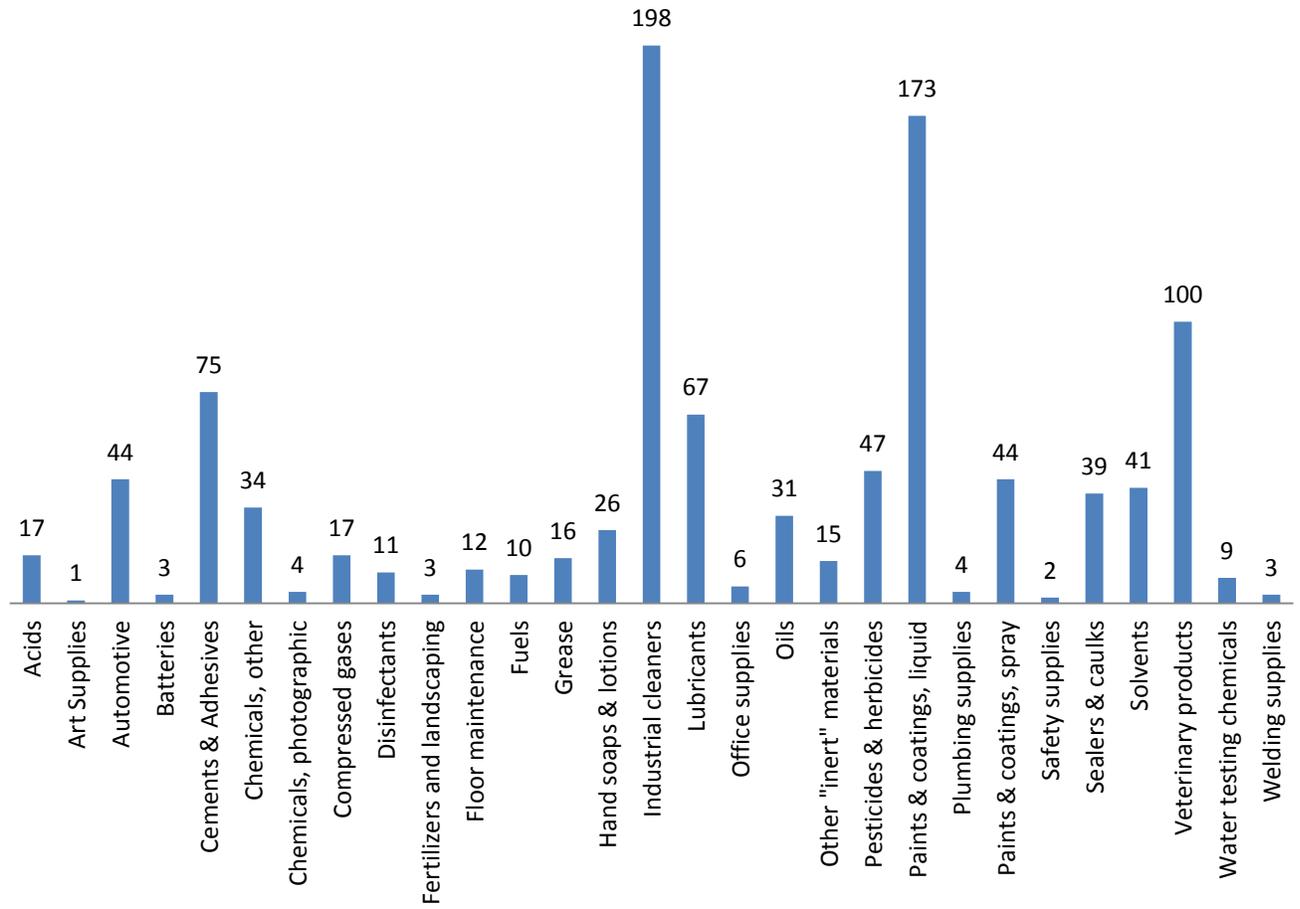
\*Solid Waste Operations includes Metro Central, Metro South, St. Johns Landfill and MetroPaint.

### Number of products with high hazard rating, by location (FY 11-12)



<sup>1</sup> About hazard ratings in Metro's MSDS database, hosted by the Chemical Risk Information System at OHSU: Health ratings are based on criteria including the constituent's acute toxicity, irritant properties, and potential to cause cancer or produce developmental or reproductive toxicity. Environmental ratings are based on the constituent's toxicity to aquatic organisms and other indicator species, persistence and tendency to accumulate in the environment, and potential to damage the ozone layer. Physical hazard ratings consider the constituent's flammability risk level and potential for reactivity. A score of 3 indicates high hazard, 2 indicates intermediate hazard and 1 indicates low hazard.

