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Executive Administrator for Facilities
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February 15, 2013

The Honorable Chris Edwards
The Honorable Ben Unger
Co-chairs, Ways and Means Subcommittee on Natural Resources

Via email: to Michelle Deister, Legislative Fiscal Analyst, michelle.deister@state.or.us

Dear Sen. Edwards and Rep. Unger:

As the Ways and Means Subcommittee on Natural Resources considers the Oregon Department of Energy's budget for the next biennium, the Beaverton School District would like to provide the subcommittee with information to consider about the support ODOE has provided to schools under the SB 1149 program.

Our school district has worked closely with the ODOE staff over the past several years to leverage the Public Purpose Charge funding available for K-12 school energy conservation projects. The Department's staff has played a critical role in partnering with our energy conservation professionals in shaping projects that maximized energy savings while tapping the reimbursable funding provided under SB 1149. Over the past several years, Beaverton School District has completed over 200 projects, saving about 31,000 MMbtu/year. These energy retrofit projects, coupled with a conservation program, made it possible for our District to actually reduce energy consumption while adding over one-half million square feet of new building space; we have 31 EPA certified Energy Star schools, 28 Oregon Green Schools, and 39 schools performing at an Energy Use Index within the ODOE target range. And we are saving money; our school district is actually spending \$386,000 per year less on energy utilities today than 5 years ago. Much of this success would not have been achieved without ODOE's support and advice. Although the Public Purpose Charge funding is now distributed directly to school districts, ODOE's technical support role continues and has remained critical to the program. Our overall energy program performance is tracked and reported monthly using a scorecard tool, Attachment (1). Completed SB 1149 projects are tabulated at Attachment (2).

ODOE also engaged school districts in program improvement initiatives during 2012 by reaching out to us individually and in group workshops to gather input. The Department's efforts toward continuous improvement and customer service are noteworthy.

