

Alameda Unified School District

Earth Day Report Facility Energy Consumption & Waste Recycling Activities

April 9, 2013

Report Highlights

- An update on AUSD facility use of electrical, natural gas and water consumption
- An update on AUSD “Go Green” recycling initiatives
- Additional actions recommended to proceed toward AUSD’s conservation goals

AUSD Environmental Stewardship Goals

AUSD's 2009 goals concerning energy and public utility use were as follows:

- Reduce consumption of energy by 5% annually for three years.
- Reduce water consumption by 10%.

AUSD's 2009 goals concerning recycling were as follows:

- Increase recycling up past 70%.
- Submit public bid RFP for all waste removal services to maintain current three stream waste recycling program. Contract will be at least 3 years.
- Investigate and develop renewable energy options and energy conservation strategies.

Energy Use for Alameda Unified School District Primary Schools SPURR Report - School Project for Utility Rate Reduction

Site	Elec. kWh EOY12/12	Nat. Gas Therms EOY12/12	Total Energy MBtu	Elec. kWh EOY12/11	Nat. Gas Therms EOY12/11	Total Energy MBtu	% Chg
Bay Farm	204,228	1,802	877	214,956	2,145	948	-7.5
Earhart	219,585	6,357	1,385	219,602	6,588	1,408	-1.7
Edison	117,199	6,548	1,055	119,714	7,369	1,145	-7.9
Franklin	79,135	2,720	542	80,117	3,210	594	-8.8
Haight	344,014	0	1,174	346,816	328	1216	-3.5
Lum	228,448	11,138	1,893	201,138	12,752	1,961	-3.5
Maya Lin	174,364	8,585	1,453	169,333	9,835	1,561	-6.9
Otis	164,408	4,560	1,017	161,928	5,826	1,135	-10.4
Paden	164,161	5,110	1,071	160,382	5,984	1,146	-6.5
R.Bridges	463,334	3,829	1,964	484,038	4,821	2,134	-8.0
Longfellow	118,088	16,339	2,037	112,812	17,879	2,173	-6.3
Woodstock	197,731	13,493	2,024	169,283	13,371	1,915	+5.7

Summary: Elementary schools used -4.9% less electricity and gas compared to last year, almost achieving the district's annual energy reduction goal of 5%.

Energy Use for Alameda Unified School District Secondary Schools SPURR Report - School Project for Utility Rate Reduction

Site	Elec. kWh EOY12/12	Nat. Gas Therms EOY12/12	Total Energy MBtu	Elec. kWh EOY12/11	Nat. Gas Therms EOY12/11	Total Energy MBtu	% Chg
Chipman/AAMS	335,637	28,350	3,980	344,330	28,990	4,074	-2.3
Lincoln	665,536	18,684	4,139	612,124	20,959	4,184	-1.1
Wood	221,825	8,968	1,654	220,687	6,697	1,423	+16.2
							+1.0
Alameda High	1,063,310	84,884	12,116	1,029,456	87,526	12,265	-1.2
Encinal High	731,115	36,255	6,120	738,280	40,013	6,520	-6.1
							-2.9
AHS Gym	159,932	0	546	162,573	0	555	-1.6
Thompson Field	31,504	468	154	30,873	496	155	-0.4
AHS Swim Ctr	103,328	41,381	4,491	106,287	41,852	4,548	-1.3
EHS Swim Ctr	131,495	29,306	3,379	141,350	27,466	3,229	+4.7
							+0.9

Summary: Our secondary schools energy use was down -1.2% compared to last year and did not meet the district's annual energy reduction goal of -5%. MOF staff needs to evaluate Wood facilities to identify increase and continue to work with City to maintain swim center facilities.

