

THE ANN ARBOR PUBLIC SCHOOLS GREENHOUSE GAS INVENTORY

District-Level Report

Greenhouse Gas Inventory (GHGI)

The AAPS GHGI is a report that quantifies the amount of direct and indirect greenhouse gas emissions produced by the district. Fiscal Year (FY) 2010 (July 1, 2009-June 20, 2010) was the first complete data set at AAPS and is used as the baseline year in the GHGI. The baseline year is the year against which progress in reducing emissions is measured.

For this FY 2010-2023 report, the sources of emissions measured include: Scope 1 emissions of natural gas, diesel, gasoline, and site sequestration; Scope 2 emissions of electricity; and Scope 3 emissions of water. In FY 2023, results indicated AAPS's greenhouse gas emissions sources were 55% from electricity, 39% from natural gas, 6% from diesel fuel, and less than 1% from water and gasoline. In addition, AAPS sites (grass, forests, and ponds) removed 2,200 metric tons of CO₂ from the atmosphere, equivalent to 6% of the District's annual emissions.

Since FY 2010, AAPS has seen a 24% reduction in total emissions, a 26% reduction in emissions per student, and a 25% reduction in emissions per 1,000 square feet.

Mission

The Ann Arbor Public Schools is committed to care for the environment, to model and achieve an environmentally sustainable existence. We demonstrate this commitment, both through our critical mission of educating generations of students as strong stewards of the environment, and also in living an environmental commitment with every decision across every area of the organization.

Vision

In all decisions, we embody and live the deeply held value of caring for the earth and our environment. Individual, team and district decisions are consistent with care for the earth.

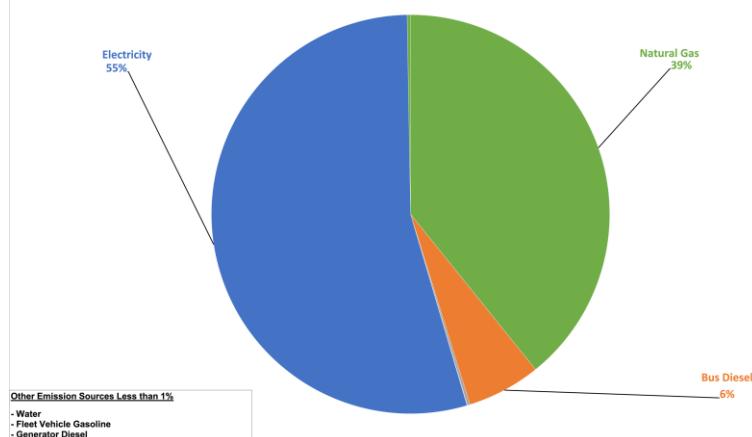
AAPS Environmental Sustainability Framework

In December 2022, the Ann Arbor Public Schools adopted an Environmental Sustainability (ES) Framework. Advised by the District's Environmental Sustainability Taskforce and guided by Board Policy 8000: Environmental Sustainability. The AAPS ES Framework recognizes that while AAPS has been engaged in environmental sustainability efforts for decades, this is a critical time to renew, deepen and align those efforts. The current and looming climate crisis requires continued efforts to organize and institutionalize systemic changes. Included in the ES Framework is a commitment to conduct a greenhouse gas inventory annually.

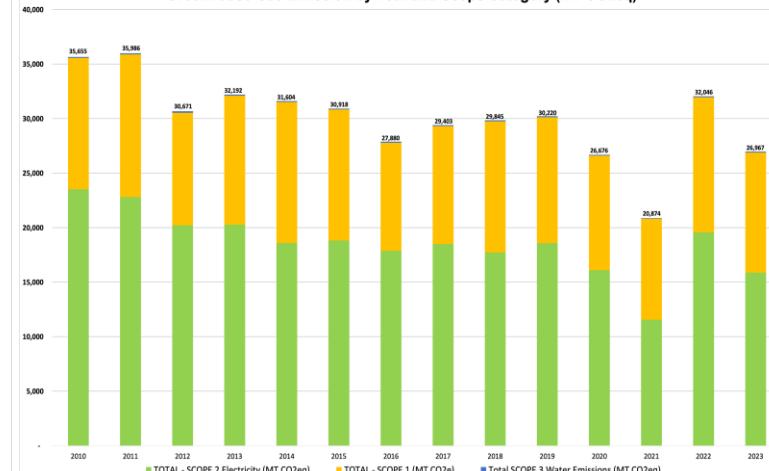
View the AAPS Environmental Sustainability Framework here:

<https://www.a2schools.org/Page/18978>

Ann Arbor Public Schools
FY 2023 Greenhouse Gas Emissions By Source



Greenhouse Gas Emission by Year and Scope Category (MT CO₂eq)



The Intergovernmental Panel on Climate Change (IPCC) of the United nations defines Scope 1, 2 and 3 emissions as:

'Scope 1' indicates direct greenhouse gas (GHG) emissions that are from sources owned or controlled by the reporting entity. 'Scope 2' indicates indirect GHG emissions associated with the production of electricity, heat, or steam purchased by the reporting entity. 'Scope 3' indicates all other indirect emissions, i.e., emissions associated with the extraction and production of purchased materials, fuels, and services, including transport in vehicles not owned or controlled by the reporting entity, outsourced activities, waste disposal, etc. (WBCSD and WRI, 2004).

Scope 1 - Direct Emissions

Scope 1 emissions are atmospheric GHG emissions directly generated by AAPS. The majority of these emissions at AAPS come from the burning of natural gas for space and water heating, as well as diesel and unleaded gasoline for buses and fleet vehicles.

A plan to outline, detail and confirm interim targets will be developed. Electrification of buildings and vehicles will be central elements of the plan.

GOAL: The AAPS will eliminate Scope 1 emissions by 2035.

Scope 2 - Indirect Energy Emissions

Scope 2 emissions are atmospheric GHG emissions attributed to purchased utilities. At AAPS, these are the emissions associated with purchased grid electricity. Currently AAPS uses approximately 30,000 megawatt hours of electricity annually. By combining on-site solar production, the Michigan Renewable Portfolio Standard, and utility-scale renewable energy from DTE Energy, AAPS will eliminate Scope 2 emissions by 2024.

In the last three years, AAPS has been installing 8 large rooftop solar arrays that when fully operational in 2023, will generate approximately 6% of the District's electricity, or 1800 megawatt hours annually.

In addition, the State of Michigan's Renewable Portfolio Standard (RPS) required all utilities to provide 15% of their electricity from renewable sources by 2021. This accounts for 4500 megawatt hours annually at AAPS.

To quickly secure an additional 80% Scope 2 emissions reduction, AAPS entered a 20-year contract with DTE Energy and the MiGreen Power program to supply 24,000 megawatt hours annually to AAPS from newly constructed utility-scale wind and solar projects built in Michigan by 2024.

GOAL: The AAPS will eliminate Scope 2 emissions by 2024.

Scope 3 - Other Indirect Emissions

Scope 3 emissions are atmospheric GHG emissions attributed to a wide range of other activities, including purchased goods and services, construction materials, waste, commuting and financial investments. For many institutions and businesses, Scope 3 emissions are the largest of the three scopes of GHG emissions.

At AAPS, many of the Scope 3 emissions are associated with purchased items such as laptops and other technology, books, paper, construction materials and other supplies - as well as contracted services such as lawn maintenance and snow removal, custodial and food services and other services.

Measuring Scope 3 emissions is challenging and requires an accounting of both Upstream carbon emissions (mining, logging, manufacturing, packaging, transportation, etc.) and Downstream carbon emissions (product use, disposal, etc.). While the global community is developing methods for calculating and reporting Scope 3 emissions, it is impossible at this time to accurately calculate the district's Scope 3 emissions for all areas.

Community partnerships will be critical in reducing Scope 3 emissions as many of the solutions are beyond the district's control and will require transforming the marketplace for goods and services to carbon neutrality. This effort will require creative strategies working at scale across our city, county, region, nation and world.

AAPS will continue to collaborate with local partner institutions to better measure, track and reduce Scope 3 emissions.

GOAL: In the 2023-2024 school year, develop purchasing and construction guidelines that reflect the district's commitments to reducing Scope 3 emissions and begin piloting the new guidelines in 2024.