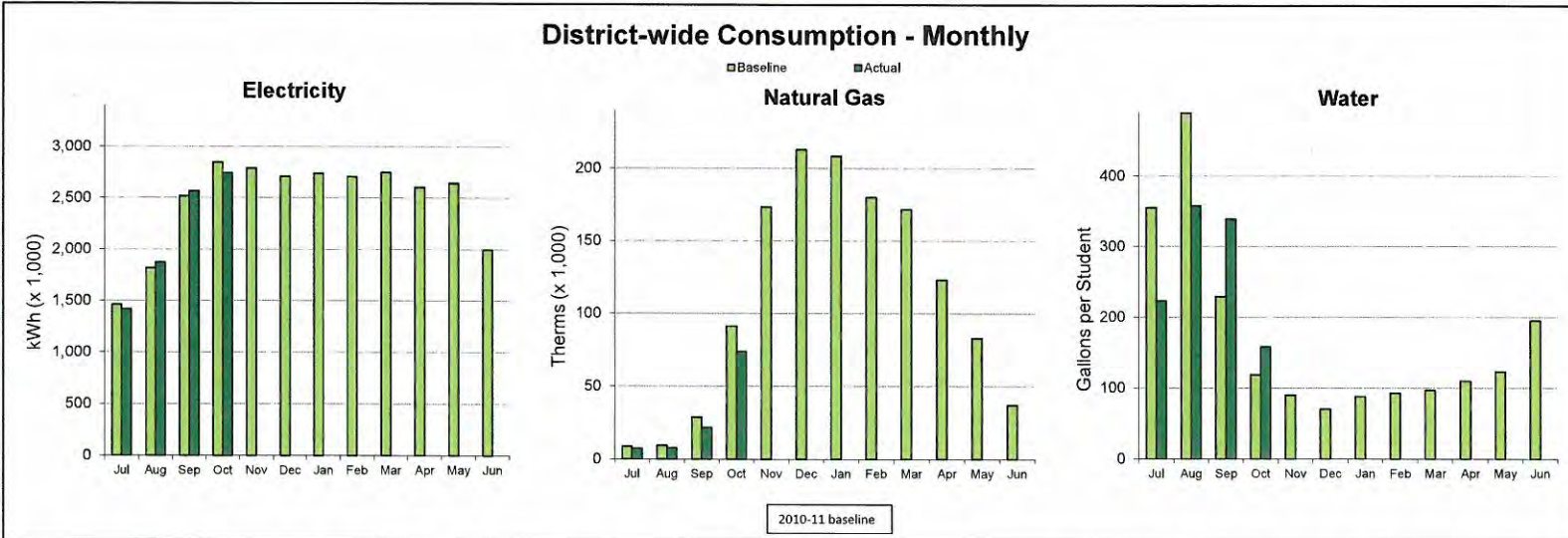
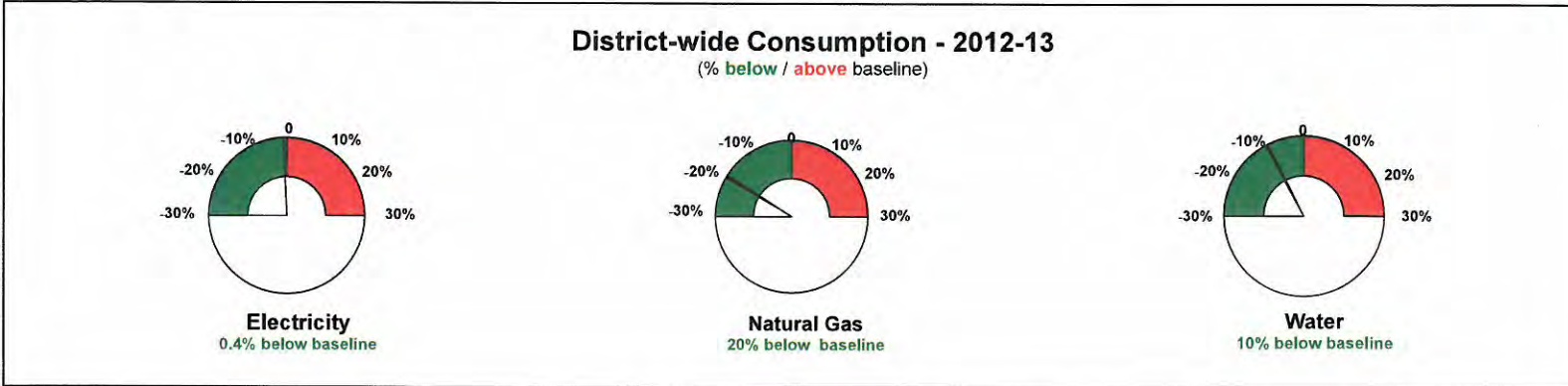
Sincerely,

Richard Steinbrugge, P.E.
Executive Administrator for Facilities

Encls: (1) Beaverton School District Energy Performance Scorecard
(2) Beaverton School District's SB 1149 Program Completed Projects

District Goal for 2010-2015: All students will show continuous progress toward their personal learning goals, developed in collaboration with teachers and parents, and will be prepared for post-secondary education and career success.