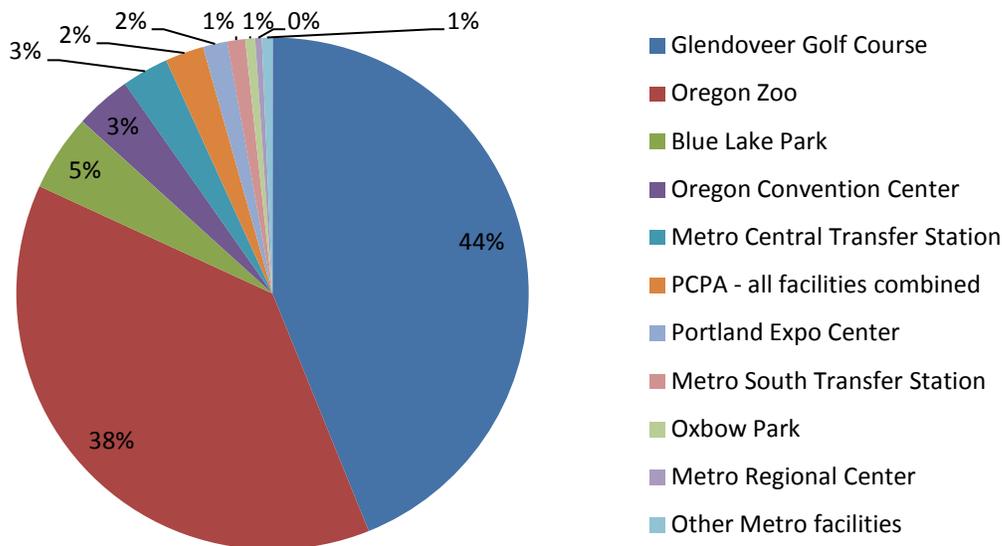
Number of products with high hazard rating, by category (FY 11-12)