Terms	Definitions
100 Cubic Feet (CCF)	A common unit of measurement for natural gas.
Carbon Dioxide (CO₂)	A heat-trapping chemical compound that arises due to the burning of fossil fuels and contains one carbon atom double bonded with two oxygen atoms per molecule
Metric Tons Carbon Dioxide Equivalent (MT CO_{2eq})	A unit of measurement for emissions of greenhouse gases.
CO₂ Sequestration	The process of capturing and storing carbon dioxide from the atmosphere.
Greenhouse Gases	Gases in the atmosphere such as water vapor, carbon dioxide, methane, and nitrous oxide that can absorb infrared radiation, trapping heat in the atmosphere. This greenhouse effect means that emissions of greenhouse gases due to human activity cause global warming.
Kilogallon (kgal)	A unit of measurement for volume that is equal to 1000 gallons.
Kilowatt-Hour (kWh)	A measurement of electrical energy that is equal to a power consumption of 1,000 watts for 1 hour.
Scope 1 Emissions	Direct greenhouse gas emissions that are from sources owned or controlled by the reporting entity.
Scope 2 Emissions	Indirect greenhouse gas emissions associated with the production of electricity, heat, or steam purchased by the reporting entity.
Scope 3 Emissions	All other indirect greenhouse gas emissions, i.e., emissions associated with the extraction and production of purchased materials, fuels, and services, including transport in vehicles not owned or controlled by the reporting entity, outsourced activities, waste disposal, etc.

Conversion Factors for MT CO2eq Emissions Calculations		
SCOPE 1		
Emission Source	Factor	Units
Natural Gas	0.00671	MT CO2eq/CCF
Diesel Fuel	0.01021	MT CO2eq/gal
Gasoline 87 Octane 10% Ethanol	0.00706	MT CO2eq/gal
Mowed Grass Sequestration	-0.80	MT CO2eq/acre
Average Forest Sequestration	-2.50	MT CO2eq/acre
Pond/Wetland Sequestration	-80.00	MT CO2eq/acre
SCOPE 2		
Electricity (2010)	0.000769	MT CO2eq/kWh
Electricity (2011)	0.000759	MT CO2eq/kWh
Electricity (2012)	0.000746	MT CO2eq/kWh
Electricity (2013)	0.000786	MT CO2eq/kWh
Electricity (2014)	0.000736	MT CO2eq/kWh
Electricity (2015)	0.000726	MT CO2eq/kWh
Electricity (2016)	0.000714	MT CO2eq/kWh
Electricity (2017)	0.000678	MT CO2eq/kWh
Electricity (2018)	0.000682	MT CO2eq/kWh
Electricity (2019)	0.000691	MT CO2eq/kWh
Electricity (2020)	0.000649	MT CO2eq/kWh
Electricity (2021)	0.000527	MT CO2eq/kWh
Electricity (2022)	0.000602	MT CO2eq/kWh
Electricity (2023)	0.000526	MT CO2eq/kWh
SCOPE 3		
Water	3.179	MT CO2eq/MG

Ann Arbor Public Schools - Greenhouse Gas Inventory														
Fiscal Year	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Supporting Metrics	<i>Baseline</i>													
Fall Enrollment	16,885	17,148	17,118	17,290	16,903	17,316	17,557	17,893	18,108	18,188	18,115	17,781	17,519	17,395
Historical Square Footage	3,508,673	3,508,673	3,508,673	3,508,673	3,523,885	3,523,885	3,523,885	3,523,885	3,543,221	3,568,301	3,568,301	3,568,301	3,568,301	3,560,120
SCOPE 1														
Fiscal Year	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Natural Gas	<i>Baseline</i>													
Natural Gas Usage (CCF)	1,772,687	1,804,652	1,445,427	1,710,108	1,914,477	1,790,873	1,479,682	1,622,031	1,797,194	1,791,985	1,703,525	1,648,047	1,959,516	1,706,296
Stationary Combustion Emission (MT CO2eq)	9,660	9,835	7,877	9,319	10,433	9,759	8,064	8,839	9,794	9,765	9,283	8,981	10,678	9,299
Upstream Stationary Combustion Emission (MT CO2eq)	2,235	2,275	1,822	2,156	2,413	2,258	1,865	2,045	2,266	2,259	2,148	2,078	2,470	2,151
Natural Gas TOTAL (MT CO2eq)	11,895	12,109	9,699	11,475	12,846	12,017	9,929	10,884	12,059	12,025	11,431	11,059	13,149	11,450
School Buses														
Diesel Fuel (gallons)	227,006	306,992	272,304	246,504	220,159	211,011	211,011	205,150	209,537	163,147	128,507	37,686	137,993	170,971
Miles Driven (miles)	1,680,351	1,329,584	1,337,044	1,355,102	1,280,101	1,731,437	1,535,792	1,390,283	1,241,699	1,190,101	1,190,101	1,138,502	1,598,087	1,553,789
Miles per Gallon (MPG)	7.40	4.33	4.91	5.50	5.81	8.21	7.28	6.78	5.93	7.29	9.26	30.21	11.58	9.09
Diesel Fuel (MT CO2eq)	2,318	3,134	2,780	2,517	2,248	2,154	2,154	2,095	2,139	1,666	1,312	385	1,409	1,746
Fleet Vehicles				<i>estimates</i>										
87 Octane Ethanol (gallons)	8694	8694	8694	8694	8694	8694	8694	8694	8694	11033	0	5999	9050	7525
87 Octane Ethanol (MT CO2eq)	73.7	73.7	73.7	73.7	73.7	73.7	73.7	73.7	73.7	93.5	-	50.9	76.7	63.8
Generators														
Generator Diesel (gallons)	779	779	779	779	779	779	779	779	779	559.50	0.00	1,493.10	285.10	889.00
Generator Diesel (MT CO2eq)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	5.7	0.0	15.2	2.9	9.1
Site Sequestration														
Site Sequestration SUBTOTAL (MT CO2eq)	-2243	-2243	-2243	-2243	-2243	-2243	-2243	-2243	-2243	-2243	-2243	-2243	-2243	-2243
TOTAL - SCOPE 1 (MT CO2e)	12,051	13,083	10,318	11,831	12,933	12,010	9,922	10,817	12,038	11,547	10,500	9,267	12,394	11,025
Scope 1 - Per Student (MT CO2eq/student)	0.71	0.76	0.60	0.68	0.77	0.69	0.57	0.60	0.66	0.63	0.58	0.52	0.71	0.63
Scope 1 - Per 1000 SF	3.43	3.73	2.94	3.37	3.67	3.41	2.82	3.07	3.40	3.24	2.94	2.60	3.47	3.10

Ann Arbor Public Schools - Greenhouse Gas Inventory

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	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Fiscal Year	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Supporting Metrics	Baseline													
Fall Enrollment	16,885	17,148	17,118	17,290	16,903	17,316	17,557	17,893	18,108	18,188	18,115	17,781	17,519	17,395
Historical Square Footage	3,508,673	3,508,673	3,508,673	3,508,673	3,523,885	3,523,885	3,523,885	3,523,885	3,543,221	3,568,301	3,568,301	3,568,301	3,568,301	3,560,123

SCOPE 2

Fiscal Year	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023		
Electricity	Baseline															
Grid Electricity (kWh)	30,578,924	30,040,426	27,087,703	25,785,267	25,253,661	25,925,971	25,020,949	27,272,324	25,966,427	26,884,217	24,800,711	21,920,238	32,493,920	30,153,192		
MT CO2eq/kWh (DTE Emissions Multiplier)	0.000769	0.000759	0.000746	0.000786	0.000736	0.000726	0.000714	0.000678	0.000682	0.000691	0.000649	0.000527	0.000602	0.000526		
SUBTOTAL (MT CO2eq)	23,515	22,801	20,207	20,267	18,587	18,822	17,865	18,491	17,709	18,577	16,096	11,552	19,561	15,861		
Green Power Purchase																
Solar Production (On-Site kWh))													12,569	93,319	610,110	433,074
Solar Production MT CO2eq avoidance													8.16	49.18	367.29	227.80
TOTAL - SCOPE 2 Electricity (MT CO2eq)	23,515	22,801	20,207	20,267	18,587	18,822	17,865	18,491	17,709	18,577	16,096	11,552	19,561	15,861		
Scope 2- Per Student (MT CO2eq/student)	1.39	1.33	1.18	1.17	1.10	1.09	1.02	1.03	0.98	1.02	0.89	0.65	1.12	0.91		
Scope 2 - Per 1000 SF (MT CO2eq/1000 SF)	6.70	6.50	5.76	5.78	5.27	5.34	5.07	5.25	5.00	5.21	4.51	3.24	5.48	4.40		

SCOPE 3

Fiscal Year	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Water (Category 1)	Baseline													
Water Usage (kgal)	27,778	32,418	45,746	29,664	26,572	26,988	29,377	29,880	30,812	30,247	25,143	17,560	28,551	25,500
Water Treatment (MT CO2eq/MG)	45.4	52.9	74.7	48.4	43.4	44.1	48.0	48.8	50.3	49.4	41.1	28.7	46.6	41.0
Wastewater Treatment (MT CO2eq/MG)	42.9	50.1	70.7	45.9	41.1	41.7	45.4	46.2	47.6	46.8	38.9	27.1	44.1	39.4
Total SCOPE 3 Water Emissions (MT CO2eq)	88.3	103.1	145.4	94.3	84.5	85.8	93.4	95.0	98.0	96.2	79.9	55.8	90.8	81.1