The Beaverton School District recognizes the diversity and worth of all individuals and groups. It is the policy of the Beaverton School District that there will be no discrimination or harassment of individuals or groups based on race, color, religion, gender, sexual orientation, gender identity, gender expression, national origin, marital status, age, veterans' status, genetic information or disability in any educational programs, activities or employment.



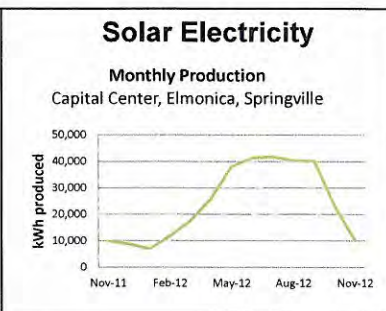
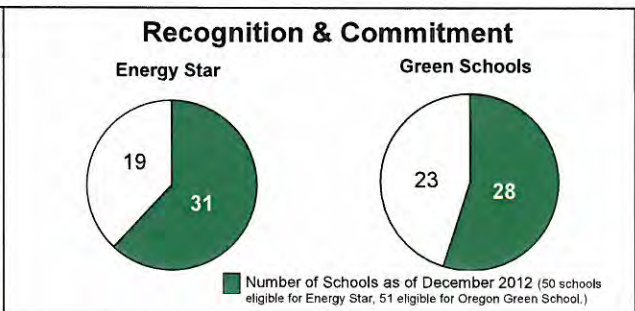
Key Observations

CONGRATULATIONS TO TWO NEW ENERGY STARS SCHOOLS!