Energy Use for Alameda Unified School District Administration Facilities
 SPURR Report - School Project for Utility Rate Reduction

Site	Elec. kWh EOY12/12	Nat. Gas Therms EOY12/12	Total Energy MBtu	Elec. kWh EOY12/11	Nat. Gas Therms EOY12/11	Total Energy MBtu	% Chg
HAHS-Dist Off.	579,789	0	1,978	600,497	0	2,049	-3.4
FNS Warehouse	67,183	0	229	66,847	0	228	+0.5
Maintenance Yard	26,092	3,882	447	35,820	5,859	708	-32.6
			2,684			2,985	-10.0

Summary: Overall , AUSD district facilities energy use significantly decreased (-10.0%) compared to last year and has met the district's annual energy reduction goal of -5%. Maintenance staff has also made extra efforts to secure doors on this site to prevent theft; in turn, keeping all doors closed and secured has helped to conserve energy.

Due to move of the district office, the new facility has been added and will be tracked on the SPURR report comparing energy use for next year.

Energy Costs for Alameda Unified School District Primary Schools
 SPURR Report - School Project for Utility Rate Reduction - AMP: \$0.138/kWh; PG&E: \$0.78/Therm

Site	Elec. kWh EOY12/12	Nat. Gas Therms EOY12/12	Total Energy MBtu	Elec. kWh EOY12/11	Nat. Gas Therms EOY12/11	Total Energy MBtu	% Chg
Bay Farm	\$28,163	\$1,884	\$30,047	\$28,882	\$2,184	\$31,066	-3.3
Earhart,	\$30,258	\$5,906	\$36,165	\$29,350	\$6,238	\$35,588	+1.6
Edison	\$16,559	\$5,868	\$22,427	\$16,421	\$6,938	\$23,359	-4.0
Franklin	\$11,220	\$2,535	\$13,755	\$11,016	\$3,498	\$14,514	-5.2
Haight	\$47,471	\$97	\$47,568	\$46,499	\$668	\$47,167	+0.9
Lum	\$31,608	\$9,795	\$41,403	\$27,049	\$11,958	\$39,007	+6.1
Maya Lin	\$24,077	\$7,468	\$31,544	\$22,684	\$9,070	\$31,754	-0.7
Otis	\$22,805	\$4,249	\$27,054	\$21,811	\$5,608	\$27,419	-1.3
Paden	\$22,656	\$4,907	\$27,563	\$21,496	\$5,514	\$27,010	+2.0
Ruby Bridges	\$63,742	\$3,377	\$67,120	\$64,646	\$4,487	\$69,133	-2.9
Longfellow	\$16,454	\$13,677	\$30,131	\$15,281	\$16,158	\$31,439	-4.2
Woodstock	\$27,526	\$11,819	\$39,345	\$23,074	\$12,529	\$35,603	+10.5

Summary: Although our elementary schools used -4.9% less electricity and gas compared to last year, there was a +0.3 increase in cost of these resources. This shows the critical importance of continuing to reduce energy consumption to meet the district energy goals for budget control.

Energy Costs for Alameda Unified School District Secondary Schools

SPURR Report - School Project for Utility Rate Reduction - AMP: \$0.138/kWh; PG&E: \$0.78/Therm

Site	Elec. kWh EOY12/12	Nat. Gas Therms EOY12/12	Total Energy MBtu	Elec. kWh EOY12/11	Nat. Gas Therms EOY12/11	Total Energy MBtu	% Chg
Chipman AAMS	\$46,208	\$22,575	\$68,783	\$46,018	\$24,678	\$70,696	-2.7
Lincoln	\$91,518	\$16,359	\$107,877	\$81,618	\$18,763	\$100,381	+7.5
Wood	\$30,571	\$7,964	\$38,535	\$29,505	\$6,134	\$35,640	+8.1
			\$215,195			\$206,717	+4.1
Alameda High	\$146,085	\$57,333	\$203,418	\$137,400	\$67,394	\$204,794	-0.7
Encinal High	\$100,747	\$31,113	\$131,860	\$98,709	\$36,338	\$135,047	-2.4
			\$335,278			\$339,841	-1.3
AHS Gym	\$22,082	\$0	\$22,082	\$21,804	\$0	\$21,804	+1.3
Thompson Field	\$4,565	\$469	\$5,033	\$4,383	\$532	\$4,915	+2.4
AHS Swim Ctr	\$14,314	\$32,076	\$46,391	\$14,297	\$35,908	\$50,205	-7.6
EHS Swim Ctr	\$18,177	\$24,423	\$42,600	\$19,000	\$23,874	\$42,874	-0.6
			\$116,106			\$119,798	-3.1

Summary: Our secondary schools energy use was down -1.2% compared to last year and did not meet the district's annual energy reduction goal of -5%. MOF staff needs to evaluate these facilities to identify what caused the increase in utility use and continue to work with City to maintain swim center facilities.