TOTAL - SCOPE 1+2+3

TOTAL - SCOPE 1+2+3		2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2023 vs. 2010
Fiscal Year		Baseline														
TOTAL - SCOPE 1+2+3 (MT CO2eq)	35,655	35,986	30,671	32,192	31,604	30,918	27,880	29,403	29,845	30,220	26,676	20,874	32,046	26,967	-24.37%	
Per Student (MT CO2eq/student)	2.11	2.10	1.79	1.86	1.87	1.79	1.59	1.64	1.65	1.66	1.47	1.17	1.83	1.55	-26.59%	
Per 1000 SF (MT CO2eq/1000 SF)	10.16	10.26	8.74	9.18	8.97	8.77	7.91	8.34	8.42	8.47	7.48	5.85	8.98	7.57	-25.46%	

Natural Gas Usage by Fiscal Year (CCF)											* COVID Remote Learning	* COVID Enhanced Ventilation		
Fiscal Year	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Preschool	22,202	22,202	22,202	22,202	22,202	16,638	20,088	24,130	22,151	22,580	22,061	25,701	21,929	
Abbot Elementary	21,846	23,183	15,664	18,409	27,749	23,261	22,281	23,030	23,014	26,348	21,923	21,782	25,786	21,388
Allen Elementary	26,840	30,502	23,712	27,959	34,817	28,455	26,975	30,948	38,747	41,104	35,213	32,490	44,210	32,675
Angell Elementary	32,014	35,533	29,018	34,205	32,971	34,071	22,608	25,719	26,256	29,942	30,567	25,859	49,337	34,435
Bach Elementary	36,584	30,158	22,594	22,603	27,759	30,799	22,600	19,454	24,876	27,535	23,997	25,257	31,730	25,809
Bryant Elementary	12,903	12,428	9,358	11,828	15,217	13,170	9,428	16,037	17,001	18,229	17,949	16,207	19,688	13,205
Burns Park Elementary	12,903	12,428	9,358	11,828	15,217	34,890	40,579	30,713	36,196	36,242	31,548	33,615	35,274	33,846
Carpenter Elementary	30,543	27,850	22,650	27,895	33,787	27,458	24,208	28,313	30,103	32,121	28,978	28,343	30,204	28,614
Dicken Elementary	20,541	22,058	14,307	15,955	21,364	18,435	19,019	21,989	23,651	22,541	20,460	19,373	33,699	23,199
Freeman Elementary	21,308	21,822	17,751	18,957	19,156	19,547	17,926	17,986	26,884	22,128	21,330	19,751	23,031	18,864
Eberwhite Elementary	39,560	42,070	27,074	31,132	40,217	39,128	30,141	34,891	47,479	44,847	37,826	34,377	57,699	36,663
Haisley Elementary	28,753	29,548	23,064	25,113	30,095	32,464	27,336	26,321	50,420	40,370	38,563	32,088	35,812	27,424
King Elementary	30,728	29,182	27,730	25,524	34,799	30,235	31,017	41,636	39,223	46,563	42,796	39,805	42,731	37,442
Lakewood Elementary	21,776	24,103	18,504	17,960	21,202	23,049	20,924	20,921	21,846	18,076	18,748	18,412	17,963	18,188
Lawton Elementary	21,736	21,121	17,596	21,028	23,884	39,514	24,327	26,817	29,088	34,512	39,493	30,693	32,051	25,527
Logan Elementary	22,143	15,390	18,425	16,185	27,234	16,606	11,311	17,528	22,312	22,533	15,166	15,311	19,268	16,854
AA Open Elementary	42,469	50,712	44,989	47,046	54,273	56,173	43,210	40,958	53,777	65,167	48,795	46,441	53,756	52,032
Mitchell Elementary	24,489	23,696	16,428	20,071	27,432	23,779	19,268	25,242	29,430	31,152	27,585	27,208	33,044	25,714
A2 STEAM	41,068	42,184	34,670	37,434	50,496	29,518	24,582	49,475	53,153	52,562	42,254	51,222	49,884	40,974
Pattengill Elementary	23,126	28,203	24,645	25,227	31,623	24,667	20,865	21,791	24,614	26,022	22,666	29,048	35,607	31,585
Pittsfield Elementary	30,278	22,140	14,231	15,825	21,927	30,332	16,906	21,452	25,624	23,667	22,274	25,361	33,706	24,256
Thurston Elementary	27,545	30,616	18,420	20,034	23,417	16,781	14,456	18,061	27,180	24,975	23,166	25,433	29,466	21,065
Wines Elementary	Included with Forsythe													
Clague Middle School	124,773	100,631	85,616	106,370	94,744	62,941	78,634	66,748	64,785	82,229	117,295	92,463	109,298	100,881
Forsythe Middle School	132,669	137,198	111,939	120,326	128,887	109,648	110,178	125,638	137,477	160,823	121,420	112,491	136,598	124,544
Scarlett Middle School	95,380	98,153	74,878	83,556	89,982	84,377	88,595	102,480	91,932	99,064	89,482	83,242	119,279	79,962
Slauson Middle School	102,498	118,096	80,996	111,416	130,746	222,252	122,632	116,297	114,910	64,732	91,917	108,368	135,372	121,870
Tappan Middle School	90,298	102,148	81,968	79,804	109,594	92,171	75,494	89,870	113,922	95,050	90,220	87,887	96,033	94,991
Pathways to Success	30,555	32,689	24,840	26,390	28,733	28,087	24,381	22,560	29,120	31,332	26,330	25,412	28,452	25,179
Huron High School	217,970	198,905	195,394	240,434	235,783	225,642	149,631	180,292	170,045	155,911	168,058	159,099	177,298	148,869
Pioneer High School	276,824	302,378	239,769	326,356	349,187	258,367	235,005	247,745	280,786	281,330	261,545	258,623	278,683	300,242
Community HighSchool	51,631	52,091	29,706	31,037	33,457	24,939	28,791	28,254	35,127	39,369	33,376	31,600	27,770	24,422
Skyline High School	27,080	29,161	25,397	36,968	34,050	31,014	30,931	31,983	29,628	34,027	37,039	38,356	57,446	45,313
Balas Bldg	16,076	19,571	10,317	17,610	22,442	20,833	17,476	19,486	21,556	24,666	20,722	18,786	20,945	16,196
Transportation -Main Bldg	15,577	16,498	12,217	15,419	20,037	16,068	11,330	11,308	12,901	14,665	12,243	11,582	12,696	12,139
TOTAL Annual Natural Gas Usage (CCF)	1,772,687	1,804,652	1,445,427	1,710,108	1,914,477	1,790,873	1,479,682	1,622,031	1,797,194	1,791,985	1,703,525	1,648,047	1,959,516	1,706,296
Natural Gas per Student (CCF/Student)	105	105	84	99	113	103	84	91	99	99	94	93	112	98.09
Natural Gas per Square Foot (CCF/ SF)	0.505	0.514	0.412	0.487	0.543	0.508	0.420	0.460	0.507	0.502	0.477	0.462	0.549	0.479
Heating Degree Days	6254	6861	5466	6532	7487	7136	5814	5832	6701	6808	6307	6287	6374	6101