## WATER CONSUMPTION (CCF)

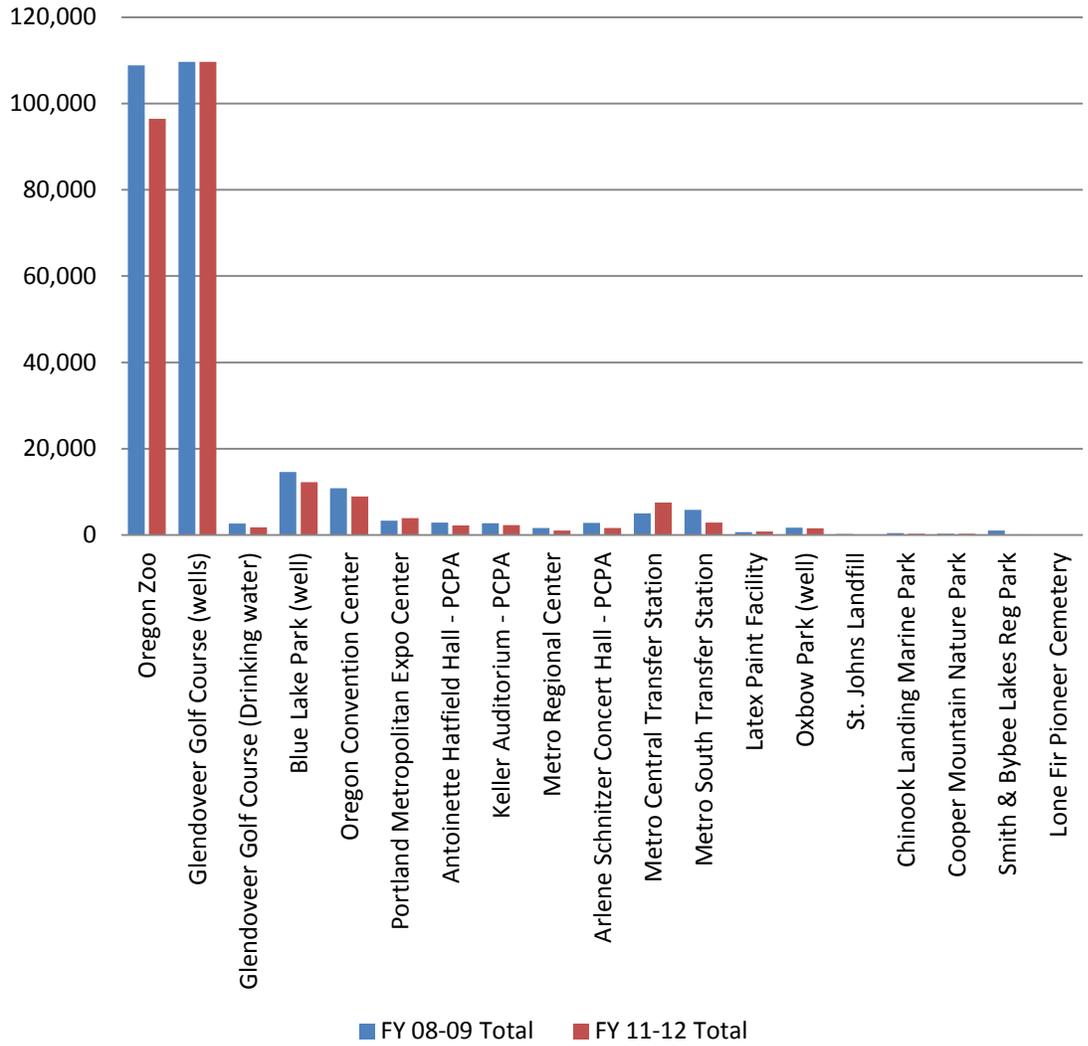
Site	FY 08-09 total	FY 09-10 total	FY 10-11 total	FY 11-12 total	% change over baseline (FY08-09)
Oregon Zoo	108,828	95,586	87,341	96,477	-11%
Glendoveer Golf Course (wells) <sup>2</sup>	109,626	109,626	109,626	109,626	0%
Glendoveer Golf Course (drinking water)	2,633	2,108	1,933	1,778	-32%
Blue Lake Park (well)	14,639	10,194	9,995	12,277	-16%
Oregon Convention Center	10,818	11,016	9,113	8,963	-17%
Portland Metropolitan Expo Center	3,356	3,474	2,837	3,895	16%
Antoinette Hatfield Hall - PCPA	2,850	2,744	2,777	2,254	-21%
Keller Auditorium - PCPA	2,721	2,222	1,964	2,265	-17%
Metro Regional Center	1,662	1,790	1,622	1,055	-37%
Arlene Schnitzer Concert Hall - PCPA	2,823	1,997	2,199	1,649	-42%
Metro Central Transfer Station	4,995	4,283	4,169	7,532	51%
Metro South Transfer Station	5,800	11,192	3,420	2,882	-50%
Latex Paint Facility	668	740	608	784	17%
Oxbow Park (well)	1,671	2,352	1,806	1,559	-7%
St. Johns Landfill	213	121	264	66	-69%
Chinook Landing Marine Park	412	543	538	275	-33%
Cooper Mountain Nature Park	312	918	584	313	0%
Smith & Bybee Lakes Regional Park	1,063	2,203	638	180	-83%
Lone Fir Pioneer Cemetery	40	26	31	73	83%
<b>Grand total (including well water)</b>	<b>275,131</b>	<b>263,134</b>	<b>241,464</b>	<b>253,903</b>	<b>-8%</b>

### FY 11-12 water usage (CCF)



<sup>2</sup> Glendoveer Golf Course irrigation estimates from FY 08-09 through FY10-11 were significantly underestimated (by about 33,400 CCF annually). A flow meter was added to the most-used well on the property in 2011 so FY11-12 usage is a more accurate number. Baseline well water usages for this facility were adjusted to reflect the FY11-12 actuals as a more accurate estimate of previous well water usage for irrigation.

