MID-COURSE REVIEW – BUILT ENVIRONMENT PERFORMANCE INDICATORS AND CASE STUDIES

Assessing Progress Toward Regional 2030 Climate Goals

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Climate, Energy and Environment Policy Committee (CEEPC) Meeting
September 24, 2025

Metropolitan Washington
Council of Governments

Agenda Item #4

Midcourse Review (MCR) Approach

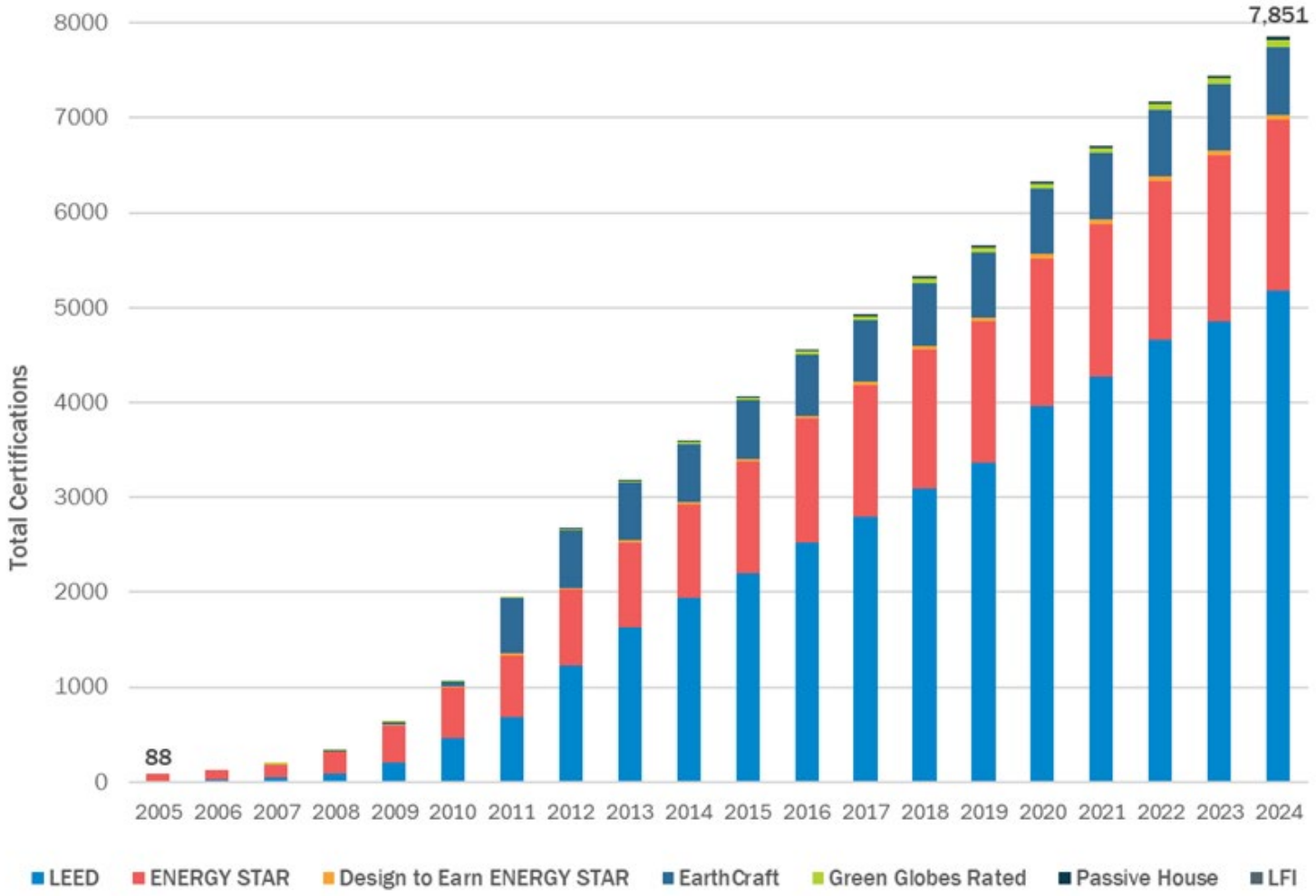
Goal: Assess the status of goals, strategies, measures and actions toward the region's existing plan framework and targets.