Energy Costs for Alameda Unified School District Facilities

SPURR Report - School Project for Utility Rate Reduction - AMP: \$0.138/kWh; PG&E: \$0.78/Therm

Site	Elec. kWh EOY12/12	Nat. Gas Therms EOY12/12	Total Energy MBtu	Elec. kWh EOY12/11	Nat. Gas Therms EOY12/11	Total Energy MBtu	% Chg
HAHS-Dist Off.	\$79,799	\$0	\$79,799	\$80,288	\$0	\$80,288	-0.6
FNS Warehouse	\$9,347	\$0	\$9,347	\$9,036	\$0	\$9,036	+3.4
Maintenance Yard	\$3,674	\$3,425	\$7,100	\$3,680	\$5,477	\$9,157	-22.5
			\$96,246			\$98,481	-2.3

Summary: Overall, AUSD district facilities energy use is significantly decreased -10.0% compared to last year and has met the district's annual energy reduction goal of -5%. Due to the reduction in use, there was also seen a corresponding -2.3% reduction in cost to the district.

Water Usage for Alameda Unified School District Primary Schools
 SPURR Report - School Project for Utility Rate Reduction

Site	Water CCF EOY12/12	Irrigation CCF EOY 12/12	Sewer CCF EOY 12/12	Water CCF EOY12/11	Irrigation CCF EOY 12/11	Sewer CCF EOY 12/11	% Chg
Bay Farm	542	1,748	542	491	5,059	490	-62.1
Earhart	7,706	0	7,706	6,455	0	6,455	+19.4
Edison	1,025	0	1,025	1,120	0	1,120	-8.5
Franklin	302	0	302	357	0	357	-69.2
Haight	1,572	0	812	1,413	0	714	+12.1
Lum	4,003	0	3,994	2,831	0	2,819	+41.5
Maya Lin	1,130	0	1,130	756	0	756	+25.2
Otis	1,944	0	1,944	1,041	0	1,041	+86.7
Paden	464	0	464	378	0	378	+22.6
Ruby Bridges	1,551	2,255	1,549	2,110	1,901	1,723	-6.6
Longfellow	1,533	0	1,533	925	0	925	+65.7
Woodstock	43	0	43	92	0	81	-50.3
	21,815	4,003	21,044	17,969	6,960	16,859	+12.1

Summary: Overall, elementary schools used +12.1% more water compared to last year and we did not meet the district goal of reducing water use by 10%. The District will work with EBMUD, maintenance staff and plumbing contractor to investigate each site for water conservation recommendations and to control use. This shows the critical importance of continuing to focus on water conservation to meet the district energy goals and for budget control.

Water Usage for Alameda Unified School District Secondary Schools SPURR Report - School Project for Utility Rate Reduction

Site	Water CCF EOY12/12	Irrigation CCF EOY 12/12	Sewer CCF EOY 12/12	Water CCF EOY12/11	Irrigation CCF EOY 12/11	Sewer CCF EOY 12/11	% Chg
Chipman AAMS	957	0	957	1,148	0	1,147	-16.6
Lincoln	4,742	0	886	4,242	0	748	+12.8
Wood	0	0	0	0	0	0	0
	5,699	0	1,843	5,390	0	1,895	+3.5
Alameda High	6,630	0	4,696	5,958	0	3,911	+14.7
Encinal High	2,984	5,382	2,984	2,372	0	2,372	+15.8
AHS Gym	0	0	0	0	0	0	0
Thompson Field	0	0	0	0	0	0	0
AHS Swim Ctr	3,387	0	3,387	3,335	0	3,156	+3.9
EHS Swim Ctr	2,459	0	2,459	2,236	0	2,236	+10.0
	15,460	5,382	13,526	5,571	0	5,392	+13.1

Summary: Overall, secondary schools used +13.1% more water compared to last year and did not meet the district goal of reduced water usage by 10%. The District will work with EBMUD, maintenance staff and plumbing contractor to investigate each site for water conservation recommendations and to control use. This shows the critical importance of continuing to focus on water conservation to meet the district energy goals and for budget control.