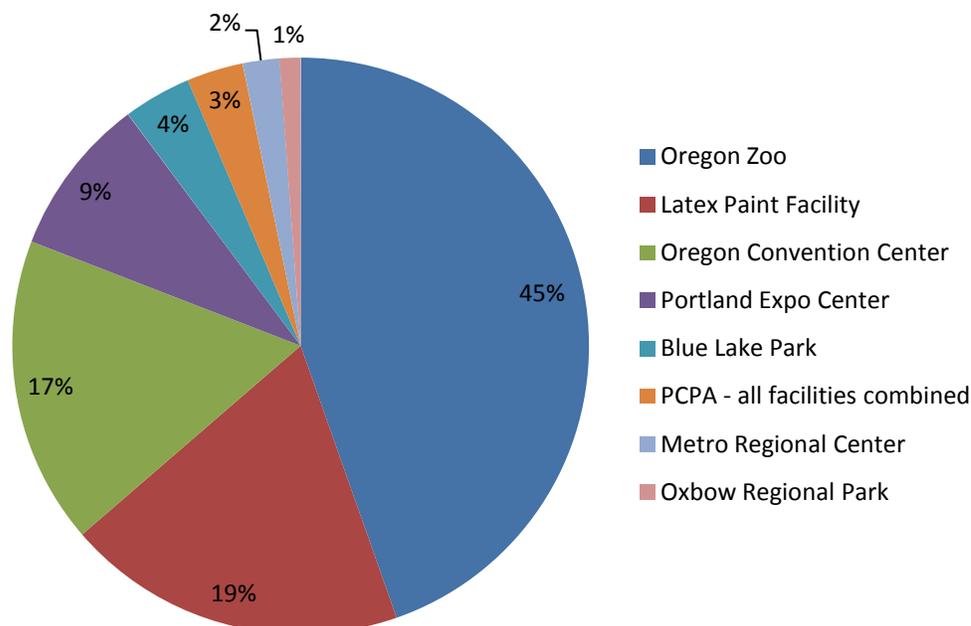
**Water usage FY 11-12 compared with FY 08-09 baseline (CCF)**



## WASTE GENERATION AND RECYCLING

Recycling	Total waste generated	Recycled	Total waste generated (tons)	% Recycled	Recycling diversion % change over baseline (2008)	Waste generation % change over baseline (2008)
	2008	2008	FY11-12	FY11-12		
Metro Regional Center	76	62%	67.2	56.9%	-5.1%	-12%
Oregon Convention Center	472	55%	568.47	69.0%	14.3%	20%
Portland Expo Center	398	13%	293.85	58.1%	45.1%	-26%
Latex Paint Facility <sup>3</sup>	468	29%	627.89	14.7%	-14.3%	34%
Oregon Zoo	1287	69%	1470.74	78.8%	9.8%	14%
Antoinette Hatfield Hall - PCPA	N/A	N/A	25.17	59.2%	N/A <sup>4</sup>	N/A
Arlene Schnitzer Concert Hall - PCPA	N/A	N/A	21.88	15.4%	N/A	N/A
Keller Auditorium - PCPA	N/A	N/A	57.36	42.9%	N/A	N/A
Oxbow Regional Park	N/A	N/A	38.95	8.8%	N/A	N/A
Blue Lake Park			125.78	1.8%	N/A	N/A
Electronics (all facilities)			5.48		N/A	N/A
<b>Totals</b>	<b>2,701</b>	<b>51.1%</b>	<b>3,171.5</b>	<b>59.9%</b>		

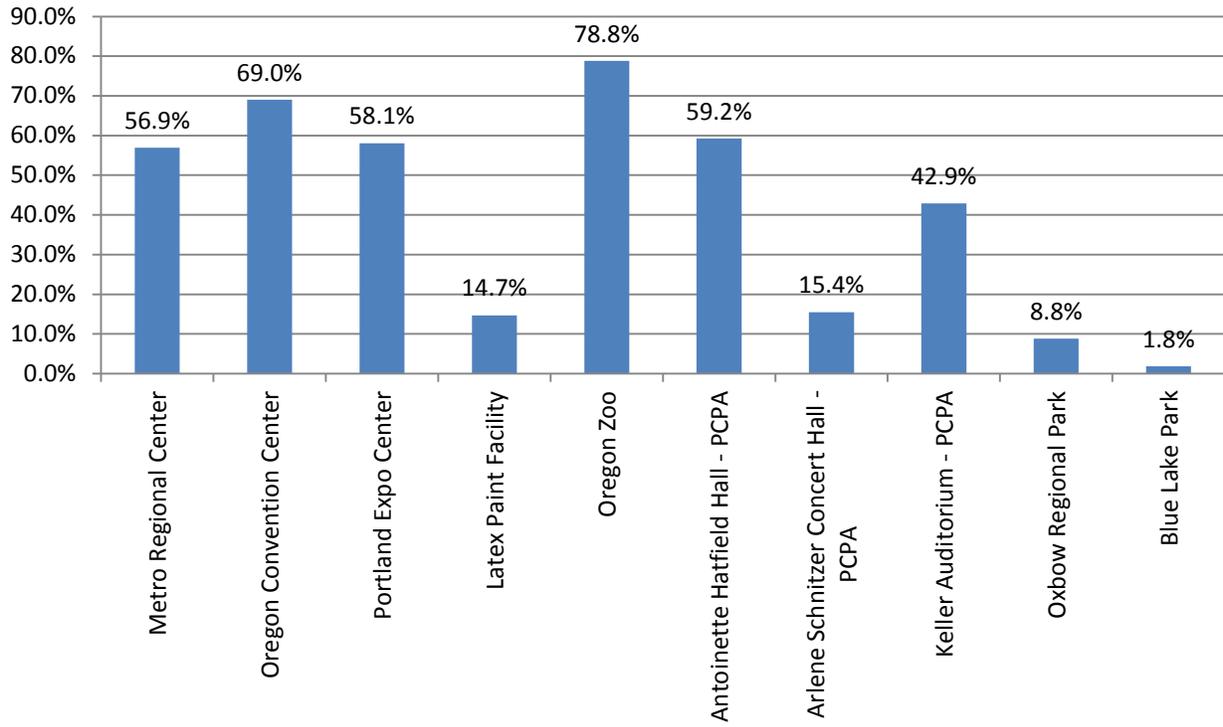
### FY 11-12 total waste generation (waste plus recycling, tons)