Natural Gas Usage per student (CCF/student)												* COVID Remote Learning	* COVID Enhanced Ventilation	
Fiscal Year	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Preschool	50	37	46	34	49	43	36	45	57	52	56	59	58	51
Abbot Elementary	74	73	53	62	88	77	76	77	74	88	74	76	80	63
Allen Elementary	70	79	61	74	94	73	70	77	98	99	81	76	119	80
Angell Elementary	104	120	100	116	114	105	66	77	78	85	86	78	167	117
Bach Elementary	106	78	58	58	78	86	63	54	67	73	59	69	93	77
Bryant Elementary	41	34	25	34	46	42	31	52	56	62	62	62	75	58
Burns Park Elementary	31	29	22	29	37	78	86	66	69	68	62	72	79	68
Carpenter Elementary	92	77	57	72	86	70	58	65	72	74	62	64	63	66
Dicken Elementary	54	59	39	44	59	52	56	64	69	71	62	61	114	73
Freeman Elementary	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Eberwhite Elementary	118	117	74	89	119	118	95	98	135	117	97	101	148	98
Haisley Elementary	69	71	55	60	75	80	74	79	150	118	106	91	107	75
King Elementary	74	72	67	57	78	69	64	84	78	89	82	82	85	72
Lakewood Elementary	71	72	53	54	60	68	68	73	73	60	64	69	67	68
Lawton Elementary	47	50	42	46	55	83	51	54	57	66	74	62	69	58
Logan Elementary	64	44	52	48	78	49	36	53	70	67	42	45	54	45
AA Open Elementary	87	101	90	92	106	112	80	78	104	125	94	87	105	100
Mitchell Elementary	88	91	58	72	99	86	61	70	73	73	69	63	70	62
A2 STEAM	149	163	149	172	267	73	47	83	88	83	67	81	84	66
Pattengill Elementary	74	88	75	76	93	74	73	73	82	94	90	125	162	139
Pittsfield Elementary	133	88	55	64	92	122	69	84	100	86	81	99	135	101
Thurston Elementary	64	73	48	47	55	40	31	41	55	49	47	53	64	42
Wines Elementary	included with Forsythe													
Clague Middle School	172	140	113	144	134	93	122	97	99	123	174	131	158	147
Forsythe Middle School	127	128	101	110	115	99	98	112	121	141	108	110	141	119
Scarlett Middle School	177	171	145	165	184	151	152	178	148	158	141	139	197	125
Slauson Middle School	143	162	107	146	170	289	158	146	148	90	132	156	193	165
Tappan Middle School	125	141	112	105	149	125	100	116	147	123	121	118	143	142
Pathways to Success	230	248	196	226	271	138	139	146	205	330	140	139	126	124
Huron High School	123	122	122	149	156	150	100	117	105	91	103	98	109	85
Pioneer High School	122	158	148	198	215	154	134	140	154	144	134	133	148	176
Community HighSchool	107	107	62	66	69	52	54	53	66	74	63	60	54	49
Skyline High School	31	24	17	25	23	21	21	21	20	23	27	28	43	35
Balas Bldg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Transportation -Main Bldg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Heating Degree Days	6254	6861	5466	6532	7487	7136	5814	5832	6701	6808	6307	6287	6374	6101

Natural Gas Usage per SF (CCF/1000 SF)											* COVID Remote Learning	* COVID Enhanced Ventilation		
Fiscal Year	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Preschool	380	380	380	380	380	380	285	344	413	379	386	377	440	954
Abbot Elementary	414	439	297	349	526	441	422	436	436	499	415	413	489	405
Allen Elementary	410	466	363	428	532	435	413	473	593	629	539	497	676	500
Angell Elementary	868	964	787	928	894	924	613	698	712	812	829	701	1,338	934
Bach Elementary	689	568	426	426	523	580	426	366	469	519	452	476	598	486
Bryant Elementary	214	206	155	197	253	219	157	266	282	303	298	269	327	219
Burns Park Elementary	212	204	153	194	249	572	665	504	550	551	479	511	536	514
Carpenter Elementary	581	530	431	531	643	523	461	539	573	527	476	465	496	470
Dicken Elementary	475	511	331	369	495	427	440	509	547	522	474	448	780	537
Freeman Elementary	664	680	553	591	597	609	559	561	838	690	665	616	718	588
Eberwhite Elementary	637	677	436	501	647	630	485	562	764	722	609	553	929	590
Haisley Elementary	495	509	397	433	519	559	471	454	869	696	665	553	617	473
King Elementary	589	559	531	489	667	579	594	798	688	816	750	698	749	656
Lakewood Elementary	512	566	435	422	498	542	492	492	513	425	441	433	422	427
Lawton Elementary	368	358	298	356	405	670	412	454	493	585	669	520	543	433
Logan Elementary	369	257	307	270	454	277	189	292	372	376	253	255	321	281
AA Open Elementary	480	573	508	532	613	635	488	463	608	736	551	525	607	588
Mitchell Elementary	430	417	289	353	482	363	294	385	418	396	350	345	420	326
A2 STEAM	846	869	714	771	792	463	385	776	833	824	663	803	782	497
Pattengill Elementary	430	524	458	469	588	459	388	405	458	484	421	540	662	587
Pittsfield Elementary	727	532	342	380	527	729	406	515	615	568	535	609	810	583
Thurston Elementary	471	524	315	343	401	287	247	309	429	395	366	402	465	333
Wines Elementary	included with Forsythe													
Clague Middle School	800	645	549	682	607	403	504	428	415	527	752	593	701	647
Forsythe Middle School	565	585	477	513	549	467	470	535	586	662	500	463	562	513
Scarlett Middle School	586	603	460	513	553	518	544	630	565	609	550	511	733	491
Slauson Middle School	539	621	426	586	688	1,169	645	612	605	341	484	570	712	641
Tappan Middle School	418	473	380	370	508	427	350	416	528	440	418	407	445	440
Pathways to Success	796	851	647	687	748	731	635	587	758	816	686	662	741	656
Huron High School	538	491	482	593	582	557	369	445	420	385	415	393	438	367
Pioneer High School	684	747	592	806	863	638	581	612	694	695	646	639	689	742
Community HighSchool	887	895	510	533	575	428	495	485	604	676	573	543	477	420
Skyline High School	71	77	67	97	89	81	81	84	78	89	97	101	151	119
Balas Bldg	345	420	221	378	482	447	375	418	463	529	445	403	449	348
Transportation -Main Bldg	851	902	668	843	1,095	878	619	618	705	802	669	633	694	664
Heating Degree Days	6254	6861	5466	6532	7487	7136	5814	5832	6701	6808	6307	6287	6374	6101

Electricity Usage by Fiscal Year (kWh)												* COVID Remote Learning	* COVID Enhanced Ventilation and New AC systems		
Fiscal Year	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	
Preschool	523,620	473,269	461,172	449,662	421,300	419,155	404,791	477,360	466,318	521,730	497,090	370,350	560,707	444,613	
Abbot Elementary	322,881	329,309	289,735	254,052	233,379	242,620	209,855	255,586	266,481	437,121	511,268	198,641	273,445	271,405	
Allen Elementary	342,798	318,853	315,202	274,496	252,506	290,438	264,464	291,065	301,472	333,996	340,872	242,644	352,672	338,160	
Angell Elementary	139,891	128,200	124,730	105,903	95,161	102,060	94,546	137,006	111,642	103,870	121,600	73,415	110,954	209,909	
Bach Elementary	279,287	280,105	236,086	226,700	211,790	215,108	220,485	256,208	282,517	320,018	252,285	297,989	297,072	294,776	
Bryant Elementary	484,482	449,468	448,187	399,172	326,585	367,997	361,728	402,172	508,662	483,806	396,916	304,767	351,316	226,074	
Burns Park Elementary	307,225	301,978	258,091	222,944	218,531	275,632	253,048	261,066	165,457	228,620	355,794	229,167	360,160	294,663	
Carpenter Elementary	308,360	312,182	269,015	255,133	234,363	241,485	220,261	253,231	248,471	258,119	227,701	169,244	233,675	265,572	
Dicken Elementary	255,131	277,132	237,192	180,819	176,006	180,199	159,105	184,636	206,345	183,142	170,589	140,736	219,995	238,110	
Freeman Elementary	312,116	322,192	329,525	310,832	273,039	272,748	267,019	249,619	234,026	185,679	210,424	237,693	197,595	148,726	
Eberwhite Elementary	336,649	320,902	278,344	234,072	239,166	241,842	214,207	299,559	264,243	255,214	239,013	167,640	313,752	316,934	
Haisley Elementary	294,884	285,672	253,445	238,809	240,221	257,452	223,112	192,455	221,772	235,199	198,683	137,173	177,456	154,140	
King Elementary	399,866	408,477	351,046	309,586	302,140	316,191	286,129	351,646	468,700	506,350	448,715	357,506	482,644	470,081	
Lakewood Elementary	247,204	255,223	257,650	216,474	205,731	197,497	175,703	206,347	211,341	206,065	194,609	147,804	205,251	198,517	
Lawton Elementary	414,821	419,381	358,240	307,659	295,028	303,670	290,694	243,103	232,969	262,721	272,544	241,824	326,952	281,582	
Logan Elementary	639,161	621,365	611,939	539,988	566,960	626,768	539,382	625,777	492,206	522,584	444,211	341,239	492,381	464,106	
AA Open Elementary	611,924	541,931	518,011	493,667	468,189	514,481	539,047	629,552	419,292	223,904	182,768	32,360	189,899	213,348	
Mitchell Elementary	283,369	288,224	252,024	196,386	200,086	202,236	371,093	263,897	260,141	275,975	262,505	230,681	284,254	278,764	
A2 STEAM	282,691	282,531	234,461	184,756	197,555	248,547	310,330	373,695	351,014	292,674	270,963	255,344	400,657	245,370	
Pattengill Elementary	309,437	316,179	301,820	266,571	221,953	245,416	240,160	263,646	238,413	271,168	232,415	173,620	217,232	196,525	
Pittsfield Elementary	294,400	260,960	224,044	197,739	193,577	197,710	201,983	224,167	231,752	218,308	203,300	159,600	259,840	253,777	
Thurston Elementary	351,757	338,323	319,041	259,373	260,017	277,786	245,483	292,246	376,770	371,151	318,669	226,860	390,375	400,856	
Wines Elementary	included with Forsythe														
Clague Middle School	1,039,395	957,226	899,104	785,624	728,571	818,457	826,385	945,873	970,297	977,320	968,713	831,059	1,158,275	1,108,467	
Forsythe Middle School	1,448,277	1,507,505	1,193,624	1,048,499	1,013,645	1,061,792	1,049,862	1,172,256	1,254,135	1,310,348	1,112,630	829,318	1,234,353	1,031,835	
Scarlett Middle School	1,147,526	1,162,120	1,119,920	977,205	879,970	851,241	951,814	1,097,783	1,089,263	1,070,706	970,819	712,553	1,283,793	1,389,429	
Slauson Middle School	1,100,149	839,107	771,261	690,460	624,388	678,385	782,608	865,749	888,438	816,516	711,342	549,881	972,906	1,016,223	
Tappan Middle School	977,856	912,312	795,373	747,765	602,751	752,654	731,804	866,725	844,684	862,739	786,867	680,622	1,020,766	1,709,934	
Pathways to Success	292,927	263,603	242,938	245,012	227,700	246,966	233,951	276,373	267,360	285,660	256,180	208,464	293,074	295,553	
Huron High School	4,628,479	4,497,248	3,988,693	3,733,728	3,704,910	3,939,620	3,852,288	4,413,905	4,072,954	4,368,392	4,076,912	3,166,492	4,073,218	3,714,445	
Pioneer High School	4,361,037	4,109,455	3,676,982	3,579,709	3,387,017	3,392,779	3,290,610	3,599,904	3,468,410	3,608,318	3,348,082	2,987,083	3,703,845	3,814,853	
Community HighSchool	327,049	332,844	317,790	288,703	242,525	287,050	257,525	338,685	286,462	284,392	268,360	223,107	483,421	409,138	
Skyline High School	6,196,136	6,523,793	5,884,047	6,445,052	6,957,894	6,632,125	6,026,550	5,968,844	5,298,377	5,664,146	5,101,650	6,326,245	10,723,463	8,592,925	
Balas Bldg	1,036,491	1,041,915	1,008,280	907,019	752,090	746,491	709,800	747,762	734,776	759,733	683,803	610,400	655,877	679,592	
Transportation -Main Bldg	281,650	361,442	260,690	211,698	298,918	281,377	215,129	244,430	231,270	178,537	162,419	150,718	192,648	184,792	
TOTAL	30,578,924	30,040,426	27,087,703	25,785,267	25,253,661	25,925,971	25,020,949	27,272,324	25,966,427	26,884,217	24,800,711	21,920,238	32,493,920	30,153,192	
kWh/Student	1,811	1,752	1,582	1,491	1,494	1,497	1,425	1,524	1,434	1,478	1,369	1,233	1,855	1,733	
KwH/Square Foot	8.72	8.56	7.72	7.35	7.17	7.36	7.10	7.74	7.33	7.53	6.95	6.14	9.11	8.47	
Solar Production (kWh)												12,569	93,319	610,110	433,074

