

APPENDIX B

SPOTLIGHT ON FAIRFAX COUNTY PUBLIC SCHOOLS



OVERVIEW

This Spotlight describes recent achievements by Fairfax County Public Schools (FCPS) and upcoming plans for Get2Green; energy; transportation; and potable water. As available, it identifies specific schools and facilities where achievements have taken place. The Spotlight does not include any recommendations for the Fairfax County Board of Supervisors.

FCPS is one of the largest school divisions in the United States, serving more than 181,000 students with 198 schools and centers. FCPS has multiple departments and offices that have activities relevant to environmental topics. These include Facilities and Transportation Services; Food and Nutrition Services; Instructional Services; Office of Design and Construction; Office of Facilities Management; and Office of Safety and Security. In July 2021, the FCPS Board accepted recommendations from the Joint Environmental Task Force (JET) surrounding energy, transportation, waste reduction, and workforce development for the school division (<https://www.fcps.edu/news/fairfax-county-school-board-sets-goal-carbon-neutral-energy-use-2040>).

Recommendations accepted by the FCPS Board included:

- Commit to being energy carbon neutral by 2040.
- Achieve 50% emissions reductions by 2030, as compared to a 2019 baseline.
- Produce 25% of the county energy use from in-county renewable energy generation by 2030, and 50% by 2040, using 2019 energy use as the baseline.
- Decrease total energy usage from all county facilities by 25% by 2030, and 50% by 2040, as compared to the 2019 baseline.
- All new county buildings and major renovation projects beginning planning and design in 2021 and after must achieve Net Zero Energy (NZE) performance as defined below, unless county staff advises the Board prior to the 30% design phase why a project cannot meet the NZE standard. The JET defines an NZE building as one that is highly energy-efficient and produces onsite, or procures offsite as necessary, carbon-free renewable energy in an amount sufficient to offset the annual energy use associated with operations.
- Transition to electric or zero-carbon alternatives for school buses and eligible fleet vehicles by 2035; and to develop a plan to fuel the electric vehicles using non-carbon emitting fuels and carbon offsets with a complete transition to 100% clean fuel by 2030.
- Achieve Zero Waste in county and school operations by 2030.

Get2Green

Get2Green is the environmental stewardship program for Fairfax County Public Schools. It supports division-level policies and projects that complement school-based sustainability work

based on a foundation of equity. Get2Green offers guidance and resources for classes and eco-teams implementing hands-on environmental action in their school and community. Get2Green's website (<https://get2green.fcps.edu/index.html>) provides a variety of dashboards with school-specific and county-level data on energy use and recycling (see examples in Figure B-1). FCPS staff launched a new dashboard for "Recycling and Trash" in December 2022 and is working on a new garden guide for the 2023-24 school year.

In the 2023-24 school year, Get2Green will have one staff member in Facilities and seven in Instructional Services after the addition of two staff members in FY2023 and four in FY2024. A new Get2Green Leader extra-duty contract will also be offered at every school to guide student-driven environmental stewardship activities. The Leaders will receive a salary supplement and support from the Get2Green staff. The Get2Green staff collaborates with county and community partners, serves on committees supporting sustainability in FCPS and across Fairfax County including the joint County and Schools Zero Waste team, applies for and manages grants to support schools, and hosts programs such as Earth Week to expand engagement in environmental stewardship. Get2Green also provides professional development opportunities for educators and administrators to ensure all students have opportunities to develop as ethical and global citizens.

Energy

The FCPS Energy Education Team includes all students, staff, parents, and other community members who make up the totality of individuals who use FCPS sites. Energy Education Specialists are the FCPS employees tasked with involving all members of the FCPS Energy Education Team and focusing team member's efforts towards accomplishing their goals. FCPS has 10 full-time and four hourly Energy Education Specialists to perform energy management, conservation, and educational services.

In FY 2022, FCPS spent nearly \$35,000,000 on its electric, oil, gas, and water utilities. Figure B-2 shows a breakdown of use and cost for each of the commodities comprising this total. The Office of Facilities Management is tasked with keeping this bill as low as possible through development and implementation of conservation programs. To contribute to enhancing the pace of energy-related improvements at existing FCPS schools and other facilities, the Office of Facilities Management is in the process of planning Energy Savings Performance Contracts. Such contracts will enable the completion of urgently needed energy improvement projects that have been unfunded due to budget constraints including replacing inefficient HVAC equipment still in use beyond its useful life (e.g., chillers and boilers), old inefficient structural components (e.g., single pane, metal framed windows with no thermal breaks), and inefficient and poor quality fluorescent and High Intensity Discharge lighting. FCPS is currently not using Energy Savings Performance Contracting. Should this change, FCPS will use the Virginia Department of Energy Contract found at the following URL: <https://www.energy.virginia.gov/energy-efficiency/performancecontracting.shtml>.

