

MID-COURSE REVIEW

Key Performance Indicators and Case Studies

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Air and Climate Public Advisory Committee (ACPAC)
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Midcourse Review (MCR) Approach

Goal: Assess the status of goals, strategies, measures and actions toward the region's existing plan framework and targets.

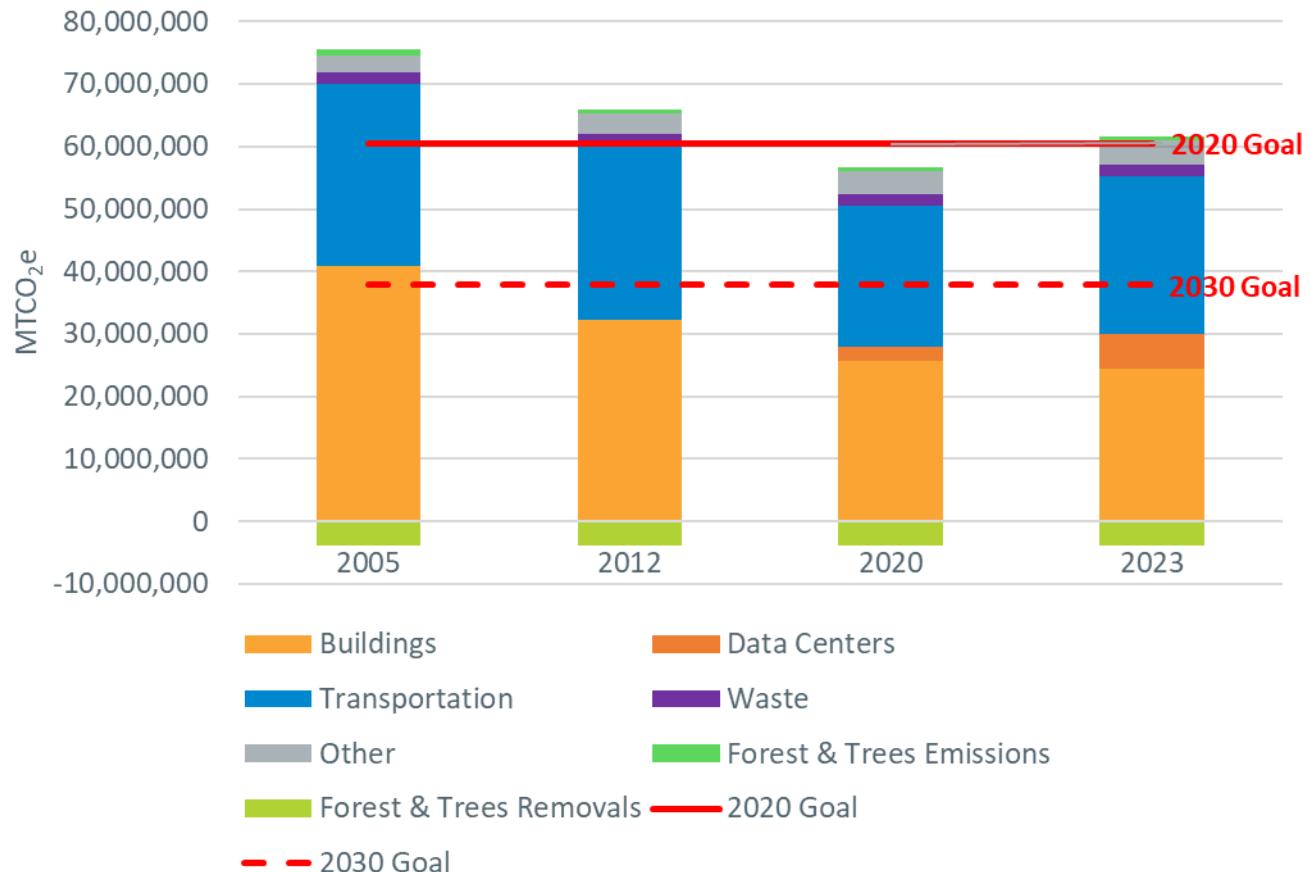
Presentations	Topic
January 2025	Midcourse Review Approach
March 2025	Renewable Portfolio Standards
May 2025	Local Government Questionnaire
July 2025	2023 Greenhouse Gas (GHG) Inventories
September 2025	Case Studies
Sept-Jan 2025	Performance Indicators
New Year	Draft Midcourse Review



Regional GHG Emission Reduction Results

Metropolitan Washington
GROSS greenhouse gas
emissions decreased by **19%**
from 2005 - 2023.

Metropolitan Washington
NET greenhouse gas
emissions decreased by **20%**
from 2005 - 2023.



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Reduction Equivalencies

The COG Region reduced emissions by **>14 MMTCO₂e** between 2005 and 2023. That's equivalent to....



>2.9 Million
Homes Off the
Grid in a Year



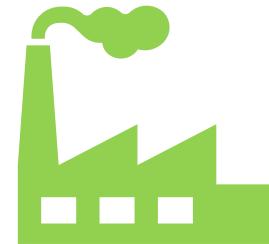
>232.7 Million
Tree Seedlings
Grown for 10
Years



