

City of Charlottesville Fiscal Year 2024 Annual Energy and Water Performance Report - Executive Summary



The City of Charlottesville’s Energy and Water Management Program (EWMP) monitors and manages energy and water usage of the City’s municipal sites, which include both the local government and the Charlottesville City School (CCS) facilities. The EWMP is focused on supporting the Charlottesville community-wide climate action goals, achieving a 45% reduction in greenhouse gas emissions from FY2011 levels by 2030 and carbon neutrality by 2050, by taking necessary actions that improve efficiency, reduce the reliance on fossil fuels, and decrease greenhouse gas emissions. New to the FY2024 report is the inclusion of aligned with the City’s Climate Action Work Plan. Building on the previous energy and water performance reports, the [City of Charlottesville FY2024 Annual Energy and Water Performance Report \(LINK\)](#) outlines actions and the energy and water performance of over 70 municipal sites in the 2024 fiscal year (July 2023 – June 2024).

Climate Action Workplan Alignment

The EWMP continues to work towards meeting their energy and water reduction goals to help the City make progress to meeting their larger greenhouse gas emissions reduction goals and Climate Action Plan commitments. The [City’s Climate Action Plan \(LINK\)](#) presents strategies and key actions to reduce municipal greenhouse gas emissions by switching to lower emissions fuel sources and by reducing energy use through efficiency and conservation measures.

Utility Reduction Goals

Energy Reduction Goal - 30%
reduction in Energy Use Intensity by FY2030

Water Reduction Goal - 30%
reduction in Water Use Intensity by FY2030

Solar power generation has been identified as the primary renewable energy technology to be deployed, and multiple avenues for adding more capacity are being explored. These include internal funding and power purchase agreements (PPAs) to install solar energy systems onsite at facilities as well as consideration of accessing offsite solar through virtual power purchase agreements (VPPAs).

Fiscal Year 2024 – Key Performance Findings

The City’s performance for FY2024 provides a clear view of building performance post COVID-19. In FY2024, **Charlottesville (city government and schools) spent \$3.66 million on energy and water utilities**, which shows a rebound and higher usages to FY2019 (pre-pandemic costs) (Figure 1). Electricity makes up the majority (78%) of the City’s municipal utility costs, water and sewer being the next largest at 15% of costs, and natural gas making up 7% of utility costs. Compared to the portfolio baseline FY2011, FY2024 saw a 28% increase in utility expenditures with a 30% increase in electricity, an 30% decrease in natural gas, and a 79% increase in

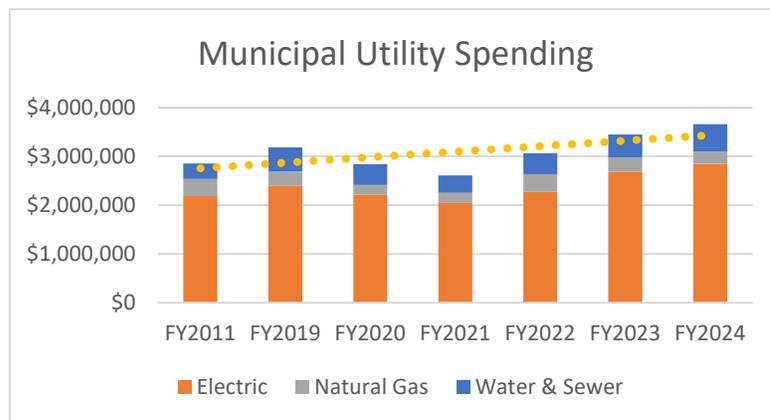


Figure 1: The City’s utility spending for the past 6 fiscal years and FY2011 (baseline year) for each commodity type across all City facilities. The yellow dotted line is the overall trend in spending over time across all years.

water. This increase in utility expenditures is associated with increasing utility rates, facilities being run to increase ventilation, increased utility usage, and several additional buildings added to the City’s portfolio between FY2011 and FY2024.

Most municipal building groups had, on average, a lower energy use intensity (EUI) and water use intensity (WUI) in FY2024 compared to the regional average for their representative building groups, which represents a trend in a more efficient direction.

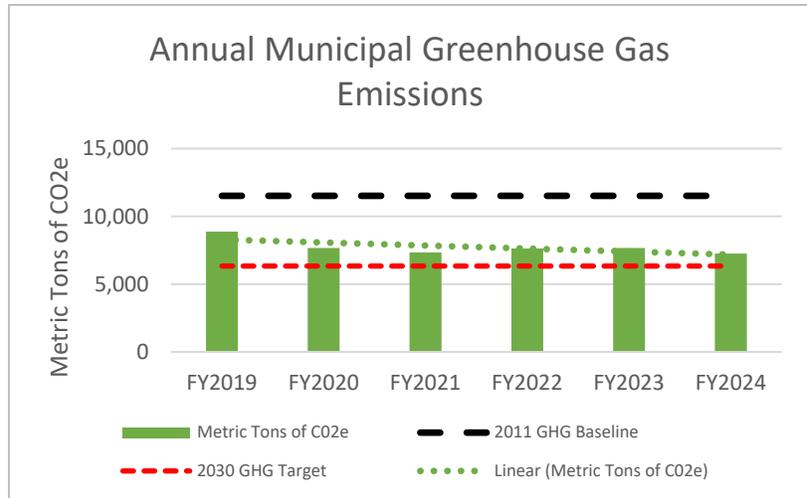


Figure 2: Greenhouse gas emissions for the past 5 fiscal years, FY2011 baseline year, and 2030 GHG Target across all City and school facilities.

- As of FY2024, the portfolio as a whole has achieved **an additional 12.7% reduction in EUI from the FY2011 baseline** reaching 60.3 kBtu/sq.ft. This puts the City at 12% left to reduce to reach the 30% reduction goal of 48.3 kBtu/sq.ft. by 2030.
- Overall, there is a **14.7% reduction in WUI from the FY2011 baseline year**. This puts the City only halfway from meeting its 30% reduction goal of 12.85 gal/sq.ft. by 2030.
- Since 2011, the portfolio has seen some fluctuation but mostly a downward trend **achieving 37% reduction in greenhouse gas emissions by FY2024** due in part to electric grid transformation (Figure 2). This puts the City at needing an additional 8% reduction in greenhouse gas emissions to meet the City’s 45% reduction by 2030.

FY24 Program Actions and Highlights

- Charlottesville High School received numerous energy and water upgrades in FY2024. These included LED installations in the large gym, a portion of the Media Center, and throughout breezeways. Plans for lighting upgrades covering the rest of the school are in development. Phase 1 of the roof replacement was completed in summer 2023 and Phase 2 started in summer 2024. Additionally, a set of restrooms were reconfigured to a single unisex configuration with water efficient fixtures.
- The EWMP has developed energy and water education tailored for CCS curriculum and has incorporated lesson plans into the CCS Science Pacing Guide. These materials are available to all science teachers with the resources necessary to deliver the activities.
- In May 2024, 320 5th graders at Walker Upper Elementary School received Climate Action Activity Kits created by the Community Climate Collaborative (C3) and the Virginia Discovery Museum in partnership with the EWMP.
- **EnergyCAP Utility Tracking Software** is used to track and manage all utility accounts. A data dashboard can be viewed at [EnergyCAP FY2024 City Performance Report Dashboard \(LINK\)](#).