Electricity Usage per SF (kWh/1000 SF)											* COVID Remote Learning	* COVID Enhanced Ventilation and New AC systems		
Fiscal Year	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Preschool	8,958	8,097	7,890	7,693	7,208	7,171	6,925	8,167	7,978	8,926	8,505	6,336	9,593	19,335
Abbot Elementary	6,119	6,241	5,491	4,815	4,423	4,598	3,977	4,844	5,050	8,284	9,690	3,765	5,182	5,144
Allen Elementary	5,243	4,876	4,820	4,198	3,862	4,442	4,045	4,451	4,611	5,108	5,213	3,711	5,394	5,172
Angell Elementary	3,794	3,477	3,383	2,872	2,581	2,768	2,564	3,716	3,028	2,817	3,298	1,991	3,009	5,694
Bach Elementary	5,261	5,276	4,447	4,270	3,989	4,052	4,153	4,826	5,321	6,028	4,752	3,880	5,596	5,552
Bryant Elementary	8,049	7,467	7,446	6,632	5,426	6,114	6,010	6,681	8,451	8,038	6,594	5,063	5,837	3,756
Burns Park Elementary	5,037	4,951	4,232	3,655	3,583	4,519	4,149	4,280	2,514	3,473	5,405	3,481	5,471	4,476
Carpenter Elementary	5,869	5,942	5,120	4,856	4,461	4,596	4,192	4,820	4,729	4,238	3,739	2,779	3,837	4,361
Dicken Elementary	5,906	6,415	5,491	4,186	4,074	4,171	3,683	4,274	4,777	4,239	3,949	3,258	5,093	5,512
Freeman Elementary	9,729	10,043	10,272	9,689	8,511	8,502	8,324	7,781	7,295	5,788	6,559	7,409	6,159	4,636
Eberwhite Elementary	5,420	5,166	4,481	3,768	3,850	3,893	3,448	4,822	4,254	4,109	3,848	2,699	5,051	5,102
Haisley Elementary	5,081	4,923	4,367	4,115	4,139	4,436	3,845	3,316	3,822	4,053	3,424	2,364	3,058	2,656
King Elementary	7,660	7,825	6,725	5,931	5,788	6,057	5,481	6,737	8,218	8,878	7,868	6,268	8,462	8,242
Lakewood Elementary	5,810	5,998	6,055	5,088	4,835	4,642	4,129	4,850	4,967	4,843	4,574	3,474	4,824	4,666
Lawton Elementary	7,030	7,107	6,071	5,214	5,000	5,146	4,926	4,120	3,948	4,452	4,619	4,098	5,541	4,772
Logan Elementary	10,658	10,361	10,204	9,004	9,454	10,451	8,994	10,435	8,208	8,714	7,407	5,690	8,210	7,739
AA Open Elementary	6,913	6,123	5,852	5,577	5,289	5,812	6,090	7,113	4,737	2,530	2,065	366	2,145	2,410
Mitchell Elementary	4,981	5,067	4,430	3,452	3,517	3,084	5,660	4,025	3,695	3,504	3,333	2,929	3,609	3,539
A2 STEAM	5,821	5,818	4,828	3,804	3,098	3,897	4,866	5,859	5,504	4,589	4,249	4,004	6,282	2,979
Pattengill Elementary	5,752	5,877	5,610	4,955	4,126	4,562	4,464	4,900	4,431	5,040	4,320	3,227	4,038	3,653
Pittsfield Elementary	7,072	6,268	5,382	4,750	4,650	4,749	4,852	5,385	5,567	5,244	4,883	3,834	6,242	6,096
Thurston Elementary	6,016	5,786	5,456	4,436	4,447	4,751	4,198	4,998	5,952	5,863	5,034	3,584	6,167	6,332
Wines Elementary	Included with Forsythe													
Clague Middle School	6,663	6,136	5,763	5,036	4,670	5,247	5,297	6,063	6,220	6,265	6,210	5,327	7,425	7,106
Forsythe Middle School	6,172	6,425	5,087	4,469	4,320	4,525	4,474	4,996	5,345	5,392	4,579	3,413	5,080	4,246
Scarlett Middle School	7,051	7,140	6,881	6,004	5,407	5,230	5,848	6,745	6,693	6,579	5,965	4,378	7,888	8,537
Slauson Middle School	5,788	4,414	4,057	3,632	3,285	3,569	4,117	4,554	4,674	4,295	3,742	2,893	5,118	5,346
Tappan Middle School	4,528	4,225	3,683	3,463	2,791	3,485	3,389	4,014	3,912	3,995	3,644	3,152	4,727	7,918
Pathways to Success	7,628	6,864	6,326	6,380	5,929	6,431	6,092	7,197	6,962	7,439	6,671	5,428	7,632	7,696
Huron High School	11,423	11,099	9,844	9,215	9,144	9,723	9,507	10,894	10,052	10,781	10,062	7,815	10,053	9,167
Pioneer High School	10,776	10,155	9,086	8,846	8,369	8,384	8,131	8,895	8,570	8,916	8,273	7,381	9,152	9,427
Community HighSchool	5,619	5,719	5,460	4,961	4,167	4,932	4,425	5,819	4,922	4,886	4,611	3,833	8,306	7,030
Skyline High School	16,281	17,142	15,461	16,936	18,283	17,427	15,836	15,684	13,922	14,884	13,405	16,623	28,178	22,579
Balas Bldg	22,242	22,359	21,637	19,464	16,139	16,019	15,232	16,046	15,768	16,303	14,674	13,099	14,075	14,584
Transportation -Main Bldg	15,396	19,757	14,250	11,572	16,340	15,381	11,760	13,361	12,642	9,759	8,878	8,239	10,531	10,101