>4.9 Million
Tons of Waste
Diverted to
Recycling



>3.2 Million
Gas Passenger
Cars Off the
Road for a Year

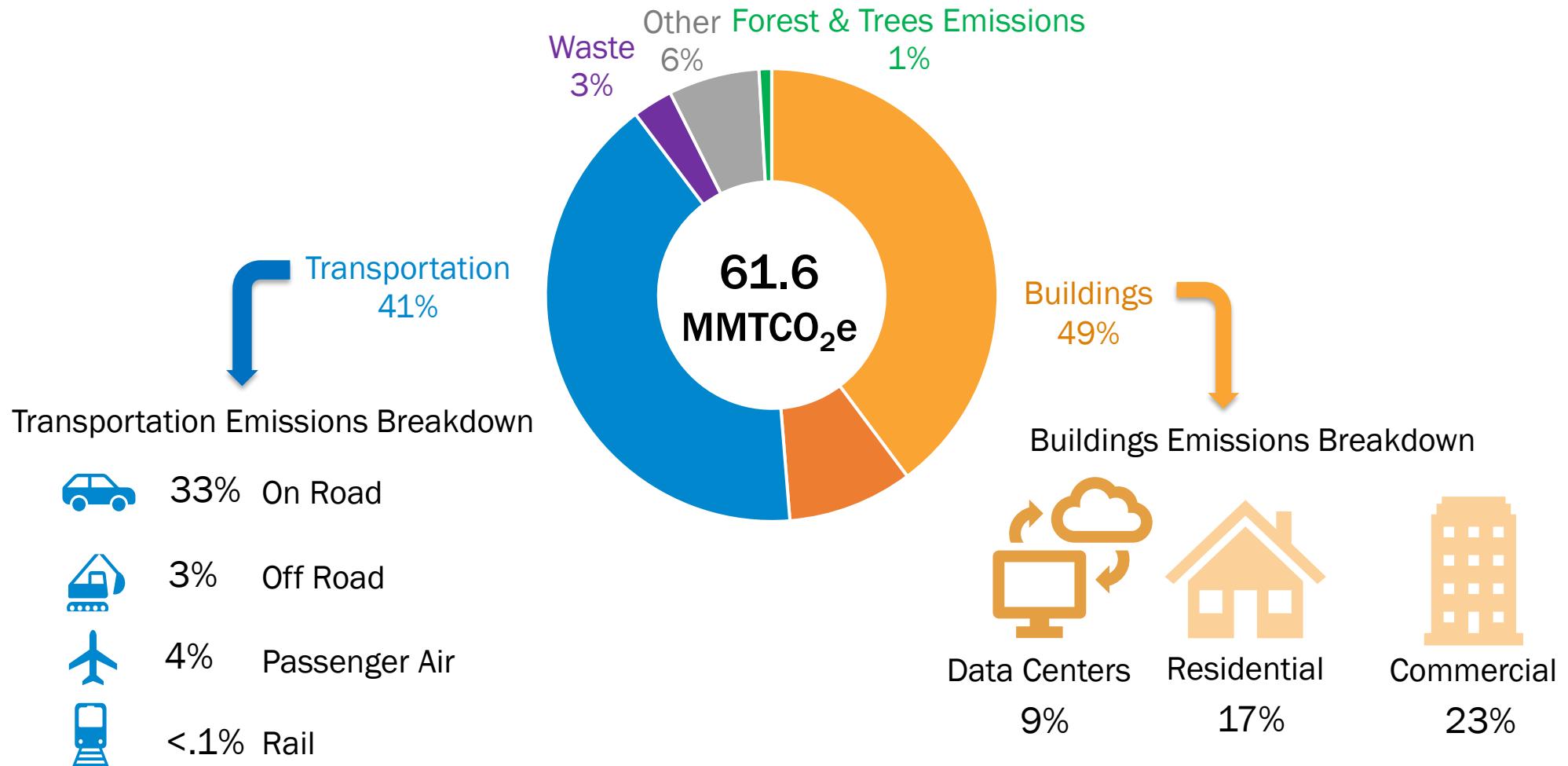


>15.6 Billion
Pounds of Coal
Burning Avoided



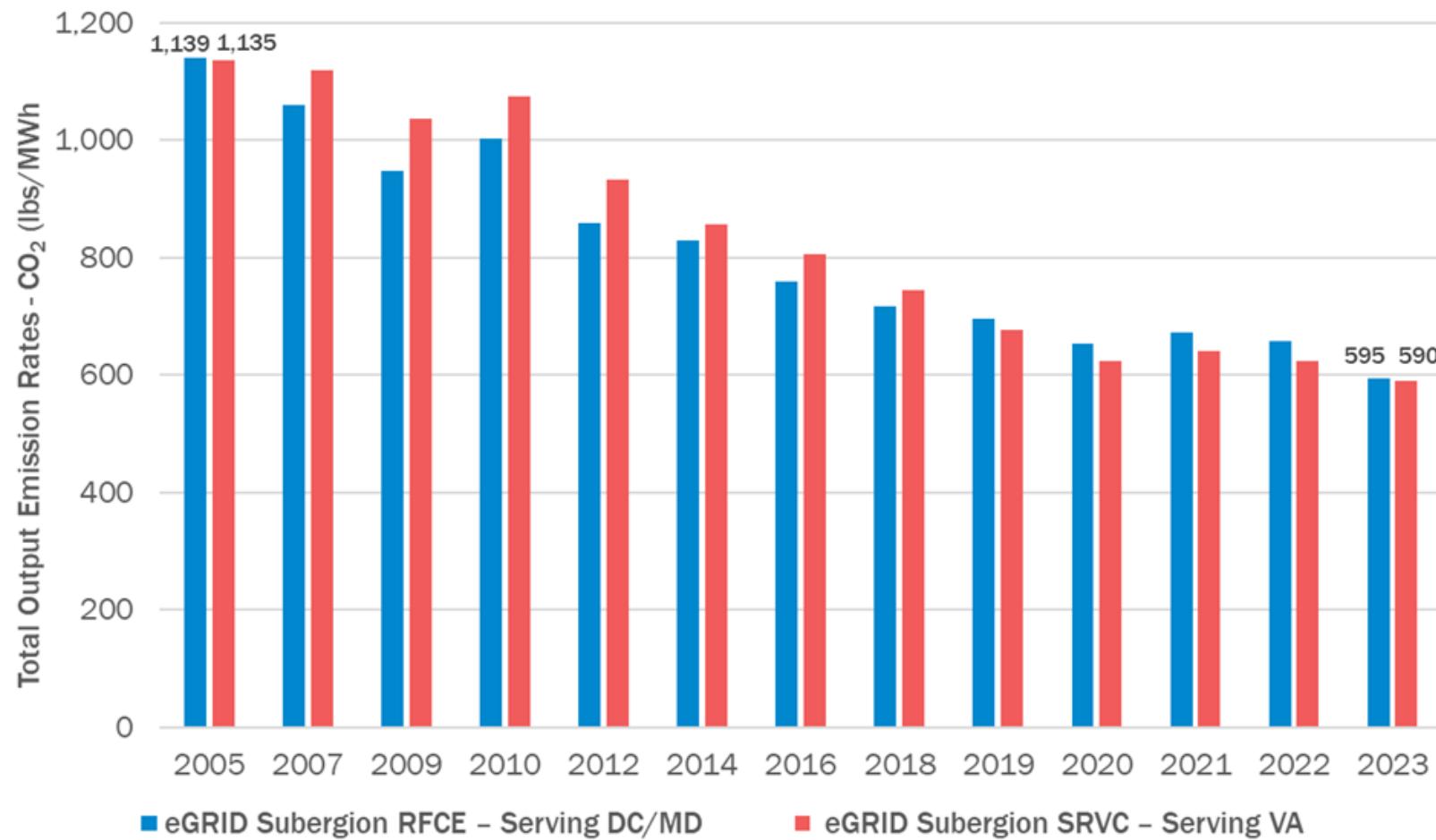
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2023 Gross Emissions by Sector