Solar Purchase Power Agreements (PPAs). FCPS is continuing the process of pursuing solar PPAs. No PPA infrastructure has yet to be installed, but two agreements have been signed: one at Mason Crest Elementary School with Sun Tribe, and one at Annandale High School with Ipsun. Dominion Energy Virginia Interconnect requirements are stopping projects due to economic

infeasibility all around the state including the FCPS project at Mason Crest. Vendor requests to modify the agreement has delayed the FCPS project at Annandale HS – it has not yet met the interconnect requirements problem due to contract negotiations.

FCPS Facilities. FCPS maintains approximately 28 million square feet of occupied space for education, support, and administration functions. As shown on Figure B-3, Greenhouse Gas (GHG) emissions per unit of occupied space has generally decreased for FCPS over the past 13-year period, with an uptick in 2021 (i.e., the most recent year with available data). This uptick may be due to the impacts of the COVID-19 pandemic which greatly reduced school usage in 2020. As of 2021, FCPS had GHG equivalent emissions (CO₂e) of approximately 148,000 metric tons; the majority of which were due to indirect emissions from electricity use.

Energy Use Intensity (EUI), the energy use of a building per square foot, has generally been declining across all FCPS facilities over the past 14 years, as shown in Figure B-4. In FY 2022, the EUI of FCPS was approximately 50 kilo British thermal units per square foot (KBtu/SF), compared to 72 KBtu in FY 2008, a 30 percent reduction. These energy reductions (total and per square foot) have been achieved despite the addition of school building space to accommodate increasing student membership. As with Figure B-3, the uptick in FY22 may be due to the impacts of the COVID-19 pandemic.

As required by School Board Policy 8542 (Environmental Stewardship), FCPS has prepared an annual GHG Inventory report; the most recent report is for 2021 (reports for years 2013 through 2021 are available at <https://www.fcps.edu/about-fcps/performance-and-accountability/energy-management-program/greenhouse-gas-inventory>). Policy makers use GHG inventories to track emission trends, develop strategies and policies, and assess progress. Operations managers use GHG inventories to evaluate a program's impact and prioritize projects. Scientists use GHG inventories as inputs to atmospheric and economic models.

Transportation

FCPS has a fleet of 1,625 diesel buses, each with an average age of 18 years at the time of replacement. As of May 2021, there were 555 buses within five years of the average replacement age. In addition to the bus fleet, the school division has 816 non-bus vehicles, including large service trucks. The average age for a non-bus vehicle replacement is 12 years; 419 non-bus vehicles were within five years of the average replacement age. FCPS currently has 18 electric buses with an additional ten on order and expected to arrive in summer 2023.

Potable Water

FCPS' Office of Safety and Security (OSS) anticipates completion of the first round of testing for lead (all drinkable sources in each school tested at least once) by the end of the school year in 2023; Virginia code was amended in July 2020 to require notification to parents when results of 10 ppb or greater are obtained. From 2019 through the spring of 2023, FCPS has tested fixtures at 160 schools. Of the 10,011 fixtures sampled, a total of 125 (1.2%) yielded results above 10 ppb, requiring notification. Twenty-seven (27) of those fixtures with elevated results were science faucets fitted with backflow prevention devices. If correcting for the science-based fixtures (which should not be used as drinking water sources), the total number of potable water

sources with results above 10 ppb drops to 98 (0.97%). OSS pays particular attention to the evaluation and mitigation of lead in drinking water at elementary schools since children aged 6 and younger are at greater risk of health effects from lead exposure. Of the 160 school buildings evaluated to date, 120 of them are elementary schools. Of the 7,497 fixtures sampled at elementary schools, 73 (0.97%) yielded lead in water results greater than 10 ppb, requiring notification. FCPS conducts fixture and/or connecting pipe replacement at outlets where samples yield lead in water concentrations of 10 ppb or greater (a threshold 33% below the EPA/VDH requirement for remediation at locations yielding concentrations of 15 ppb or greater).

Figure B-1. Example Dashboards from Get2Green.

Source: <https://get2green.fcps.edu/dashboards.html>; downloaded June 12, 2023.

Alt Text: to be added.