Solar Electricity Capacity + Generation		Production by Fiscal Year (kWh)			
Description & Location	System Size (KW DC)	2020	2021	2022	2023
Preschool	150				
Bryant Elementary	150				
Haisley Elementary	149			66,307	84,209
A2 STEAM	165	12,569	12,569	196,926	73,576
Pattengill Elementary	118		80,750	115,425	56,515
Forsythe Middle School	194			94,654	114,449
Scarlett Middle School	199				
Tappan Middle School	199				
Huron High School	167			136,798	102,302
Pioneer High School	150				
TOTAL Capacity (kW)	1640				
TOTAL Production (kWh)		12,569	93,319	610,110	433,074
Estimate \$ Value (\$0.127/kWh)		\$1,596	\$11,852	\$77,484	\$55,000
Operational					
FY 2022 Construction					
Fy 2023 Construction					
<i>estimate</i>					

Water Usage by Fiscal Year (kgal)											* COVID Remote Learning			
Fiscal Year	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Preschool	200	294	326	434	563	431	415	438	402	381	305	381	257	874
Abbot Elementary	213	242	215	209	201	200	211	209	228	239	166	320	977	1152
Allen Elementary	373	422	377	386	317	202	383	254	586	611	470	335	451	513
Angell Elementary	181	344	212	228	169	212	192	210	178	135	9	1	2	35
Bach Elementary	345	288	310	321	254	265	258	397	320	384	362	255	316	445
Bryant Elementary	196	154	240	218	275	323	295	292	248	253	290	130	258	264
Burns Park Elementary	340	367	393	469	335	460	482	426	554	428	317	216	554	201
Carpenter Elementary	134	247	192	320	236	140	70	80	79	82	45	89	242	166
Dicken Elementary	377	291	410	519	527	423	415	331	296	302	212	213	527	365
Freeman Elementary	well water system													
Eberwhite Elementary	304	264	436	418	361	597	375	451	556	384	443	339	528	560
Haisley Elementary	388	279	414	444	456	489	476	443	390	459	416	244	365	563
King Elementary	272	256	277	312	316	328	354	370	428	509	392	161	503	592
Lakewood Elementary	259	183	305	269	228	243	259	263	271	282	236	82	330	501
Lawton Elementary	642	295	274	269	271	325	335	299	326	327	229	71	320	369
Logan Elementary	285	473	452	339	353	286	264	305	244	256	206	100	393	353
AA Open Elementary	1711	1292	2709	2268	1769	1919	2432	2762	2262	2016	1518	99	622	1554
Mitchell Elementary	216	158	317	226	155	226	243	587	308	534	196	119	593	841
A2 STEAM	347	273	258	285	251	466	505	519	396	443	234	658	882	583
Pattengill Elementary	428	263	209	185	276	383	300	319	313	217	209	113	305	267
Pittsfield Elementary	217	164	253	267	255	252	270	267	275	233	119	231	337	285
Thurston Elementary	396	347	343	374	391	393	412	436	497	606	439	402	460	534
Wines Elementary	included with Forsythe													
Clague Middle School	855	779	649	847	571	514	722	617	767	1375	1442	658	1143	2265
Forsythe Middle School	2242	1565	3070	2292	2571	1971	2086	2670	2374	2390	1767	1145	2950	2167
Scarlett Middle School	921	441	831	803	408	709	929	987	1119	902	675	23	109	131
Slauson Middle School	1072	1082	1244	1459	2969	1549	1323	1302	1409	2035	3042	805	1700	2002
Tappan Middle School	1438	1373	1301	891	804	926	1037	974	1039	979	1271	311	977	1152
Pathways to Success	237	223	141	186	185	440	611	421	311	294	207	426	1053	729
Huron High School	6587	9369	15702	6173	4138	3644	5327	3952	4420	3305	3501	3869	7122	2374
Pioneer High School	3885	7747	10353	5105	4116	4802	3826	4125	5751	4711	3557	1258	1346	2189
Community HighSchool	232	454	380	367	266	642	861	882	634	702	282	488	425	294
Skyline High School	2042	2028	2792	2377	2241	2895	3367	3876	3414	4053	2320	3783	2140	598
Balas Bldg	226	214	207	244	189	168	182	231	212	230	192	127	86	291
Transportation -Main Bldg	218	249	157	160	158	165	160	188	209	191	74	109	279	297
TOTAL Water Usage (kgal)	27,778	32,418	45,746	29,664	26,572	26,988	29,377	29,880	30,812	30,247	25,143	17,560	28,551	25,500
TOTAL MT CO2eq	88	103	145	94	84	86	93	95	98	96	80	56	91	81
gallons/Student	1645	1890	2672	1716	1572	1559	1673	1670	1702	1663	1388	988	1630	1466

Water Usage per SF (gallons/SF)											* COVID Remote Learning			
Fiscal Year	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Preschool	3.42	5.03	5.58	7.42	9.64	7.38	7.10	7.49	6.87	6.51	5.22	6.51	4.40	37.99
Abbot Elementary	4.04	4.58	4.08	3.96	3.82	3.80	4.00	3.96	4.32	4.52	3.15	6.06	18.51	21.83
Allen Elementary	5.71	6.45	5.77	5.91	4.84	3.09	5.86	3.88	8.96	9.34	7.19	5.13	6.90	7.84
Angell Elementary	4.90	9.34	5.74	6.20	4.59	5.76	5.19	5.68	4.83	3.65	0.25	0.04	0.06	0.94
Bach Elementary	6.50	5.42	5.83	6.05	4.78	4.99	4.86	7.47	6.02	7.23	6.82	4.81	5.96	8.38
Bryant Elementary	3.26	2.55	3.99	3.63	4.58	5.37	4.90	4.84	4.12	4.19	4.81	2.16	4.29	4.38
Burns Park Elementary	5.58	6.01	6.44	7.69	5.49	7.54	7.90	6.98	8.41	6.50	4.82	3.28	8.41	3.05
Carpenter Elementary	2.55	4.70	3.66	6.09	4.50	2.66	1.34	1.52	1.49	1.35	0.74	1.46	3.98	2.72
Dicken Elementary	8.72	6.74	9.50	12.02	12.20	9.79	9.62	7.65	6.85	6.99	4.90	4.93	12.19	8.44
Freeman Elementary	well water system													
Eberwhite Elementary	4.89	4.25	7.02	6.73	5.81	9.61	6.04	7.26	8.94	6.19	7.13	5.45	8.50	9.01
Haisley Elementary	6.69	4.80	7.13	7.64	7.85	8.43	8.21	7.63	6.72	7.91	7.16	4.20	6.28	9.70
King Elementary	5.21	4.90	5.30	5.97	6.05	6.28	6.78	7.09	7.50	8.93	6.87	2.83	8.81	10.38
Lakewood Elementary	6.09	4.31	7.16	6.32	5.35	5.71	6.10	6.18	6.37	6.62	5.55	1.92	7.77	11.77
Lawton Elementary	10.88	4.99	4.64	4.56	4.59	5.51	5.67	5.06	5.52	5.55	3.88	1.20	5.41	6.24
Logan Elementary	4.76	7.89	7.54	5.65	5.88	4.77	4.41	5.08	4.07	4.27	3.44	1.66	6.55	5.89
AA Open Elementary	19.33	14.59	30.60	25.63	19.98	21.68	27.48	31.20	25.56	22.78	17.15	1.12	7.03	17.56
Mitchell Elementary	3.79	2.77	5.57	3.97	2.72	3.45	3.71	8.96	4.37	6.78	2.49	1.51	7.53	10.67
A2 STEAM	7.15	5.62	5.31	5.87	3.94	7.31	7.92	8.13	6.20	6.95	3.67	10.32	13.82	7.07
Pattengill Elementary	7.95	4.89	3.88	3.43	5.13	7.12	5.58	5.93	5.82	4.03	3.89	2.10	5.68	4.96
Pittsfield Elementary	5.21	3.94	6.08	6.40	6.13	6.05	6.48	6.41	6.61	5.60	2.86	5.55	8.09	6.84
Thurston Elementary	6.77	5.94	5.87	6.40	6.68	6.71	7.05	7.46	7.86	9.58	6.93	6.36	7.27	8.44
Wines Elementary	included with Forsythe													
Clague Middle School	5.48	4.99	4.16	5.43	3.66	3.29	4.63	3.95	4.92	8.82	9.24	4.22	7.33	14.52
Forsythe Middle School	9.56	6.67	13.08	9.77	10.96	8.40	8.89	11.38	10.12	9.83	7.27	4.71	12.14	0.54
Scarlett Middle School	5.66	2.71	5.10	4.93	2.51	4.35	5.71	6.07	6.87	5.54	4.14	0.14	0.67	0.81
Slauson Middle School	5.64	5.69	6.54	7.67	15.62	8.15	6.96	6.85	7.41	10.71	16.00	4.23	8.94	10.53
Tappan Middle School	6.66	6.36	6.02	4.13	3.73	4.29	4.80	4.51	4.81	4.53	5.89	1.44	4.52	5.33
Pathways to Success	6.18	5.82	3.66	4.85	4.81	11.45	15.91	10.97	8.11	7.65	5.38	11.09	27.43	18.99
Huron High School	16.26	23.12	38.75	15.24	10.21	8.99	13.15	9.75	10.91	8.16	8.64	9.55	17.58	5.86
Pioneer High School	9.60	19.14	25.58	12.61	10.17	11.87	9.45	10.19	14.21	11.64	8.79	3.11	3.33	5.41
Community HighSchool	3.99	7.79	6.53	6.31	4.57	11.03	14.79	15.15	10.89	12.07	4.85	8.38	7.30	5.04
Skyline High School	5.37	5.33	7.34	6.25	5.89	7.61	8.85	10.19	8.97	10.65	6.10	9.94	5.62	1.57
Balas Bldg	4.85	4.59	4.45	5.24	4.06	3.59	3.90	4.97	4.54	4.94	4.13	2.72	1.84	6.25
Transportation -Main Bldg	11.91	13.61	8.59	8.73	8.63	9.02	8.74	10.29	11.43	10.44	4.06	5.98	15.27	16.21