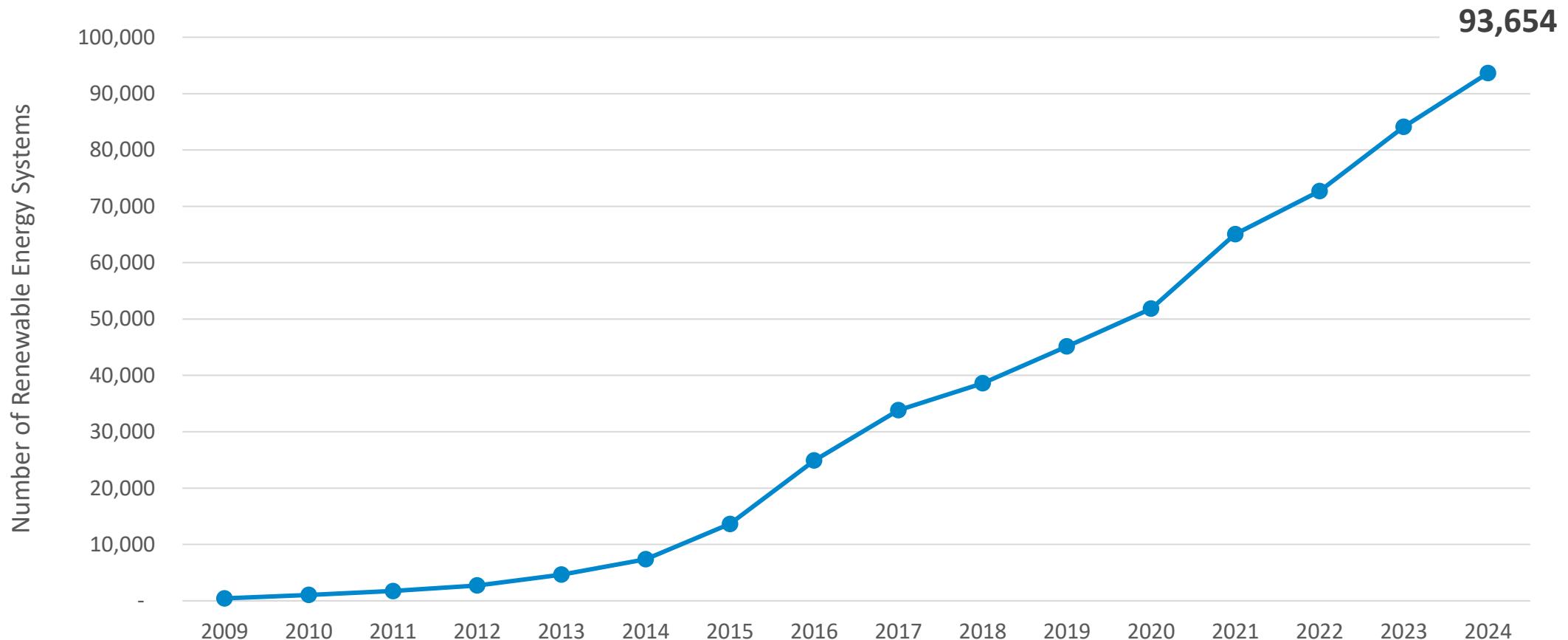
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eGRID GHG Subregion Emission Rates