McKinley Elementary

McKay Elementary

BSD maintains the distinction of having the most Energy Star Schools in the state of Oregon! See the EPA [map](#).



Beaverton School District Completed Energy Conservation Projects

2/15/2013

Year	School	Measure Description	Project Cost	Electricity Savings (kWh/yr)	Natural Gas Savings (therms/yr)
2004	Fir Grove Elementary School	Upgrade exit lights to Light Panel technology.	\$ 2,423	9,469	
2004	Nancy Ryles Elementary School	Install occupancy sensors and daylighting controls in various areas of building.	\$ 37,178	51,587	
2004	Nancy Ryles Elementary School	Install hot and chilled water supply temperature reset control.	\$ 9,677		680
2004	Aloha Park Elementary	Properly adjust and balance air systems.	\$ 559	5,966	
2004	Barnes Elementary School	Replace existing room thermostats with programmable thermostats.	\$ 389	328	
2004	Bethany Elementary School	Install a BAS/DDC system.	\$ 31,782	30,781	1,796
2004	Bethany Elementary School	Install occupancy sensors to modify room temperature setpoints and air flow rates.	\$ 435	2,760	
2004	Cooper Mountain Elementary School	Retrofit/replace exit signs with LED exit signs.	\$ 3,105	4,862	
2004	Cooper Mountain Elementary School	Install occupancy sensors and dimmers.	\$ 13,643	27,126	
2004	Kinnaman Elementary School	Install DHW pump/tank timers.	\$ 681		1,024
2004	Nancy Ryles Elementary School	Install CO2 sensors for OSA control (referred to as CO2 demand controlled ventilation).	\$ 4,815		791
2004	Nancy Ryles Elementary School	Install occupancy based digital setback thermostats in portable classrooms.	\$ 640	2,500	
2004	Vose Elementary School	Install a BAS/DDC system.	\$ 21,191	7,239	2,682
2004	Vose Elementary School	Install occupancy sensors and dimmers.	\$ 14,246	19,052	
2004	Vose Elementary School	Install occupancy sensors in the portable classrooms	\$ 1,293	4,286	
2004	Five Oaks Middle	Install only One New Condensing Hot Water Boiler	\$ 80,400		11,265
2004	Five Oaks Middle	Install New Domestic Hot Water System and Kitchen Dishwasher Booster Heater	\$ 20,742	29,160	-411
2004	Beaver Acres Elementary School	Install thermostatic control valves on radiators.	\$ 901		170
2004	Fir Grove Elementary School	Install thermostatic control valves on radiators.	\$ 336		100
2004	Fir Grove Elementary School	Reconfigure lighting circuits and replace incandescents with CFL	\$ 195	1,790	
2004	Nancy Ryles Elementary School	Reprogram EMS controls, chillers locked out at outside temperatures below 64 degrees	\$ 247	5,274	680
2004	Scholls Heights Elementary School	If BAS/DDC/EMS system exists, set up optimum start/stop (close outside air damper when unoccupied	\$ 43	24,319	467
2004	West Tualatin View Elementary School	Install thermostatic control valves on radiators.	\$ 1,136		544
2004	Cooper Mountain Elementary School	Close all outdoor dampers when equipment is shut off and when building is unoccupied	\$ 167		403
2005	Bethany Elementary School	Disconnect Exhaust Fans in Unused Heated Shower Room	\$ 1,197	4,298	620
2005	Bethany Elementary School	Eliminate heat duct in storage space	\$ 449		199
2005	Bethany Elementary School	Install DHW pump/tank timers.	\$ 386	3,340	197
2005	Bethany Elementary School	Delamp.	\$ 8,303	12,168	
2005	Bethany Elementary School	Install occupancy sensors and dimmers.	\$ 21,349	30,867	
2005	Scholls Heights Elementary School	Install CO2 sensors for OSA control (referred to as CO2 demand controlled ventilation).	\$ 8,536	12,108	689
2005	Scholls Heights Elementary School	Install occupancy sensors and dimmers.	\$ 7,162	11,394	
2005	Scholls Heights Elementary School	Install daylighting controls (with dimming ballasts).	\$ 1,235	11,040	
2005	Scholls Heights Elementary School	Installed Keyed switches to effectively delamp 3 tube fixture	\$ 1,850	16,174	
2005	Scholls Heights Elementary School	Replace Metal Halide with CFL	\$ 2,887	3,373	
2005	Scholls Heights Elementary School	Re-Commission Lighting Control Panel	\$ 2,490	16,852	
2005	Terra Linda Elementary School	Reconfigure and reduce the number of light fixtures.	\$ 6,475	8,078	
2005	Arts & Communication High	Tune up boiler by adjusting air-fuel ratio.	\$ 89		333
2005	Beaver Acres Elementary School	Install occupancy sensors and dimmers.	\$ 19,747	25,164	
2005	Raleigh Hills Elementary School	Replace incandescent with compact fluorescent lamps (CFL).	\$ 14,683	9,758	
2005	Raleigh Hills Elementary School	Install occupancy sensors and dimmers.	\$ 25,071	12,198	
2005	Terra Linda Elementary School	Install occupancy sensors in the portable classrooms	\$ 2,239	1,060	
2005	Terra Linda Elementary School	Install occupancy sensors and dimmers.	\$ 2,607	2,700	
2005	West Tualatin View Elementary School	Install occupancy sensors and dimmers.	\$ 23,364	16,242	
2005	Conestoga Middle School	Install occupancy sensors and dimmers.	\$ 2,175	2,200	
2005	Conestoga Middle School	In portable buildings, install occupancy sensors to classrooms.	\$ 2,175	2,534	
2005	Five Oaks Middle	Install a variety of new lighting controls	\$ 34,032	60,612	
2005	Five Oaks Middle	Upgrade Lighting systems and components	\$ 52,957	28,119	
2005	Aloha Park Elementary	Install timer on Domestic water heater in Annex	\$ 791	5,020	