Water Usage for Alameda Unified School District Facilities
 SPURR Report - School Project for Utility Rate Reduction

Site	Water CCF EOY12/12	Irrigation CCF EOY 12/12	Sewer CCF EOY 12/12	Water CCF EOY12/11	Irrigation CCF EOY 12/11	Sewer CCF EOY 12/11	% Chg
HAHS	6,017	0	6,013	6,567	0	6,567	-8.4
FNS Warehouse	0	6	0	0	7	0	-14.3
Maintenance Yard	0	0	0	0	0	0	0
	6,017	6	6,013	6,567	7	6,567	-8.4

Summary: Overall, district facilities used -8.4% less water compared to last year and were trending to meet the district goal of reduced water usage by 10%.

Due to move of the district office, the new facility has been added and will be tracked on the SPURR report comparing water use for next year.

Water Cost for Alameda Unified School District Primary Schools

SPURR Report - School Project for Utility Rate Reduction EBMUD Dom. @\$3.17/CCF/Waste@\$1.06/CCF+

Site	Water CCF EOY12/12	Irrigation CCF EOY 12/12	Sewer CCF EOY 12/12	Water CCF EOY12/11 \$3/CCF	Irrigation CCF EOY 12/11	Sewer CCF EOY 12/11 \$1/CCF	% Chg
Bay Farm	\$5,074	\$5,748	\$696	\$4,874	\$15,588	\$678	-45.5
Earhart	\$25,564	\$0	\$3,448	\$20,587	\$0	\$2,623	+25.0
Edison	\$4,060	\$0	\$1,278	\$4,435	\$0	\$1,268	-6.4
Franklin	\$4,184	\$0	\$555	\$4,018	\$0	\$481	+5.3
Haight	\$6,260	\$0	\$1,086	\$5,414	\$0	\$867	+16.9
Lum	\$16,601	\$0	\$4,480	\$11,728	\$0	\$2,594	+47.2
Maya Lin	\$5,138	\$0	\$1,472	\$3,552	\$0	\$999	+45.2
Otis	\$7,383	\$0	\$2,251	\$4,180	\$0	\$1,145	+80.1
Paden	\$4,915	\$0	\$712	\$3,693	\$0	\$552	+32.5
Ruby Bridges	\$10,842	\$7,962	\$1,822	\$13,321	\$6,290	\$1,795	-3.6
Longfellow	\$5,490	\$0	\$1,805	\$3,303	\$0	\$1,092	+66.0
Woodstock	\$572	\$0	\$315	\$664	\$0	\$248	-2.7
	\$96,083	\$13,710	\$19,920	\$79,768	\$21,878	\$14,342	+11.8

Summary: District used 11.8% more water at elementary sites compared to previous year's water use. District domestic water costs increased again from 3.0/CCF to 3.17/CCF, +5.6% compared to last year, and currently our district is not meeting the district water conservation goal. District is applying for water conservation discounts through EBMUD to help defray increasing water costs. Also, we need updated water controls to automate irrigation systems and control flow/costs.

Water Cost for Alameda Unified School District Secondary Schools

SPURR Report - School Project for Utility Rate Reduction EBMUD Dom. @\$3.17/CCF/Waste@\$1.06/CCF+