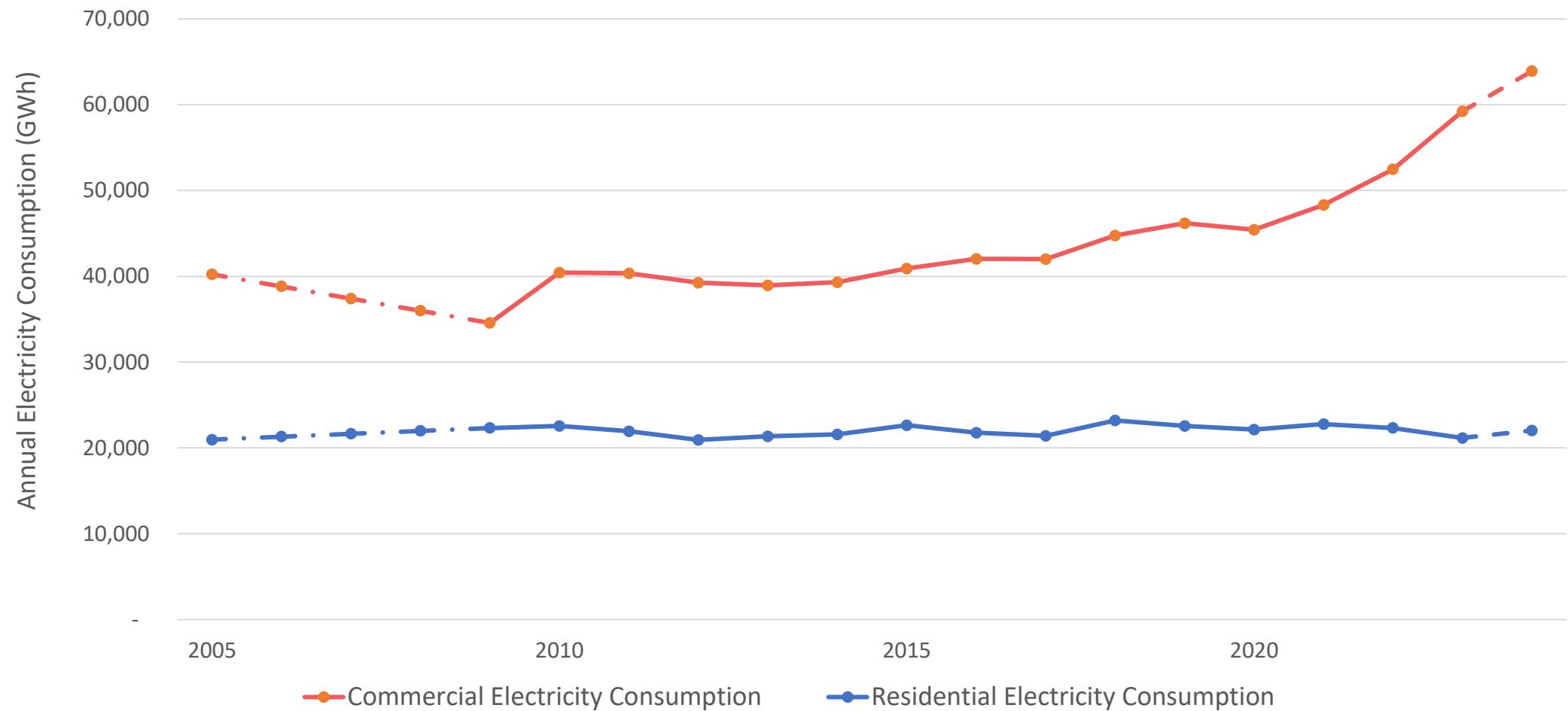


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Grid-Connected Renewables Trends

