

City of Charlottesville Fiscal Year 2022 Annual Energy and Water Performance Report - CCS Executive Summary



The City of Charlottesville’s Energy and Water Management Program (EWMP) monitors and manages energy and water usage at all municipal and school sites. It has continued its strong partnership with Charlottesville City Schools (CCS) set in place by the energy and water saving goals in the 2019 Resolution for Charlottesville City Schools Energy and Water Performance. This summary highlights notable actions and findings for CCS from the [City of Charlottesville FY2022 Annual Energy and Water Performance Report \(LINK\)](#).

FY2022 Key Performance Findings

Following two years of utility performance impacted by COVID-19, FY2022 more closely represented a “pre-pandemic” year for CCS as facilities opened back up for students, staff, and teachers. **In FY2022, the school portfolio spent \$1.26 million on energy and water utilities** (Figure 1), accounting for 41% of the total City of Charlottesville utility spending. This increase in utility costs is associated with increasing utility rates, and schools being open, fully occupied, and run at pre-pandemic levels. When compared to the portfolio’s baseline year of 2015, there was a 21% increase in utility costs; for utility consumption, there was a 5% increase in electricity, 3% increase in natural gas, and 9% increase in water.

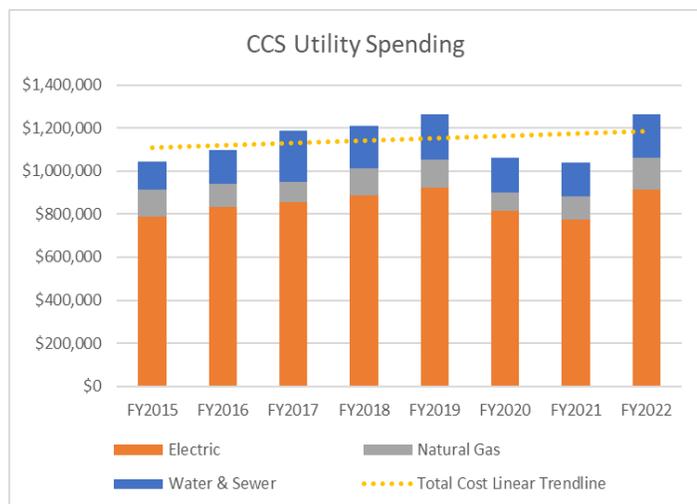


Figure 1: Charlottesville City School’s utility spending for the past 8 fiscal years for each commodity type across all school facilities.

The average ENERGY STAR score across the CCS portfolio in FY2022 was 54 (65.2 in FY2021). The average Energy Use Intensity (EUI) was 52.9 kBtu/sq.ft. (48.5 kBtu/sq.ft. in FY2021). The EUI and ENERGY STAR scores were worse than FY2021 largely due to the return to normal operations. Two schools, Johnson Elementary and Lugo-McGinness Academy, have reached or exceeded the prerequisite score of 75 in FY2022 to achieve ENERGY STAR certification (76

School Facilities	ENERGY STAR Score*		
	FY2015	FY2021	FY2022
Buford Middle School	43	59	47
Burnley-Moran Elementary School (<i>ES Cert. 2009</i>)	33	68	66
Charlottesville High School (<i>ES Cert. 2009</i>)	71	69	58
Clark Elementary School (<i>ES Cert. 2009</i>)	37	55	41
Greenbrier Elementary School (<i>ES Cert. 2009</i>)	51	67	60
Jackson-Via Elementary School (<i>ES Cert. 2009</i>)	65	67	57
Johnson Elementary School (<i>ES Cert. 2009</i>)	71	78	76
Lugo-McGinness Academy	82	96	85
Venable Elementary School	52	63	61
Venable School Annex	1	56	10
Walker Upper Elementary School	40	30	29

Table 1: CCS benchmarked facilities and Energy STAR scores for FY2015, FY2021, and FY2022.

and 85 respectively), and the EWMP will evaluate pursuing ENERGY STAR certification for eligible schools once confident in scores accuracy (Table 1).

The CCS portfolio had seen a downward trend in greenhouse gas (GHG) emissions and then a leveling off from 2015 to 2019. With major reductions seen in energy usage at CCS facilities in 2020 due to COVID-19, GHG emissions saw a sharp decline (28.0%). The portfolio then saw a gradual increase in GHG emissions in FY2021 (1.4%) and then a larger increase in FY2022 (8.9%). The portfolio has not reached pre-pandemic GHG emissions levels but as occupancy returns to normal in schools, this will likely continue to increase as we enter FY2023. Given that the large reduction in GHG emissions seen throughout 2020 and 2021 was from responses to COVID-19 rather than actual efficiency gains, they do not give an accurate picture of progress toward the City’s greenhouse gas reduction goal. FY2022 started to give a more accurate portrayal of GHG emissions in schools and the EWMP will continue to monitor for this in FY2023.

A Dashboard of all the data included in the FY2022 City Annual Performance Report with interactive options and detailed data can be viewed at [EnergyCAP FY2022 City Performance Report Dashboard](#).

FY2022 CCS Program Actions and Highlights

Operational Actions

- Monthly meetings (virtual) of **Energy and Water Management Team (EWMT)** and CCS staff to discuss operations and utility performance of CCS facilities.
- Reviews of and improved communication around **HVAC schedules** to follow varied operational needs in response to COVID-19 and reopening of school facilities.
- Programming of building automation systems (BAS) at most school facilities to **limit the energy demand (load)** at the school.

Technological Actions

- The EWMP selected an energy service company (ESCO) for an **energy performance contract (EPC)**. All schools were audited for energy and water saving opportunities.
- **Replaced HVAC equipment** with higher efficiency models in several schools including Walker, Buford, Clark, Greenbrier, and Venable. Venable also received an **updated Building Automation System (BAS)** that aligns with what is installed at most schools in the City’s portfolio.
- Portions of school lighting was upgraded to **LED lighting** at Charlottesville High School and Buford Middle School.

Behavioral Actions

- Continued **Energy and Water Management Campaign at CCS** with quarterly educational outreach efforts through announcements and activity sheets for students and staff, which included helpful information and tips on what they can do to save.
- Visited Greenbrier’s 4th Grade’s **“Think Global, Act Local”** exercise where students presented their energy and water saving tips and message to the EWMT, and discussed how these saving behaviors can have a big and important impact on their school’s energy and water usage.
- Delivered **370 Climate Action Activity Kits** to the 5th graders at Walker Upper Elementary in collaboration with Community Climate Collaborative and Virginia Discovery Museum.
- **Employee engagement** around working with Facilities Maintenance on comfort issues to reduce energy and water use from HVAC and eliminating the use of space heaters.