<sup>3</sup> PaintCare, a paint recycling program supported by paint manufacturers, launched in July 2010 and MetroPaint is the recycler for paint recovered in this program statewide. Due to significant increases in volumes of paint recycled at the facility in FY11-12 resulting from this program, the waste generation from the facility has also increased due to higher volumes of used paint cans and other wastes collected for processing. The MetroPaint recycling numbers do not include the paint itself, but does include paint cans.

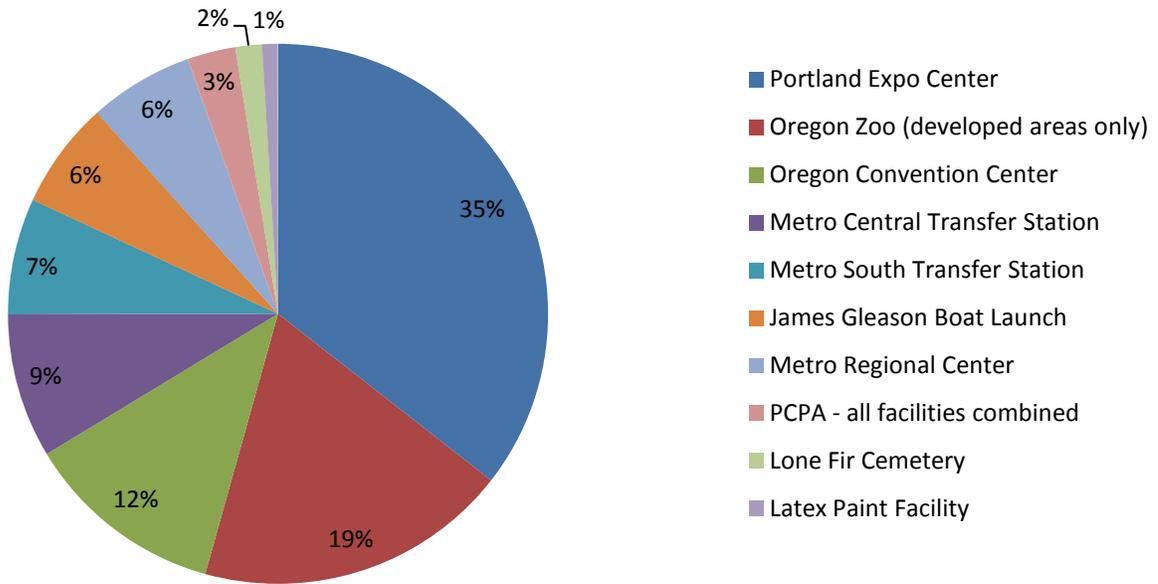
<sup>4</sup> N/A indicates that no data available for 2008 baseline year from which a percent change can be calculated.

### FY 11-12 recycling recovery rate at Metro facilities



## STORMWATER & HABITAT MEASURE: EFFECTIVE IMPERVIOUS AREA

FY 11-12 effective impervious area (square feet)



FY 11-12 effective impervious area (EIA) (sf)