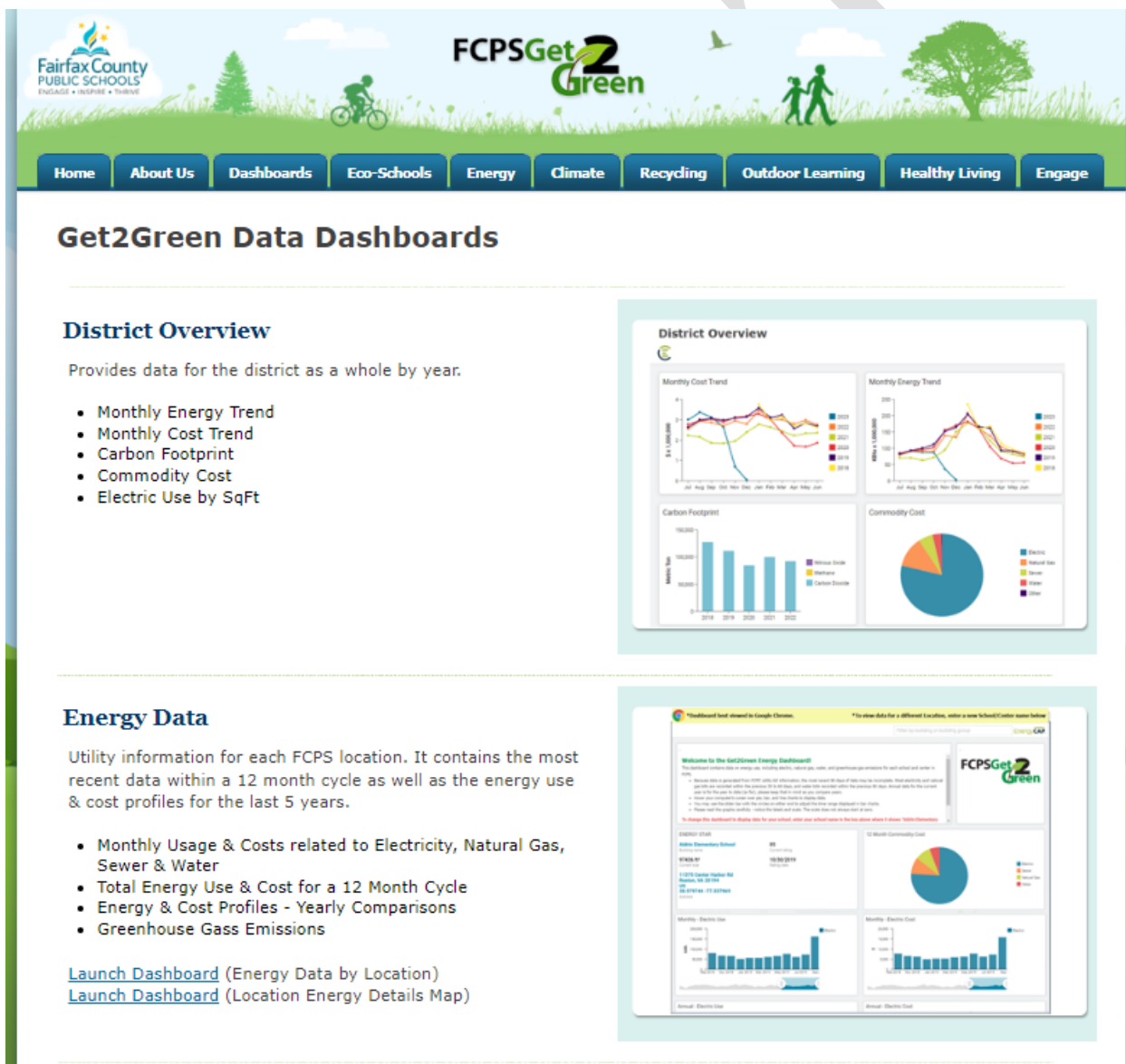


Figure B-2. Breakdown of Use and Cost for Commodities Used by FCPS in Fiscal Year 2022.

Source: E-mail from Ali Culhane, FCPS Coordinator, Get2Green, May 31, 2023.

Alt Text: to be added.