Total Metric Tons of CO2 Equivalent Emissions per School (Total MT CO2eq)												* COVID Remote Learning	* COVID Enhanced Ventilation and New AC systems	
Fiscal Year	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Preschool	502	459	444	453	411	404	352	410	431	460	425	294	461	359
Abbot Elementary	384	395	310	312	347	321	288	317	325	468	468	239	327	278
Allen Elementary	440	443	390	399	415	397	366	401	462	503	454	342	505	394
Angell Elementary	322	336	288	313	291	302	219	265	252	272	283	211	397	341
Bach Elementary	459	414	327	329	341	362	308	304	359	405	324	277	391	328
Bryant Elementary	450	415	388	384	333	347	313	371	452	448	369	260	335	382
Burns Park Elementary	323	313	255	255	263	434	453	383	356	401	442	346	454	416
Carpenter Elementary	437	419	348	384	395	355	315	357	367	389	337	275	339	327
Dicken Elementary	326	350	265	242	265	247	233	265	291	270	239	196	351	273
Freeman Elementary	311	319	293	299	257	257	239	218	268	204	207	185	201	132
Eberwhite Elementary	439	440	304	308	360	353	270	352	414	392	324	233	491	328
Haisley Elementary	410	405	334	347	369	396	334	298	480	424	378	278	338	256
King Elementary	507	499	441	408	450	426	406	512	577	657	572	449	572	493
Lakewood Elementary	313	332	294	268	271	275	243	257	268	241	229	178	221	204
Lawton Elementary	463	457	382	380	375	483	368	342	351	410	439	330	409	317
Logan Elementary	609	544	549	502	569	535	430	511	454	481	358	251	395	326
AA Open Elementary	757	752	693	707	711	753	679	707	650	595	447	325	473	463
Mitchell Elementary	376	371	292	283	325	300	388	343	369	394	349	297	388	315
A2 STEAM	482	486	396	385	473	368	376	575	585	544	448	468	566	583
Pattengill Elementary	387	423	384	372	369	337	305	318	321	355	296	279	363	309
Pittsfield Elementary	429	346	262	261	289	347	257	296	330	309	281	254	383	296
Thurston Elementary	36	43	-58	-81	-71	-105	-147	-100	20	5	-57	-129	14	-67
Wines Elementary	included with Forsythe													
Clague Middle School	1,618	1,383	1,226	1,312	1,152	997	1,098	1,070	1,077	1,210	1,399	1,039	1,413	1,246
Forsythe Middle School	1,974	2,033	1,614	1,602	1,582	1,476	1,458	1,609	1,748	1,955	1,505	1,158	1,632	1,348
Scarlett Middle School	1,371	1,388	1,186	1,177	1,098	1,032	1,123	1,281	1,209	1,253	1,078	780	1,419	1,114
Slauson Middle School	1,526	1,422	1,112	1,284	1,335	1,978	1,375	1,360	1,370	994	1,077	1,008	1,488	1,348
Tappan Middle School	1,348	1,368	1,133	1,112	1,167	1,153	1,018	1,179	1,329	1,223	1,106	935	1,247	1,526
Pathways to Success	422	411	340	361	352	360	324	331	370	400	335	273	362	318
Huron High School	4,962	4,697	4,256	4,487	4,241	4,305	3,691	4,134	3,852	3,995	3,704	2,668	3,584	2,880
Pioneer High School	4,625	4,574	3,786	4,421	4,250	3,613	3,340	3,517	3,669	3,797	3,340	2,715	3,505	3,429
Community HighSchool	597	602	436	435	402	376	378	420	432	461	397	330	477	378
Skyline High School	4,439	4,640	4,055	4,807	4,843	4,518	4,007	3,760	3,309	3,641	3,053	3,089	6,334	4,312
Balas Bldg	904	921	820	830	703	681	623	637	645	690	582	446	534	465
Transportation -Main Bldg	283	347	238	231	316	273	191	203	206	183	149	118	163	140
TOTAL	33,230	32,745	27,784	29,568	29,249	28,657	25,619	27,201	27,598	28,429	25,338	20,397	30,530	25,555

Metric Tons of CO2 Equivalent Emissions per SF (MT CO2eq/1000 SF)													* COVID Remote Learning	* COVID Enhanced Ventilation and New AC systems	
Fiscal Year	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	
Preschool	8.59	7.85	7.59	7.76	7.02	6.92	6.02	7.01	7.37	7.87	7.27	5.03	7.88	15.60	
Abbot Elementary	7.27	7.48	5.88	5.92	6.57	6.09	5.46	6.00	6.16	8.87	8.86	4.53	6.19	5.27	
Allen Elementary	6.73	6.77	5.97	6.11	6.35	6.08	5.60	6.13	7.07	7.70	6.94	5.23	7.73	6.02	
Angell Elementary	8.74	9.11	7.80	8.48	7.89	8.20	5.94	7.19	6.83	7.38	7.68	5.73	10.77	9.24	
Bach Elementary	8.65	7.80	6.16	6.20	6.42	6.81	5.80	5.72	6.76	7.63	6.10	5.22	7.36	6.17	
Bryant Elementary	7.47	6.90	6.45	6.38	5.54	5.76	5.19	6.17	7.51	7.43	6.13	4.32	5.56	6.34	
Burns Park Elementary	5.29	5.12	4.19	4.18	4.31	7.12	7.43	6.28	5.41	6.10	6.72	5.25	6.90	6.32	
Carpenter Elementary	8.32	7.98	6.63	7.30	7.51	6.75	5.99	6.79	6.98	6.39	5.54	4.51	5.57	5.37	
Dicken Elementary	7.55	8.10	6.14	5.59	6.14	5.71	5.40	6.13	6.74	6.24	5.54	4.53	8.13	6.32	
Freeman Elementary	9.68	9.93	9.12	9.32	8.01	8.00	7.44	6.78	8.34	6.37	6.46	5.78	6.27	4.13	
Eberwhite Elementary	7.06	7.08	4.90	4.95	5.80	5.69	4.34	5.67	6.66	6.31	5.21	3.76	7.91	5.28	
Haisley Elementary	7.07	6.98	5.76	5.98	6.37	6.82	5.75	5.13	8.27	7.31	6.52	4.78	5.82	4.41	
King Elementary	9.72	9.57	8.46	7.82	8.61	8.16	7.78	9.80	10.11	11.51	10.03	7.87	10.02	8.64	
Lakewood Elementary	7.36	7.81	6.90	6.29	6.36	6.46	5.71	6.05	6.29	5.66	5.38	4.18	5.20	4.80	
Lawton Elementary	7.85	7.75	6.48	6.44	6.35	8.18	6.24	5.80	5.95	6.96	7.44	5.59	6.93	5.37	
Logan Elementary	10.15	9.07	9.16	8.37	9.49	8.92	7.16	8.51	7.57	8.02	5.98	4.18	6.58	5.44	
AA Open Elementary	8.56	8.50	7.83	7.99	8.03	8.51	7.67	7.98	7.35	6.72	5.05	3.67	5.34	5.23	
Mitchell Elementary	6.61	6.52	5.14	4.97	5.71	4.58	5.92	5.23	5.24	5.01	4.43	3.78	4.92	4.00	
A2 STEAM	9.92	10.01	8.15	7.93	7.41	5.76	5.89	9.01	9.17	8.53	7.02	7.34	8.88	7.07	
Pattengill Elementary	7.19	7.85	7.13	6.91	6.86	6.27	5.67	5.92	5.97	6.60	5.50	5.19	6.75	5.74	
Pittsfield Elementary	10.31	8.31	6.30	6.28	6.95	8.33	6.19	7.10	7.92	7.43	6.74	6.10	9.19	7.11	
Thurston Elementary	0.62	0.73	-0.99	-1.39	-1.21	-1.80	-2.51	-1.71	0.32	0.09	-0.90	-2.04	0.22	-1.05	
Wines Elementary	Included with Forsythe														
Clague Middle School	10.37	8.86	7.86	8.41	7.39	6.39	7.04	6.86	6.91	7.76	8.97	6.66	9.06	7.98	
Forsythe Middle School	8.41	8.66	6.88	6.83	6.74	6.29	6.22	6.86	7.45	8.05	6.19	4.77	6.72	5.55	
Scarlett Middle School	8.42	8.53	7.29	7.23	6.75	6.34	6.90	7.87	7.43	7.70	6.63	4.79	8.72	6.84	
Slauson Middle School	8.03	7.48	5.85	6.75	7.02	10.40	7.23	7.16	7.21	5.23	5.67	5.31	7.83	7.09	
Tappan Middle School	6.24	6.33	5.25	5.15	5.40	5.34	4.71	5.46	6.16	5.66	5.12	4.33	5.78	7.07	
Pathways to Success	11.00	10.71	8.84	9.41	9.17	9.38	8.43	8.63	9.63	10.41	8.72	7.11	9.42	8.28	
Huron High School	12.25	11.59	10.50	11.07	10.47	10.63	9.11	10.20	9.51	9.86	9.14	6.58	8.84	7.11	
Pioneer High School	11.43	11.30	9.35	10.92	10.50	8.93	8.25	8.69	9.07	9.38	8.25	6.71	8.66	8.47	
Community HighSchool	10.26	10.34	7.49	7.47	6.91	6.46	6.50	7.22	7.41	7.93	6.83	5.66	8.20	6.50	
Skyline High School	11.66	12.19	10.65	12.63	12.72	11.87	10.53	9.88	8.70	9.57	8.02	8.12	16.64	11.33	
Balas Bldg	19.40	19.77	17.60	17.82	15.09	14.61	13.37	13.67	13.84	14.80	12.48	9.58	11.46	9.99	
Transportation -Main Bldg	15.44	18.94	12.99	12.63	17.26	14.94	10.43	11.09	11.24	10.01	8.12	6.46	8.90	7.67	