Site	Water CCF EOY12/12	Irrigation CCF EOY 12/12	Sewer CCF EOY 12/12	Water CCF EOY12/11	Irrigation CCF EOY 12/11	Sewer CCF EOY 12/11	% Chg
Chipman AAMS	\$5,532	\$0	\$1,231	\$5,788	\$0	\$1,285	-4.4
Lincoln	\$18,742	\$0	\$1,160	\$16,348	\$0	\$859	+4.1
Wood	\$0	\$0	\$0	\$0	\$0	\$0	0
	\$24,274	\$0	\$2,391	\$22,136	\$0	\$2,143	+9.8
Alameda High	\$24,487	\$0	\$5,381	\$21,014	\$0	\$4,148	+18.7
Encinal High	\$12,430	\$17,648	\$3,530	\$9,629	\$15,680	\$2,724	+19.9
AHS Gym	\$0	\$0	\$0	\$0	\$0	\$0	0
Thompson Field	\$0	\$0	\$0	\$0	\$0	\$0	0
AHS Swim Ctr	\$14,576	\$0	\$4,062	\$13,061	\$0	\$3,454	+12.9
EHS Swim Ctr	\$8,562	\$0	\$2,772	\$7,365	\$0	\$2,321	+17.0
	\$60,055	\$17,648	\$15,745	\$51,069	\$15,680	\$12,647	+16.9

Summary: District used more water at secondary sites compared to previous year's water use too. District domestic water costs increased again from 3.0/CCF to 3.17/CCF, +5.6% compared to last year, and currently our district is not meeting the district water conservation goal. District is applying for water conservation discounts through EBMUD to help defray increasing water costs. Also, we need updated water controls to automate irrigation systems and control flow/costs.

Water Cost for Alameda Unified School District Facilities

SPURR Report - School Project for Utility Rate Reduction EBMUD Dom. @ \$3.17/CCF. Waste @ \$1.06/CCF

Site	Water CCF EOY12/12	Irrigation CCF EOY 12/12	Sewer CCF EOY 12/12	Water CCF EOY12/11	Irrigation CCF EOY 12/11	Sewer CCF EOY 12/11	% Chg
HAHS	\$27,189	\$0	\$2,873	\$27,717	\$0	\$2,358	-0.04
FNS Warehouse	\$0	\$667	\$0	\$0	\$630	\$0	+6.0
Maintenance Yard	\$0	\$0	\$0	\$0	\$0	\$0	0
	\$27,189	\$667	\$2,873	\$27,717	\$630	\$2,358	+0.08

Summary: Overall, district facilities used -8.4% less water compared to last year and were trending to meet the district goal of reduced water usage by 10%.

AUSD Go Green Recycling Achievements

AUSD Go Green Program History

- Alameda Green Schools Challenge formed in Spring 2009
- Obtained 3-year grant from the Altamont Education Advisory Board School for infrastructure Spring 2009
- Pilot School Program Fall 2009
- Currently in final year of implementation

AUSD Go Green Recycling Achievements

Alameda Go Green Schools Challenge Goals

- Increase waste diversion from 41% to 75% in 3 years
- Establish uniform recycling and composting programs at schools and all district facilities
- Create zero waste cultural change
- Reduce greenhouse gas emissions

AUSD Go Green Recycling Achievements

Site	Students	2012 Trash Yardage	2012 Recycled Yardage	% Diverted
Bayfarm Elementary	521	207	317	60.5
Earhart Elementary	591	415	805	66.0
Edison Elementary	478	155	217	58.3
Franklin Elementary	314	155	218	58.4
Haight Elementary	413	208	832	80.0
Longfellow/Upper NEA	n/a	67	135	66.8
Lum Elementary	499	207	468	69.3
Maya Lin	300	311	415	57.0
Otis Elementary	537	155	364	70.0
Paden Elementary	331	155	364	70.0
Ruby Bridges Elementary	616	415	520	55.6
		2,450	4,655	65.5

Summary: Overall , AUSD primary schools have diverted 65.5% recycled trash but have not achieved the 75% district recycling goal. MOF wants to involve site custodians and Go Green Coordinators in staff meeting to provide additional waste recycling information that would assist sites toward achieving 75% goal.

AUSD Go Green Recycling Achievements

Site	Students	2012 Trash Yardage	2012 Recycled Yardage	% Diverted
Academy /Lower NEA	502	363	830	69.6
Lincoln MS	994	415	686	62.3
Wood MS	538	727	1,621	69.0
		1,505	3,137	67.5
Alameda High	1,773	727	1,090	60.0
Encinal High	1,046	1,091	1,144	51.2
Thompson Field	n/a	51	103	67.0
Woodstock Ed. Options/ BASE	181	363	207	36.3
		2,232	2,544	53.3
FNS Warehouse	n/a	155	232	60.0
Maintenance Yard	n/a	140	207	59.6

Summary: AUSD middle schools have diverted 67.5% recycled trash and are doing the best in trending toward achieving the 75% district recycling goal. MOF wants to involve site custodians and Go Green Coordinators in staff meeting to provide additional waste recycling information that would assist sites toward achieving 75% goal.