Beaverton School District Completed Energy Conservation Projects

2/15/2013

Year	School	Measure Description	Project Cost	Electricity Savings (kWh/yr)	Natural Gas Savings (therms/yr)
2005	Aloha Park Elementary	Install weather stripping at exterior doors in Modular Annex.	\$ 131	1,255	
2005	Barnes Elementary School	Tune up boiler by adjusting air-fuel ratio.	\$ 252		175
2005	Barnes Elementary School	Remove / clean items obstructing interior and exterior of the heating and cooling coils.	\$ 146	810	54
2005	Beaver Acres Elementary School	Replace incandescent with compact fluorescent lamps (CFL).	\$ 9,441	20,944	
2005	Cooper Mountain Elementary School	Tune up boiler by adjusting air-fuel ratio.	\$ 223		841
2005	Fir Grove Elementary School	Change indoor incandescent to T8 or T5 four foot fluorescent or HID's.	\$ 367	4,028	
2005	Fir Grove Elementary School	Tune up boiler by adjusting air-fuel ratio.	\$ 89		1,000
2005	Fir Grove Elementary School	Modify exterior lighting circuit to include timeclock. Replace incandescents	\$ 3,981	6,450	
2005	Kinnaman Elementary School	Replace worn and/or broken weather-stripping and caulking.	\$ 748	369	55
2005	Raleigh Hills Elementary School	Tune up boiler by adjusting air-fuel ratio.	\$ 134		318
2005	Raleigh Hills Elementary School	Repair steam traps	\$ 253		923
2005	Scholls Heights Elementary School	If BAS/DDC/EMS system exists, set up discharge water temperature reset.	\$ 234	8,643	1,010
2005	Five Oaks Middle	Tune up boiler by adjusting air-fuel ratio.	\$ 111		589
2005	Aloha High School	If BAS/DDC/EMS system exists, set up economizer.	\$ 111		4,410
2005	Aloha High School	If BAS/DDC/EMS system exists, set up discharge air temperature reset.	\$ 111		971
2005	Aloha High School	Install a switch that prevents activation of heating and cooling units when doors are open	\$ 1,688	790	394
2005	Arts & Communication High	Install thermostatic control valves on radiators.	\$ 2,879		440
2005	Hiteon Elementary School	Occupancy Sensors	\$ 22,779	28,798	
2006	Aloha Park Elementary	Retrofit/replace exit signs with LED exit signs.	\$ 857	4,543	
2006	Chehalem Elementary School	Delamp.	\$ 11,000	13,823	
2006	Chehalem Elementary School	Install occupancy sensors and dimmers.	\$ 22,492	41,547	
2006	Chehalem Elementary School	Install DHW pump/tank timers.	\$ 3,236	6,662	197
2006	Chehalem Elementary School	Eliminate roof vent that is exhausting conditioned air from storage space	\$ 308		371
2006	Chehalem Elementary School	Disconnect Exhaust Fans in Unused Shower Rooms	\$ 550	3,379	405
2006	Cooper Mountain Elementary School	Install a BAS/DDC system.	\$ 32,662	19,961	6,425
2006	Fir Grove Elementary School	Install a BAS/DDC system.	\$ 19,324	10,723	2,313
2006	Hiteon Elementary School	Install a BAS/DDC system.	\$ 19,155	9,676	2,545
2006	Kinnaman Elementary School	Install a BAS/DDC system.	\$ 49,453	4,768	3,452
2006	Kinnaman Elementary School	Install occupancy sensors and dimmers.	\$ 20,289	35,730	
2006	Kinnaman Elementary School	Separate Exit Light & Egress Light from corridor lighting circuits, provide local switching	\$ 2,370	3,272	
2006	West Tualatin View Elementary School	Install a BAS/DDC system.	\$ 31,720	1,948	1,761
2006	Hiteon Elementary School	Delamp and reballast T8s	\$ 1,892	5,039	
2006	Barnes Elementary School	Install New Weather Stripping on Doors	\$ 872	298	60
2006	Bethany Elementary School	Repair Door Weatherstripping	\$ 518	879	61
2006	Scholls Heights Elementary School	Weather Strip Exterior Door	\$ 184		5
2006	Aloha High School	Adjust dampers and damper actuators for proper function.	\$ 11,400		971
2006	Arts & Communication High	Install New Weather Stripping	\$ 267	88	
2006	Aloha Park Elementary	Replace exterior bulbs on Portable classrooms with CFL's.	\$ 459	2,621	
2006	Terra Linda Elementary School	Replace exterior incandescent lamps with more efficient types such as HPS or MH.	\$ 2,762	667	
2006	West Tualatin View Elementary School	Change indoor incandescent to T8 or T5 four foot fluorescent or HID's.	\$ 1,261	2,130	
2006	Conestoga Middle School	Replace incandescent with compact fluorescent lamps (CFL).	\$ 581	757	
2006	Raleigh Hills Elementary School	Review DDC Programming for Optimal Energy Efficiency - Savings in *months*	\$ -	2,092	133
2006	Fir Grove Elementary School	Install occupancy sensors and dimmers.	\$ 22,413	27,337	
2006	Terra Linda Elementary School	Install DHW pump/tank timers.	\$ 777	8,105	
2006	Arts & Communication High	Reprogram existing controls, install motorized steam valves for additional zoning.	\$ 3,731	1,434	264
2006	Arts & Communication High	Calibrate all sensors (e.g., temperature, pressure, CO2)	\$ 392		689
2006	Southridge High School	Place emergency egress lighting under control of lighting computers & tie to security system.	\$ 6,939	32,850	
2007	Fir Grove Elementary School	Install instant DHW heaters.	\$ 11,615	3	