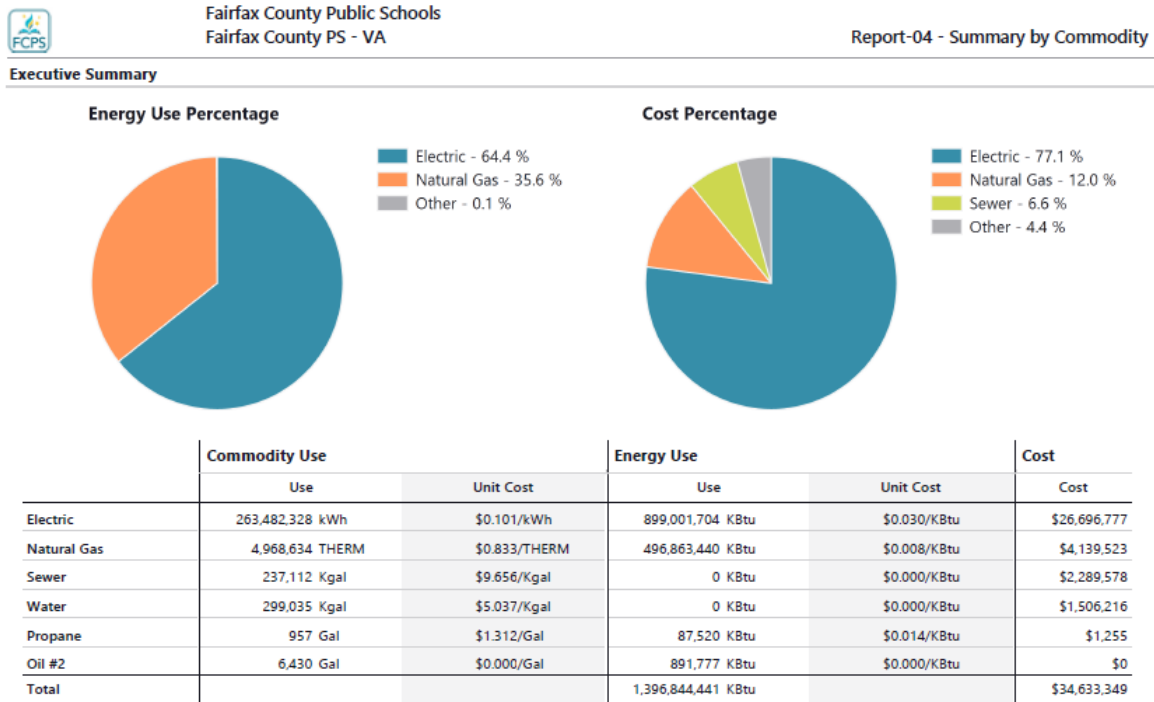


Figure B-3. Greenhouse Gas Emissions and Occupied Space in FCPS Facilities
 Source: E-mail from Ali Culhane, FCPS Coordinator, Get2Green, June 12, 2023.
 Alt Text: to be added.

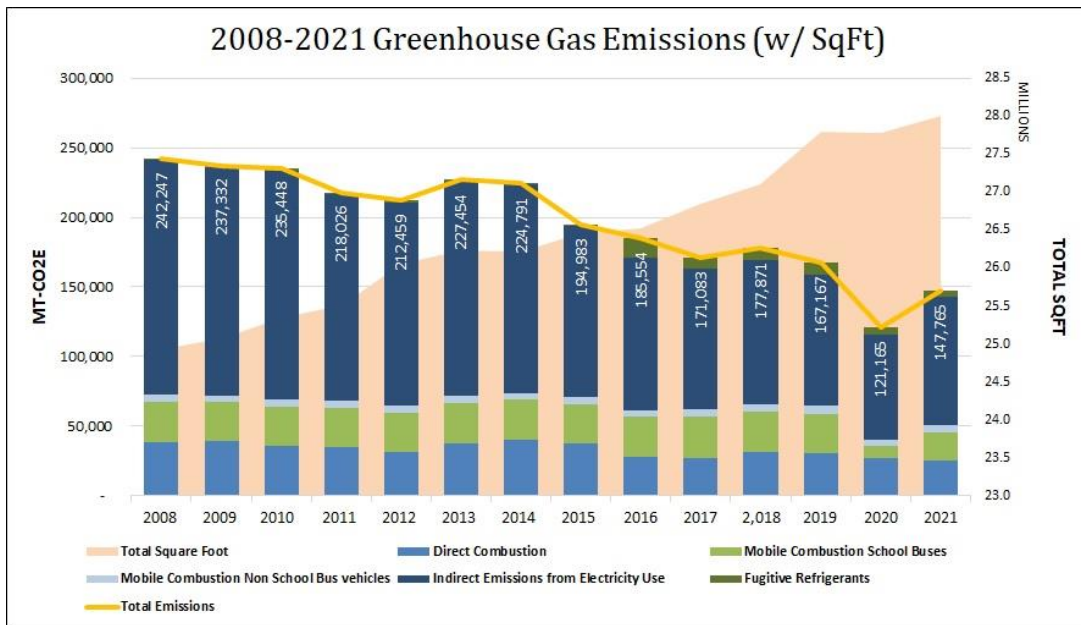


Figure B-4. FCPS Energy Use per Square Foot and Number of Square Feet.
 Source: E-mail from Ali Culhane, FCPS Coordinator, Get2Green, May 31, 2023.
 Alt Text: to be added.