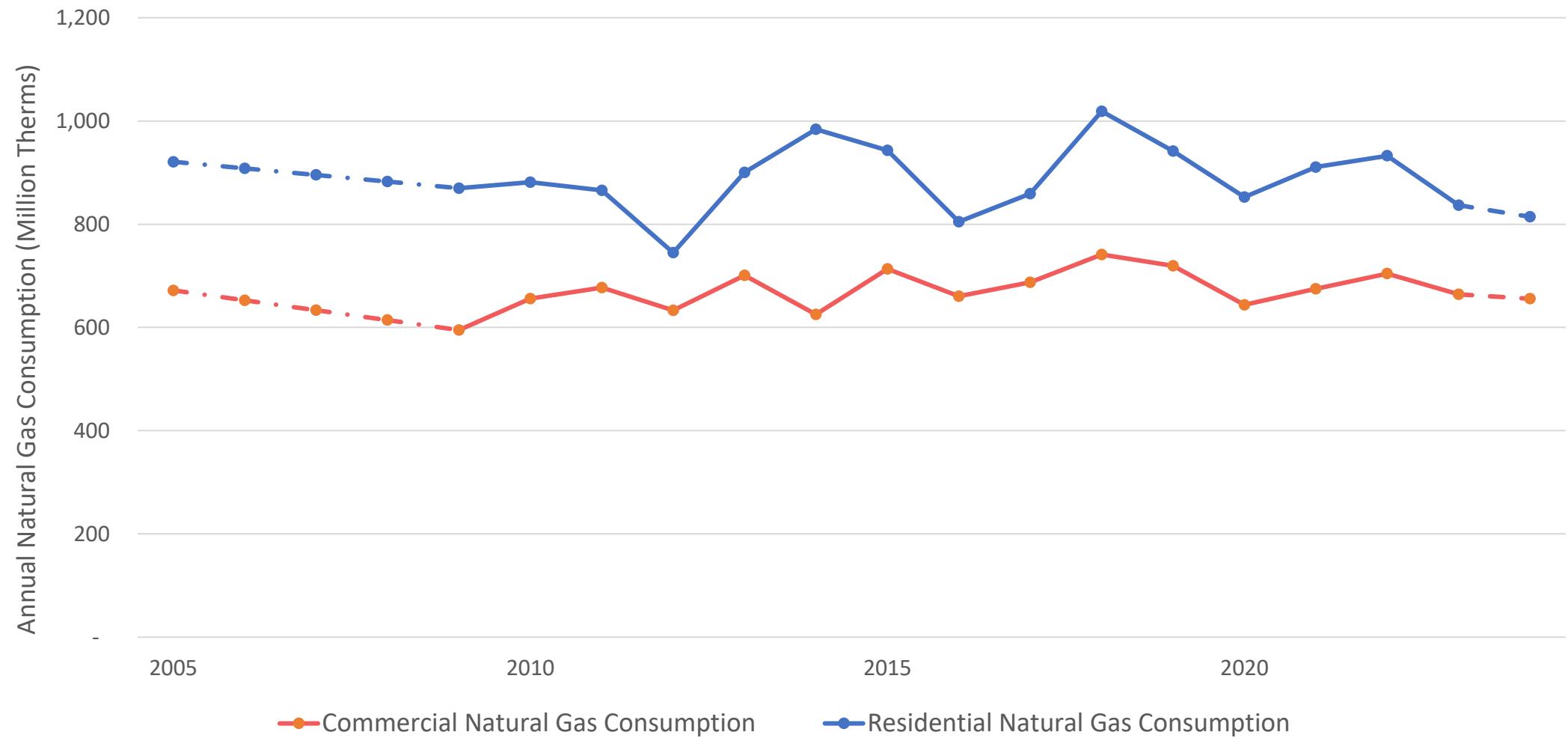


Electricity Trends



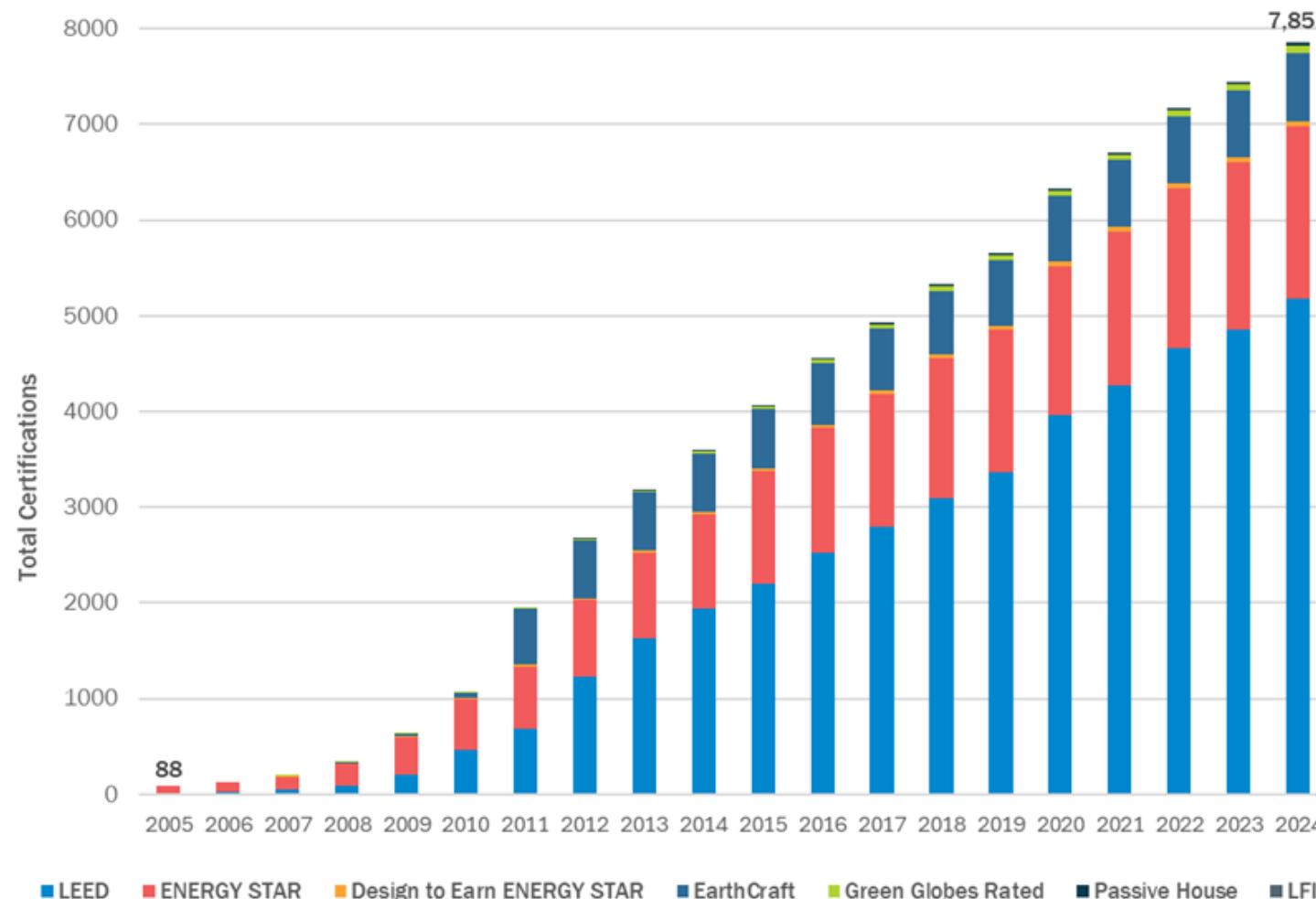
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Natural Gas Trends



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Green Building Trends – Regional Summary



Midcourse Review (MCR) Case Studies

The MCR report will highlight local best practices that align with the Metropolitan Washington 2030 Climate and Energy Action Plan's Climate Action Areas.