Beaverton School District Completed Energy Conservation Projects

2/15/2013

Year	School	Measure Description	Project Cost	Electricity Savings (kWh/yr)	Natural Gas Savings (therms/yr)
2007	Fir Grove Elementary School	Install occupancy sensors to modify room temperature setpoints and air flow rates.	\$ 8,587	10,941	
2007	Aloha Park Elementary	Install occupancy sensors and dimmers.	\$ 13,530	15,400	
2007	Aloha Park Elementary	Install occupancy sensors and dimmers.	\$ 3,140	11,100	
2007	Aloha High School	Install occupancy sensors and dimmers.	\$ 65,157	129,750	
2007	Aloha High School	Update DDC system to improve HVAC scheduling & reduce operating hours of HVAC	\$ 39,216	30,520	
2007	Aloha High School	Dissociate domestic H/W from steam boiler. Install new high efficiency hot water boilers.	\$ 66,623		20,248
2007	Aloha High School	Install CO2 sensors for OSA control (referred to as CO2 demand controlled ventilation).	\$ 14,196	1,337	1,198
2007	Aloha High School	Upgrade inefficient chillers.	\$ 30,507	63,949	
2007	Greenway Elementary School	Install occupancy sensors and dimmers.	\$ 10,576	14,734	
2007	Greenway Elementary School	Install wall occupancy sensors on lighting in storage areas, offices, & restrooms.	\$ 8,512	3,185	
2007	Montclair Elementary School	Total lighting retrofit including T12 to T8 conversion, incandescent to CFL	\$ 10,594	10,075	
2007	Oak Hills Elementary School	Total lighting retrofit including T12 to T8 conversion, incandescent to CFL	\$ 9,692	2,418	
2007	Oak Hills Elementary School	Install occupancy sensors and dimmers.	\$ 11,178	17,962	
2007	Oak Hills Elementary School	Implement Night Blackout. Turn off egress lights (except exit signs) when building security is locked out	\$ 5,519	11,379	
2008	Beaver Acres Elementary School	Energy Mgmt System Upgrade: Optimal start/stop of Gym and Cafeteria fans & boilers.	\$ 29,790	2,486	772
2008	Westview High School	Install a BAS/DDC system.	\$ 125,417	57,723	9,425
2008	Montclair Elementary School	Implement Night Blackout inside school. Turn off all interior egress lights off except exit signs	\$ 7,905	4,765	
2008	Montclair Elementary School	Install daylighting controls (using on/off not dimming)	\$ 10,676	4,405	
2008	Montclair Elementary School	Install occupancy sensors and dimmers.	\$ 15,657	8,395	
2008	Montclair Elementary School	Retro-Commission existing DDC to ensure proper operation of Optimal Start/Stop	\$ 3,307	4,296	1,069
2008	Montclair Elementary School	Install CO2 sensors for OSA control (referred to as CO2 demand controlled ventilation).	\$ 3,748	979	693
2008	Greenway Elementary School	Install new high-efficiency heat pumps in the Modular building.	\$ 103,132	12,600	
2008	Greenway Elementary School	Install DCV (CO2 sensor) in gym, install VFD on gym supply fan motor, decrease damper setting	\$ 15,618	2,066	408
2008	Greenway Elementary School	Install keyed light switches or delamp in several overlit classrooms, offices, & conference rooms	\$ 3,117	3,840	
2008	Greenway Elementary School	Reprogram DDC controls for the Modular heat pumps to improve Optimal Start Stop (OSS).	\$ 1,545	2,442	
2008	Oak Hills Elementary School	Retro-Commission existing DDC system to ensure proper operation of: Schedule of operation	\$ 16,729	4,127	1,641
2009	Aloha Park Elementary	Correct programming bugs in the DDC channel controlling the boiler hot water supply pumps.	\$ 178	3,054	1,687
2009	Cedar Mill Elementary School	Install N2 communicating thermostats, allowing 365-day scheduling, OSS & remote control	\$ 1,979	1,081	203
2009	Barnes Elementary School	Replace incandescent with compact fluorescent lamps (CFL).	\$ 14,764	10,438	
2009	Barnes Elementary School	Install occupancy sensors and dimmers.	\$ 16,700	14,432	
2009	Mc Kinley Elementary School	Retrofit/replace exit signs with LED exit signs.	\$ 2,500	5,974	
2009	Mc Kinley Elementary School	Install occupancy sensors and dimmers.	\$ 12,000	7,604	
2009	Mc Kinley Elementary School	Delamp.	\$ 500	1,348	
2009	Mc Kinley Elementary School	Implement "Dark School" at night with security system	\$ 9,500	17,321	
2009	Hazeldale Elementary School	Install efficient ballasts with T8 or T5 lamps.	\$ 763	616	
2009	Cedar Mill Elementary School	Tie (4) bathroom exhaust fans into DDC system & tie into the building scheduling.	\$ 222	6,238	
2009	Bethany Elementary School	Maintain refrigerator door seals.	\$ 738	982	
2009	Chehalem Elementary School	Modify HVAC Time Clock Schedule to Match Building Use	\$ 156	5,919	735
2009	Terra Linda Elementary School	Install time clocks or other controls to shutoff exhaust system when not needed.	\$ 596	2,364	302
2009	Cedar Mill Elementary School	Install switch-mount or wall-mount occupancy sensors in small offices, restrooms & storage rooms	\$ 1,278	1,374	
2009	Southridge High School	Place DHW circ pumps under control of the BAS system to reduce operation of DWH system	\$ 787	13,959	
2009	Barnes Elementary School	Expand Existing DDC System for more efficient control.	\$ 2,269	2,660	
2009	Beaver Acres Elementary School	Replace failed dampers with new low leakage models.	\$ 2,119		256
2009	Southridge High School	If BAS/DDC/EMS system exists, set up discharge water temperature reset.	\$ 525		581
2009	Westview High School	Utility Accounting Software and Training	\$ 13,495	10,711	954
2010	Raleigh Hills Elementary School	Downsize boiler to match load.	\$ 99,995		4,832
2010	Raleigh Hills Elementary School	Repair/replace pipes and insulation.	\$ 187		72
2010	Raleigh Park Elementary School	Retro-Commission DDC System	\$ 10,125	14,203	996