Site Sequestration (MT CO2)							
School	Site Area (acres)	Hardscape percentage	Greenspace (acres)	Percentage Grass	Percentage Forest	Percentage Pond	CO2 Sequestration per year (MT CO2)
Abbot Elementary	12	20%	9.60	75%	25%		-11.8
Allen Elementary	10.5	45%	5.78	95%	5%		-5.1
Angell Elementary	3	75%	0.75	75%	25%		-0.9
Bach Elementary	7.8	85%	1.17	50%	50%		-1.9
Bryant Elementary	10.8	25%	8.10	75%	25%		-9.9
Burns Park Elementary	4	65%	1.40	95%	5%		-1.2
Carpenter Elementary	11	45%	6.05	97%	3%		-5.1
Dicken Elementary	10	25%	7.50	75%	25%		-9.2
Freeman Elementary	40	5%	38.00	35%	65%		-72.4
Eberwhite Elementary	42.2	15%	35.87	5%	95%		-86.6
Haisley Elementary	10	35%	6.50	50%	50%		-10.7
King Elementary	9.96	50%	4.98	60%	40%		-7.4
Lakewood Elementary	18	20%	14.40	50%	50%		-23.8
Lawton Elementary	7.7	50%	3.85	90%	10%		-3.7
Logan Elementary	9.75	40%	5.85	50%	45%	5%	-32.3
AA Open Elementary	7	45%	3.85	90%	10%		-3.7
Mitchell Elementary	10	20%	8.00	95%	5%		-7.1
A2 STEAM	17	25%	12.75	90%	10%		-12.4
Pattengill Elementary	11.33	25%	8.50	95%	5%		-7.5
Pittsfield Elementary	4	70%	1.20	97%	3%		-1.0
Thurston Elementary	24.75	20%	19.80	30%	40%	25%	-420.6
Wines Elementary	18.5	25%	13.88	70%	30%		-18.2
AVERAGE ELEMENTARY / K-8	13.60						-34.2
Clague Middle School	26.45	45%	14.55	60%	40%		-21.5
Forsythe Middle School	26	25%	19.50	90%	10%		-18.9
Scarlett Middle School	30.5	15%	25.93	25%	70%	5%	-154.3
Slauson Middle School	12	25%	9.00	75%	25%		-11.0
Tappan Middle School	20	25%	15.00	90%	10%		-14.6
AVERAGE MIDDLE SCHOOL	22.99						-44.1
Pathways to Success	9	30%	6.30	65%	35%		-8.8
Huron High School	55.5	60%	22.20	70%	27%	3%	-80.7
Pioneer High School	177	20%	141.60	35%	62%	3%	-599.0
Community High School	3.2	50%	1.60	90%	10%		-1.6
Skyline High School	108	20%	86.40	25%	70%	5%	-514.1
AVERAGE HIGH SCHOOL	70.54						-240.8
Balas	6.36	75%	1.59	85%	15%		-1.7
Transportation	5.85	75%	7.83	80%	15%	5%	-39.3
Preschool	3.63	50%	1.82	20%	65%	15%	-25.0
			TOTAL (MT CO2 sequestration/yr)				-2242.9

Description & Location	Total Area	Landfill						Recycling					
		# 6 yard containers	# 8 yard containers	Volume of Compactor / roll off	Days of service/wk	Annual Volume - CY (42 weeks)	Cubic Feet/1000 SF	# 6 yard container s	# 8 yard container s	Days of service/wk	Annual Volume - CY (42 weeks)	Cubic Feet/1000 SF	DIVERSION RATE
Preschool	22,995	2			1	504	592	1		1	252	296	33%
Abbot Elementary	52,765	1			1	252	129	1		1	252	129	50%
Allen Elementary	65,388	2			1	504	208	1		1	252	104	33%
Angell Elementary	36,868	1			1	252	185	1		1	252	185	50%
Bach Elementary	53,090	2			1	504	256	1		1	252	128	33%
Bryant Elementary	60,192	2			3	1,512	678	1		1	252	113	14%
Burns Park Elementary	65,826	2			1	504	207	1		1	252	103	33%
Carpenter Elementary	60,899		1		1	336	149		1	1	336	149	50%
Dicken Elementary	43,199	2			1	504	315	1		1	252	158	33%
Freeman Elementary	32,080	1			1	252	212	1		1	252	212	50%
Eberwhite Elementary	62,117	2			1	504	219	1		1	252	110	33%
Haisley Elementary	58,032	2			1	504	234	1		1	252	117	33%
King Elementary	57,034	2			1	504	239	1		1	252	119	33%
Lakewood Elementary	42,549	1			2	504	320	1		1	252	160	33%
Lawton Elementary	59,009	2			1	504	231	1		1	252	115	33%
Logan Elementary	59,970	2			1	504	227	1		1	252	113	33%
AA Open Elementary	88,513	2			2	1,008	307	1		1	252	77	20%
Mitchell Elementary	78,763	1			2	504	173	1		1	252	86	33%
A2 STEAM	82,369	2			2	1,008	330	1		1	252	83	20%
Pattengill Elementary	53,800	1			2	504	253	1		1	252	126	33%
Pittsfield Elementary	41,631	1			1	252	163	1		1	252	163	50%
Thurston Elementary	63,304	2			1	504	215	1		1	252	107	33%
Wines Elementary	57,842	2			1	504	235	1		1	252	118	33%
Clague Middle School	156,000	3			2	1,512	262	1		1	252	44	14%
Forsythe Middle School	185,156	4			1	1,008	147	2		1	504	73	33%
Scarlett Middle School	162,758	3			1	756	125	2		2	1,008	167	57%
Slauson Middle School	190,090	2			2	1,008	143	1		1	252	36	20%
Tappan Middle School	215,942	2			2	1,008	126	1		1	252	32	20%
Pathways to Success	38,402	2			1	504	354	1		1	252	177	33%
Huron High School	405,187	2	45	1	2,394	160	2		1	504	34	17%	
Pioneer High School	404,692		165	0.8	5,544	370	3		2	1,512	101	21%	
Community High School	58,200	1	10	2	1,344	624		1	1	336	156	20%	
Skyline High School	380,564		35	1	1,470	104	2		1	504	36	26%	
Balas Bldg	46,600	3			1	756	438	2		2	1,008	584	57%
Transportation	18,294	1			1	252	372	0		0	0	0	0%
	3,560,120					29,988	0.227				12,264	0.093	29.0%