Climate Action Areas	
GHG	Greenhouse Gases
CE	Clean Electricity
ZEB	Zero Energy Buildings
ZEV	Zero Emission Vehicles
MSTB	Mode Shift and Travel Behavior
ZW	Zero Waste
SQ	Sequestration



GHG Case Study #1: Rockville

- **Description:**

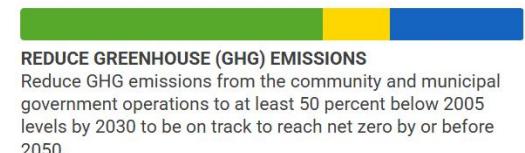
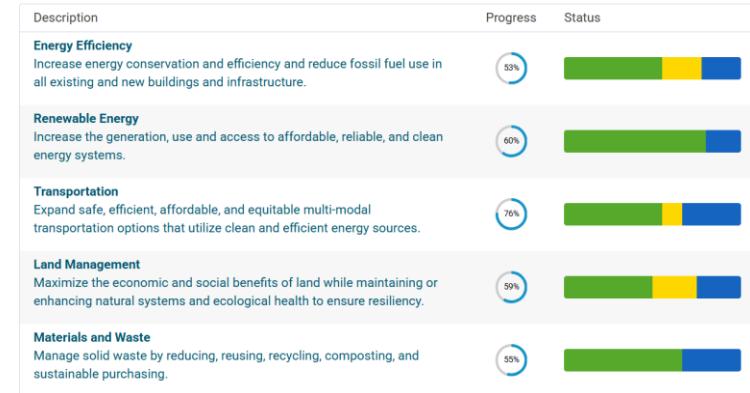
- Developed as a part of their [Climate Action Plan](#), the City of Rockville has a [Climate Action Dashboard](#) based off their Annual Report on their website. The dashboard displays their GHG reduction goals and the progress they are making with achieving 50% reduction (from 2005) by 2030.

- **Outcomes:**

- Overall, residents can see that the jurisdiction has completed 26.7% of their reduction goals with 60% in progress and 13.3% has been phased.

- **Benefits:**

- Residents having an interactive dashboard where they are able to see the status of specific sectors, such as energy efficiency and transportation, can increase community engagement and knowledge of what progress has been made for these goals.



[Climate Action Plan](#)

[Climate Action Dashboard](#)

GHG Case Study #2: District of Columbia

- **Description:**

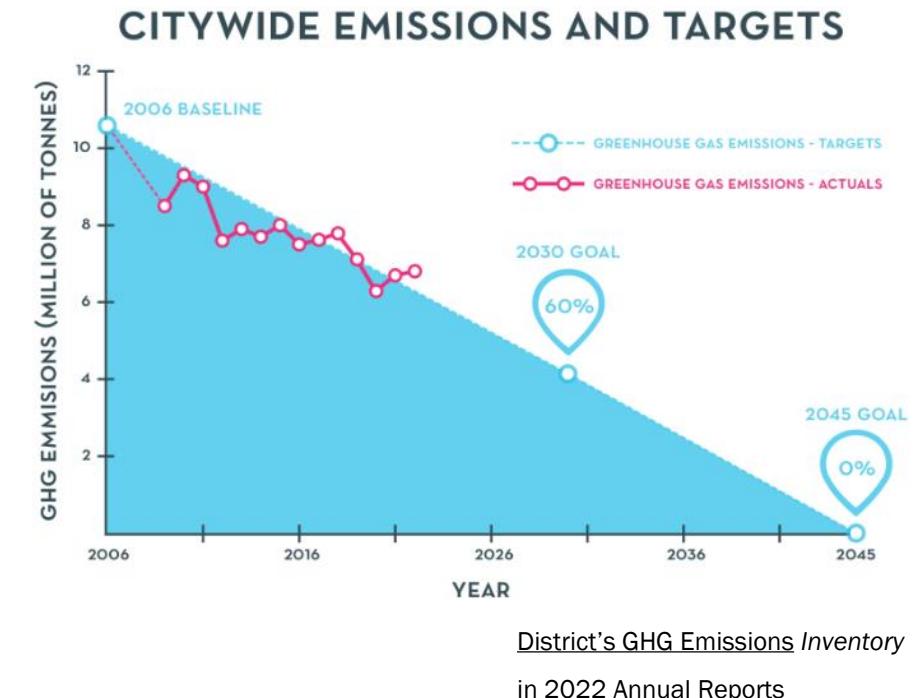
- The District Department of Energy and Environment (DOEE) regularly tracks the [District's GHG emissions](#) to measure their progress towards reduction goals of 60% by 2030. They also have [Sustainable DC 2.0](#) which is a user-friendly website to see the progress they are making with energy.

- **Outcomes:**

- The District saw a 35% reduction in their emissions compared to the 2006 baseline inventory in [2022](#).

- **Benefits:**

- Residents are able to see the progress the District is making to achieve the City's reduction goals each year with their [annual reports](#) and on the Sustainable DC 2.0 website which can make these goals seem more attainable to the average person.



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CE Case Study #3: Solar Co-ops

- **Description:**

- [Solarize NOVA](#): The Local Energy Alliance Program uses community-based outreach programs to reduce the cost and complexity of solar-installation projects in communities.
- [Solar United Neighbors \(SUN\)](#): The organization arranges solar Co-ops for group purchasing of solar panel installations.

- **Outcomes:**

- SUN has either installed or currently is in the permitting process for 31,036 kW (~31 MW) of rooftop solar across COG jurisdictions.
- Solarize NOVA has installed 1,015 solar power system installations, totaling 9.3 MW of capacity.