Beaverton School District Completed Energy Conservation Projects

2/15/2013

Year	School	Measure Description	Project Cost	Electricity Savings (kWh/yr)	Natural Gas Savings (therms/yr)
2010	Raleigh Park Elementary School	Hot water reset for office heating loop	\$ 10,125		57
2010	Kinnaman Elementary School	Install a higher efficiency boiler.	\$ 90,739		4,557
2010	Kinnaman Elementary School	Install separate AC Unit for computer room. Computer room is driving central system	\$ 16,832	2,221	410
2010	Aloha Park Elementary	Install a higher efficiency boiler.	\$ 64,895		5,096
2010	Scholls Heights Elementary School	Install a higher efficiency boiler.	\$ 71,231		3,761
2010	Mc Kay Elementary School	Install 90% plus condensing heater.	\$ 6,409		408
2010	Mc Kinley Elementary School	Install a higher efficiency boiler.	\$ 78,125		2,815
2010	Mc Kinley Elementary School	Install 90% plus condensing heater.	\$ 10,000		290
2010	Westview High School	Install Communicating Thermostats in Portable Classrooms	\$ 13,839	12,591	
2010	Mc Kinley Elementary School	Expand Automatic HVAC & DHW Controls	\$ 29,216	17,374	1,883
2010	Aloha High School	Replace exterior incan with CFL fixtures (ba2)	\$ 1,784	2,205	
2010	Highland Park Middle School	Replace exterior incan with CFL fixtures (ba2)	\$ 2,086	2,678	
2010	Sexton Mountain Elementary School	Replace exterior incan with CFL fixtures (ba2)	\$ 3,795	6,143	
2010	Greenway Elementary School	Install basic DDC system in the boiler room, controlling the boiler & related systems.	\$ 6,904		1,077
2010	Mc Kay Elementary School	Retrofit/replace exit signs with LED exit signs.	\$ 4,526	1,752	
2010	Mc Kay Elementary School	Upgrade exterior incandescent lighting to CFLs	\$ 556	2,453	
2011	Mc Kay Elementary School	Insulate ceiling (batt/blow).	\$ 900		366
2011	Mc Kay Elementary School	Install daylighting controls (using on/off not dimming)	\$ 10,950	7,601	-177
2011	Whitford Middle School	Install 90% plus condensing heater.	\$ 40,030		692
2011	Whitford Middle School	Total lighting retrofit including T12 to T8 conversion, incandescent to CFL, and other modifications	\$ 43,363	46,411	
2011	Whitford Middle School	Install occupancy sensors and dimmers.	\$ 3,749	6,739	
2011	Whitford Middle School	Install occupancy sensors and dimmers.	\$ 24,362	16,907	
2011	Whitford Middle School	Install local switches.	\$ 1,710	13,809	
2011	Whitford Middle School	Repair or replace broken or missing insulation on pipes.	\$ 500		30
2011	Rock Creek Elementary School	Install a higher efficiency boiler.	\$ 144,500		3,043
2011	Rock Creek Elementary School	Replace 8 low efficiency heat pump roof top units with high efficiency heat pump units	\$ 92,565	31,021	
2011	Rock Creek Elementary School	Expand existing DDC controls to provide enhanced control strategies, Optimal Start/stop	\$ 123,690	20,714	2,580
2011	Rock Creek Elementary School	Insulate piping and auxiliary equipment.	\$ 12,500		2,031
2011	Rock Creek Elementary School	Install 90% plus condensing heater.	\$ 32,890		215
2011	Arts & Communication High	Downsize boiler to match load.	\$ 96,968		4,581
2011	Arts & Communication High	Insulate piping and auxiliary equipment.	\$ 1,200		490
2011	Westview High School	Install a higher efficiency boiler.	\$ 185,788		17,848
2011	Rock Creek Elementary School	Replace single pane windows with new double pane, low-e, argon-filled windows	\$ 134,301	465	3,450
2011	Rock Creek Elementary School	Replace exterior incandescent lamps with more efficient types such as HPS or MH.	\$ 8,450	2,393	
2011	Mc Kay Elementary School	Replace steam boilers with condensing hot water boilers.	\$ 203,629	-4,935	3,932
2011	Whitford Middle School	Install a higher efficiency boiler.	\$ 259,279		9,460
2011	Whitford Middle School	Install DDC System (combines Measure ID 5771 and 5772)	\$ 125,932	18,106	11,730
2011	Arts & Communication High	Repair steam traps	\$ 14,520		612
2011	Mc Kay Elementary School	New North wing, Gym, and Cafeteria HVAC systems with controls retrofit	\$ 349,700	41,023	1,874
2011	Rock Creek Elementary School	Install occupancy sensors and dimmers.	\$ 12,595	12,869	
2012	Cedar Mill Elementary School	Reconfigure and reduce the number of light fixtures.	\$ 5,249	31,038	
2012	Cedar Mill Elementary School	Install occupancy sensors and dimmers.	\$ 13,612	17,367	
2012	Mountain View Middle School	Install daylighting controls (using on/off not dimming)	\$ 4,203	3,267	
2012	Mountain View Middle School	Replace incandescent fixtures w/ linear fluorescent, exit signs to LED exit signs	\$ 11,395	19,309	
2012	Mountain View Middle School	Install occupancy sensors	\$ 5,137	2,741	-5
2012	Arts & Communication High	Install occupancy sensors and dimmers.	\$ 28,816	11,608	
2012	Westview High School	Install daylighting controls (using on/off not dimming)	\$ 10,869	20,988	
2012	Westview High School	Total lighting retrofit including T12 to T8 conversion, incandescent to CFL, and other modifications	\$ 24,055	78,108	