CEEPC Meeting	Topic
January 2025	Midcourse Review Approach
March 2025	Renewable Portfolio Standards
May 2025	Local Government Questionnaire
July 2025	2023 Greenhouse Gas (GHG) Inventories
Sept/Nov 2025	Performance Indicators & Case Studies
New Year	Draft Midcourse Review

MCR Performance Indicators

Sector	Performance Indicator
Greenhouse Gases (GHG)	Greenhouse Gas Emissions Contribution Analysis (drivers of GHG change)
Clean Electricity (CE)	Carbon Intensity of the Grid Grid Connected Renewables
Zero Energy Buildings (ZEB)	Building Energy Consumption Green Buildings
Zero Emissions Vehicles (ZEV)	Electric Vehicle (EV) Ownership EV Charging Stations and Ports
Mode Shift and Travel Behavior (MSTB)	Vehicle Miles Travelled Transit Ridership Telework
Zero Waste (ZW)	Recycling Rate
Sequestration (SQ)	Tree Canopy Coverage

Green Building Trends – Regional Summary



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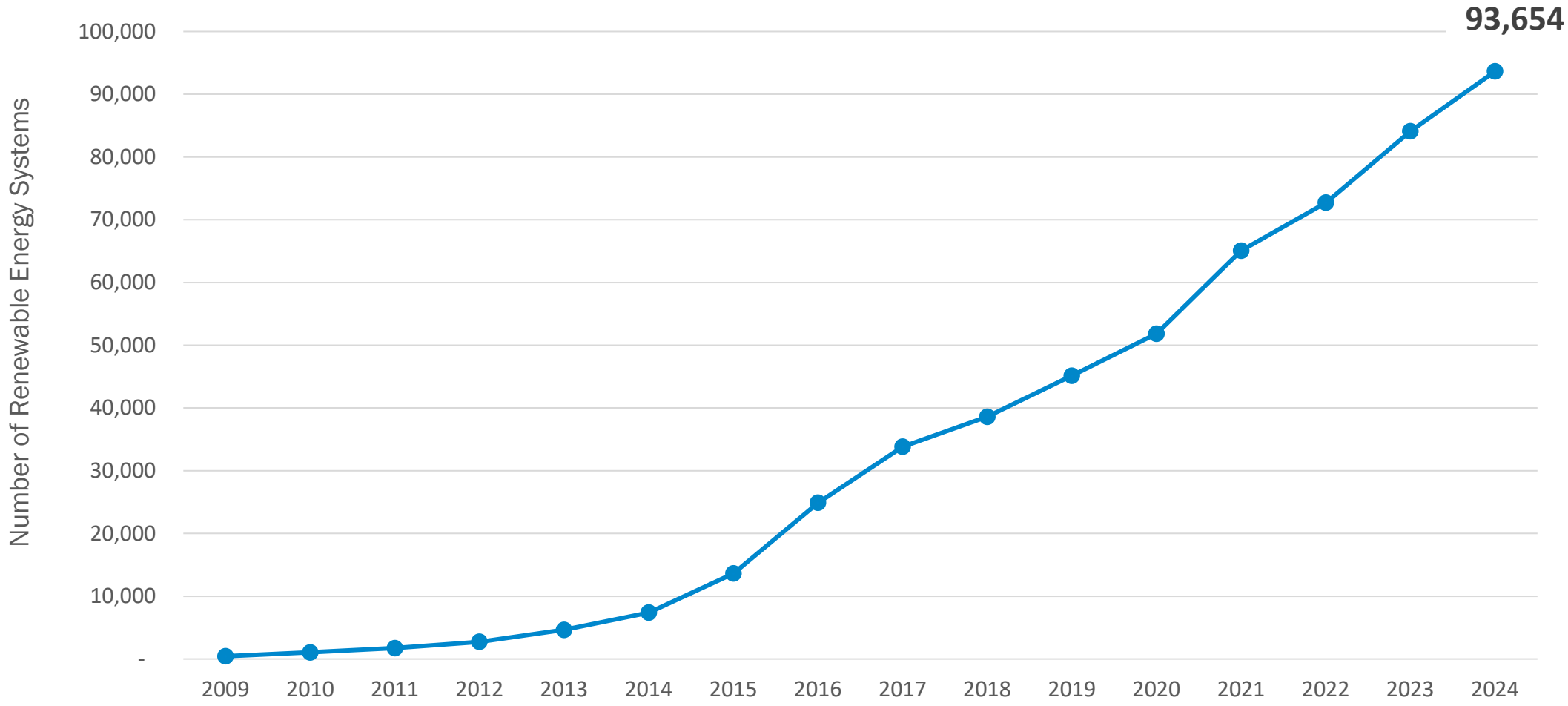
Green Building Trends – Local Summary