- **Benefits:**

- Solar Co-ops enable residents, communities, and businesses to find affordable and well-vetted contractors to implement solar installation projects at a discounted rate



[NOVA – Solarize Virginia](#)

[Solar United Neighbors](#)

CE Case Study #4: Prince George's County

- **Description:**

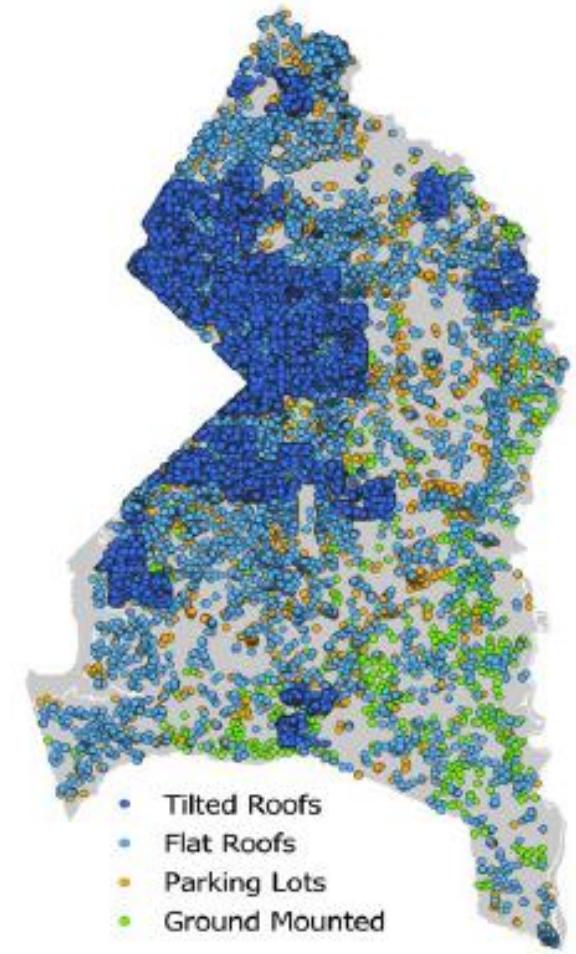
- Prince George's County developed a Clean and Renewable Energy Report and Siting Analysis to accelerate solar (and other clean electricity technologies) deployment in the County.

- **Outcomes:**

- Simplifies future solar planning and expansion.
- Identified over 97,000 potential solar projects with over 7,000 MW_{AC} of total capacity.

- **Benefits:**

- Progress towards expanding energy self-sufficiency
- Enables the county to support residents, businesses, and communities in their planning processes.



ZEB Case Study #5: Alexandria

- **Description:**

- [Alexandria City High School \(ACHS\) - Minnie Howard Campus](#) is a recently completed school building that is pursuing the LEED Gold certification and net-zero energy in line with Alexandria's Green Building Policy



New building design rendering. (Source: [Learning By Design](#))

- **Outcomes:**

- Optimized building design and materials to conserve energy and lower environmental impact.
- Solar panel installation on the roof and other areas.
- Low flow water fixtures

- **Benefits:**

- The building's designed to save at least 25% more energy yearly than a similar school designed to code-minimum levels allowing energy costs and HVAC system size to be reduced.
- Highly efficient water fixtures help reduce water use by 35-40% compared to a conventional building.



Construction site of new building (Source: [Gilbane](#))



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ZEB Case Study #6: Arlington

- **Description:**

- Arlington's Alice West Fleet Elementary school is a net-zero energy and LEED Gold-certified building.

- **Outcomes:**

- The school uses renewable energy, 20% of the land is vegetated by 85 different native species of plants and trees, and 92% of construction waste was diverted from landfills.

- **Benefits:**

- The outdoor classrooms, terraces, and gardens connect students to nature and support hands-on learning.
- Natural light and operable windows, supplemented with LED lighting, create a vibrant, energy-smart learning environment.
- A "Power Pole" showcases real-time energy use and solar production, turning the school into a living lab for students to study.



Alan Karchmer [AIA award winner: Alice West Fleet Elementary School](#)



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ZEV Case Study #7: Fairfax County

- **Description:**

- [Charge Up Fairfax](#) is a program that homeowners associations (HOAs) and other community organizations install EV charging stations. The program provides free technical assessments, and reimbursement grants to cover some expenses.
- Communities can leverage Charge Up Fairfax and Dominion's Level 2 Program to reduce installation and maintenance costs of charging stations.

- **Outcomes:**

- 17 communities have participated in the program. 5 communities have successfully completed their charging station installations.

- **Benefits:**

- Incentivizes residents of the neighborhood to consider buying an EV.
- Simplifies regulatory processes and coordination efforts between stakeholders.



EV charger ribbon cutting at Reflection Homes Association in Herndon, Virginia
(Source: [Fairfax County](#))

ZEV Case Study #8: Bladensburg

- **Description:**

- In 2023-2024, EV charging stations were installed at multiple city buildings including, Bladensburg Town Hall, Bladensburg Community Center, and Bladensburg Branch Library

- **Outcomes:**

- Supports more electric vehicles in the area and opportunities for those traveling within the area to access charging in a safe location 24/7.
- Received additional funding from the State of Maryland through Community Electric Vehicle Supply Equipment Grant Program.

- **Benefits:**

- Encouraging the use of electric cars amongst residents can improve air quality in the area



EV charging stations at Bladensburg Community Center (Source: [Town of Bladensburg](#))

MSTB Case Study #9: Falls Church

- **Description:**

- [Falls Church](#) implemented the South Washington Street Multimodal Improvements Project to improve walkability and access to transit.
- The project included the construction of a transit plaza, new crosswalks, streetscape improvements, signal upgrades, stormwater infrastructure, and storytelling history panels.
- MWCOG Transportation Department assisted with the initial assessment of the site in 2008

- **Outcomes:**

- Increased pedestrian safety and access to transit
- improved stormwater retention

- **Benefits:**

- Improved multimodal connections to the City's Downtown area, North Washington Street, and the East Falls Church Metrorail Station.
- Improved safety for all road users and created a more walkable corridor.