Beaverton School District Completed Energy Conservation Projects

2/15/2013

Year	School	Measure Description	Project Cost	Electricity Savings (kWh/yr)	Natural Gas Savings (therms/yr)
2012	Westview High School	Separate Security Input to Lighting Controls from Energy Management System	\$ 2,710	7,200	
2012	Westview High School	Replace Metal Halide fixtures with Linear Fluorescent fixtures (Entry corridor & Student Center)	\$ 52,604	22,709	
2012	Highland Park Middle School	Install Occupancy Sensors in Classrooms, Workrooms and Fitness Gymnasium	\$ 37,720	16,217	-30
2012	Highland Park Middle School	Replace incandescent fixtures with linear fluorescent and compact fluorescent fixtures.	\$ 10,715	16,083	-20
2012	Meadow Park Middle School	Update lighting fixtures	\$ 13,976	3,383	
2012	Meadow Park Middle School	Install Occupancy Sensors various rooms	\$ 40,385	168,902	
2012	Westview High School	Install CO2 sensors for OSA control (referred to as CO2 demand controlled ventilation).	\$ 47,029	2,948	11,972
2013	Cooper Mountain Elementary School	Install a higher efficiency boiler.	\$ 111,376		5,714
2013	Meadow Park Middle School	Installation of condensing boiler, condensing DWH, and upgrade to HVAC controls	\$ 308,390	120,158	20,561
2013	Highland Park Middle School	Installation of 2 condensing boilers, condensing DWH, and expansion of HVAC controls	\$ 268,095	10,779	16,389
			\$ 4,968,142	2,198,714	236,825