AUSD High schools have diverted 53.3% recycled trash but have not achieved the 75% district recycling goal.

Overall, all AUSD facilities have diverted 60.35% recycled trash but have not achieved the 75% district recycling goal.

AUSD Go Green Recycling Achievements

- Schools in Alameda County generate over 60,000 tons of landfill waste every year representing 4% of all waste sent to landfill in the county. StopWaste.Org and the Alameda County Office of Education are dedicated to helping students, teachers, and schools apply the 4Rs (Reduce, Reuse, Recycle, Rot) to develop key academic skills and concepts while improving environmental sustainability.
- Wood Middle School has successfully implemented the Service-Learning Waste Reduction Project ([SLWRP](#)) with the support of teachers, staff and students to achieve sustainability goals at their schools and in their communities. Recently this site purchased and installed a “[hydration station](#)” for students to fill up water bottles and reduce use of plastic water bottles at their site. AUSD can better utilize this program to increase recycling activities at all their secondary sites.
- StopWaste.Org has also contacted AUSD in order to establish a comprehensive garbage auditing procedure to use at school facilities in Alameda County. They have scheduled their first test audit at Bay Farm on April 17, 2013 and April 19, 2013. Results available by end of school year June 2013.
- See StopWaste.Org data below corresponding to the recycling activity at all AUSD sites

Year	2010-2011	2011-2012
Total changes in emissions MTCO2E/yr	1,642	3,663
Passenger cars corresponding to reduced emissions	300.77	692.0
Corresponding reduction in gallons of gasoline	186,935	372,536

Future Environmental Stewardship Actions

- We have included recycling standards with the custodial schedules in all site Custodial Binders for training with site staff and to improve the success of the district recycling program. MOF would like to be involved in staff meetings at sites to present recycling best practices with Go Green Coordinators to continue promoting this program and reinforce best recycling practices.
- Initiate new recycle containers (TRIOS) at high school sites as they have additional needs with extra-curricular activities as well as athletic field events where waste should be recycled using same procedures as used at all district site activities. Individual recycling containers will then be moved to other district sites for use.
- One of our greatest accomplishments this year was in coordination with our Food and Nutrition Services Department who reduced the amount of waste generated by their National School Lunch and Breakfast programs in the development of “spork dispensers” during the complete roll-out of fruit and salad bars. This led to the elimination of straws.



TRIOS at Encinal High School

Future Environmental Stewardship Actions

- Efficiency opportunities
- Maintain our 2009 goals to reduce energy and water usage.
- Food, Nutrition Services replaced their main Warehouse Cooler/Freezer and should gain reduced energy use/costs starting this year – Completed.
- District is reviewing replacement of boilers or compressors at key sites and working with Alameda Municipal Power and vendors to utilize rebates
- Improved preventive maintenance of HVAC systems:
 - MOF received authorization to hire another HVAC technician to assist with improved building system preventive maintenance. This will mean better utilization of Building Management Systems in 6 sites to control HVAC systems with automatic power off and on for reduction of use and energy savings plus improved preventive maintenance of all heating systems, as well as food service refrigeration/cooking equipment preventive maintenance.
 - Training – MOF will involve maintenance staff in training for resource conservation. Alameda Municipal Power is scheduled (5/1/13) to share utility audit report as well as rebate information that maintenance staff can utilize for equipment/lighting upgrades for the district's benefit.
 - Continue use of “Flash newsletter” developed in coordination with Alameda Municipal Power and AUSD teaching staff/Go Green Coordinators. Incorporate as part of Employee Newsletter and use district technology to encourage all district staff to conserve electricity with reminders to turn off computers and lighting in work areas when not in use.