South Washington Street Intermodal Transit Plaza (Source: [RK&K](#))



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MSTB Case Study #10: Montgomery County

- **Description:**

- Montgomery County conducted a [Flex Expansion Study](#) to provide a performance assessment to inform future planning efforts to develop similar on-demand transit services collected from this bus program called Flex. The study engaged a variety of stakeholders to increase the equitability and efficiency of the routes for the community.

- **Outcomes:**

- Flex established the on-demand bus service in 19 new Flex zones in the pilot areas of Glenmont, Rockville, and Wheaton to serve up to 485,000 people and 235,000 jobs.

- **Benefits:**

- The study engaged a variety of stakeholders to increase the equitability and efficiency of the routes for the community. COG's Equity Emphasis Areas and Montgomery Planning's Equity Focus Areas were used to analyze and determine which zones would benefit the most from the Flex bus from an equity perspective.
- The fare is \$1 which allows increased accessibility in transportation for people of all socioeconomic backgrounds and is on a needs-based system which decreases the unnecessary waste that can come from transportation.



Flex Transit Information
(Source: [MDOT](#))

ZW Case Study #11: Laurel

- **Description:**

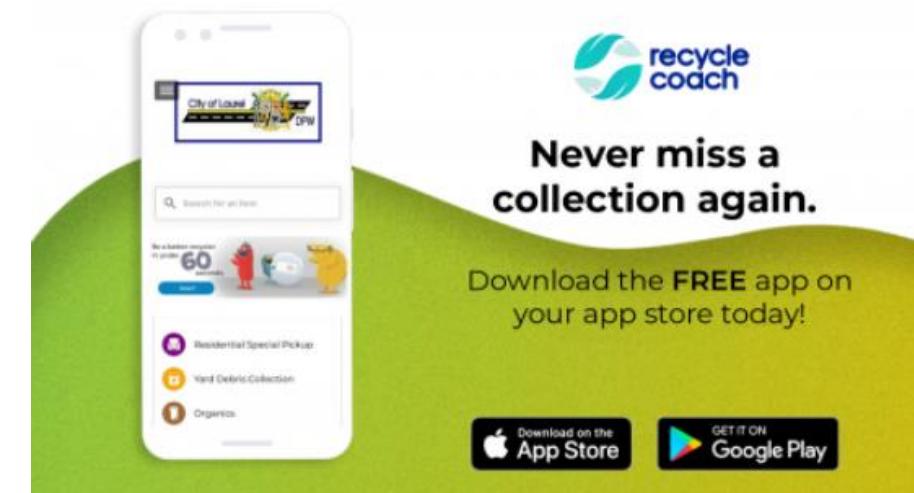
- Laurel has an address-based app, [Recycle Coach](#), that provides information about the city's trash and recycling program.

- **Outcomes:**

- Residents can access the schedule and events; learn about the accepted materials; set reminders to never miss the weekly collection day and receive instant updates; and can have the ability to export calendar events to their own calendar application.

- **Benefits:**

- The app lowers the barrier to entry when gaining knowledge and understanding about recycling (i.e. how to and what is allowed to be recycled). In addition, it keeps residents properly informed on any updates.



[Recycle Coach](#)

ZW Case Study #12: Compost Crew

- **Description:**

- The Cities of [Frederick](#), [Greenbelt](#), [Falls Church](#), and [Manassas](#) have all established contracts with [Compost Crew](#), a locally owned business based in Rockville, MD, to provide weekly curbside food scrap collection services for households in their communities.

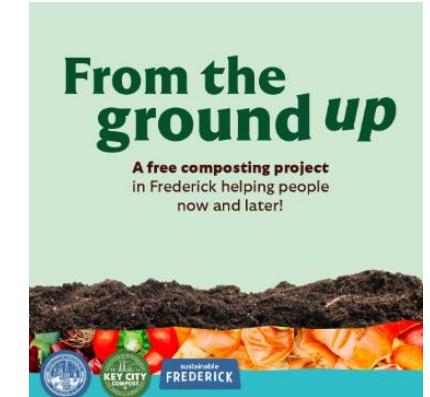


- **Outcomes:**

- The Cities are providing an easily assessable option for their communities to compost the food scraps, reducing waste going to landfills and converting the food scraps into a rich soil amendment.

- **Benefits:**

- The Cities' contracts offer the neighborhoods lower or free rates for their curbside composting pickup which allows for an equitable and low effort way for members of various communities to compost and lower their waste.



Compost Crew



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SQ Case Study #13: Bowie

- **Description:**

- [Plant One Tree On Us](#) is a program for Bowie residents to pick out a tree from their list of acceptable native species, decide where they want to plant it on their property, and have it planted by the government's contractors.

- **Outcomes:**

- 442 trees have been planted as a result of this program.

- **Benefits:**

- Residents are able to contribute to the city's goal of 45% tree canopy coverage, while also learning about native trees to the area and how to properly maintain their new tree with the city's support.



A tree planted from the Green Bowie Program (Source: City of Bowie)

SQ Case Study #14: City of Fairfax

- **Description:**

- The [SPROUT Initiative](#) engages members of the community to plant, take care of, and learn about trees that make up their urban forest.

- **Outcomes:**

- In the first of the initiative, 365 trees were delivered to residents, and 320 trees were planted on public land. This culminated in 550 volunteer hours in non-native and invasive removal and tree planting with an additional 320 workforce development hours in the City Jobs Program which is all under the city's first Urban Forest Master Plan (still in development)

- **Benefits:**

- The initiative lowers the barrier to access information on the removal of invasive species and the planting/maintenance of native trees. It has also increased participation in the development of the Urban Forest Master Plan which is focusing on creating community-focused goals and priorities.



A tree planting event with Providence Elementary School students (Source: City of Fairfax)

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