Jurisdiction	Certification Count							TOTALS
	LEED	ENERGY STAR	Design to Earn ENERGY STAR	EarthCraft	Green Globes	Passive House	LFI	
Arlington County	265	139	1	36	10	1	1	453
Charles County	15	10	1	0	0	0	0	26
City of Alexandria	441	50	4	30	9	1	0	535
City of Fairfax	8	10	0	5	0	0	0	23
City of Falls Church	11	4	0	2	0	2	0	19
City of Manassas	1	11	1	0	0	0	0	13
City of Manassas Park	1	0	0	0	1	0	0	2
District of Columbia	2286	561	3	47	9	10	1	2917
Fairfax County	554	465	3	561	8	2	1	1594
Frederick County	42	23	1	0	11	0	0	77
Loudoun County	111	132	24	28	0	0	0	295
Montgomery County	1023	234	7	1	18	3	0	1286
Prince George's County	372	67	3	0	9	1	1	453
Prince William County	45	97	9	5	2	0	0	158
Regional Total	**5175**	**1803**	**57**	**715**	**77**	**20**	**4**	**7851**

Green Building Trends – Data Centers by Jurisdiction

Jurisdiction	Certification Count				TOTALS
	LEED	ENERGY STAR	Design to Earn ENERGY STAR	Green Globes Rated	
Fairfax County		3			3
Loudoun County	23	36	1	4	64
Montgomery County		1			1
Prince George's County				1	1
Prince William County	1	4	1		6
Regional Total	**24**	**44**	**2**	**5**	**75**

Grid-Connected Renewable Energy Systems



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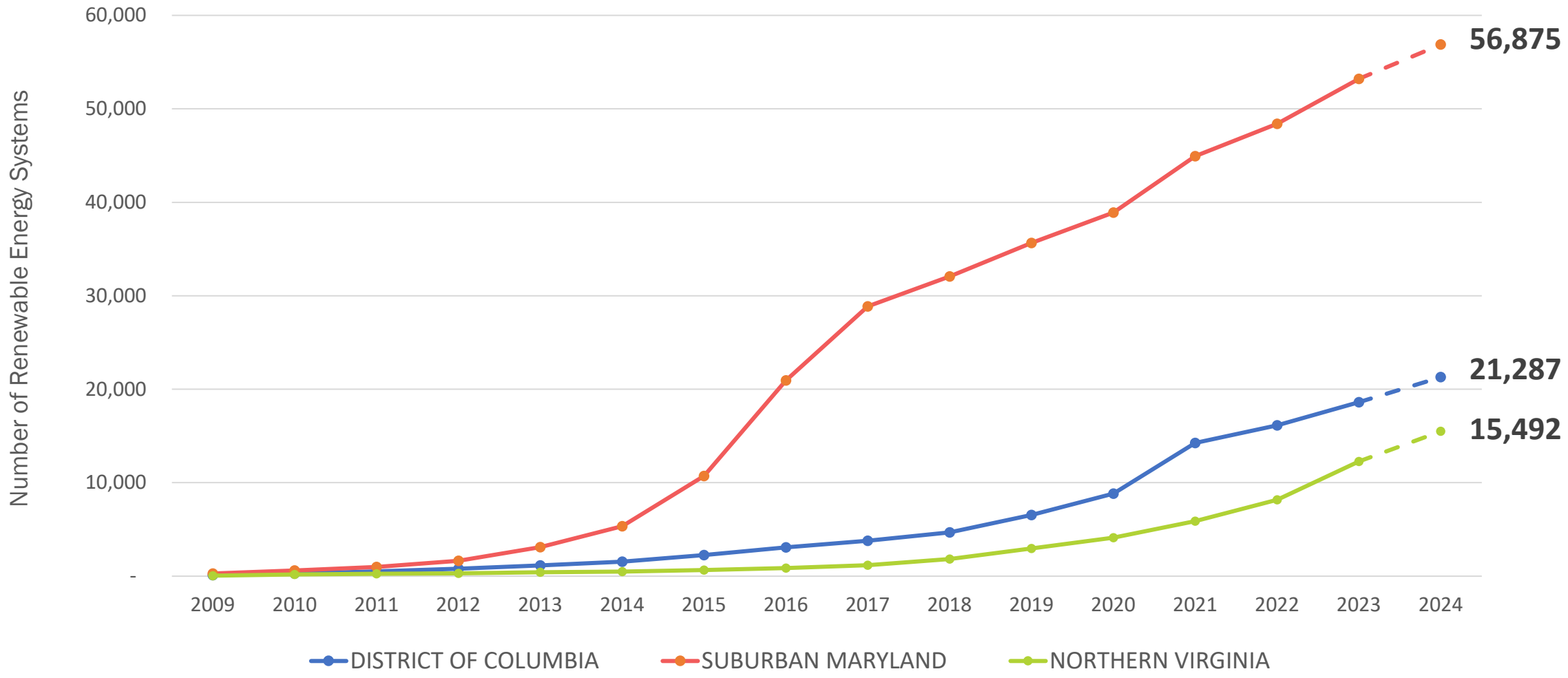

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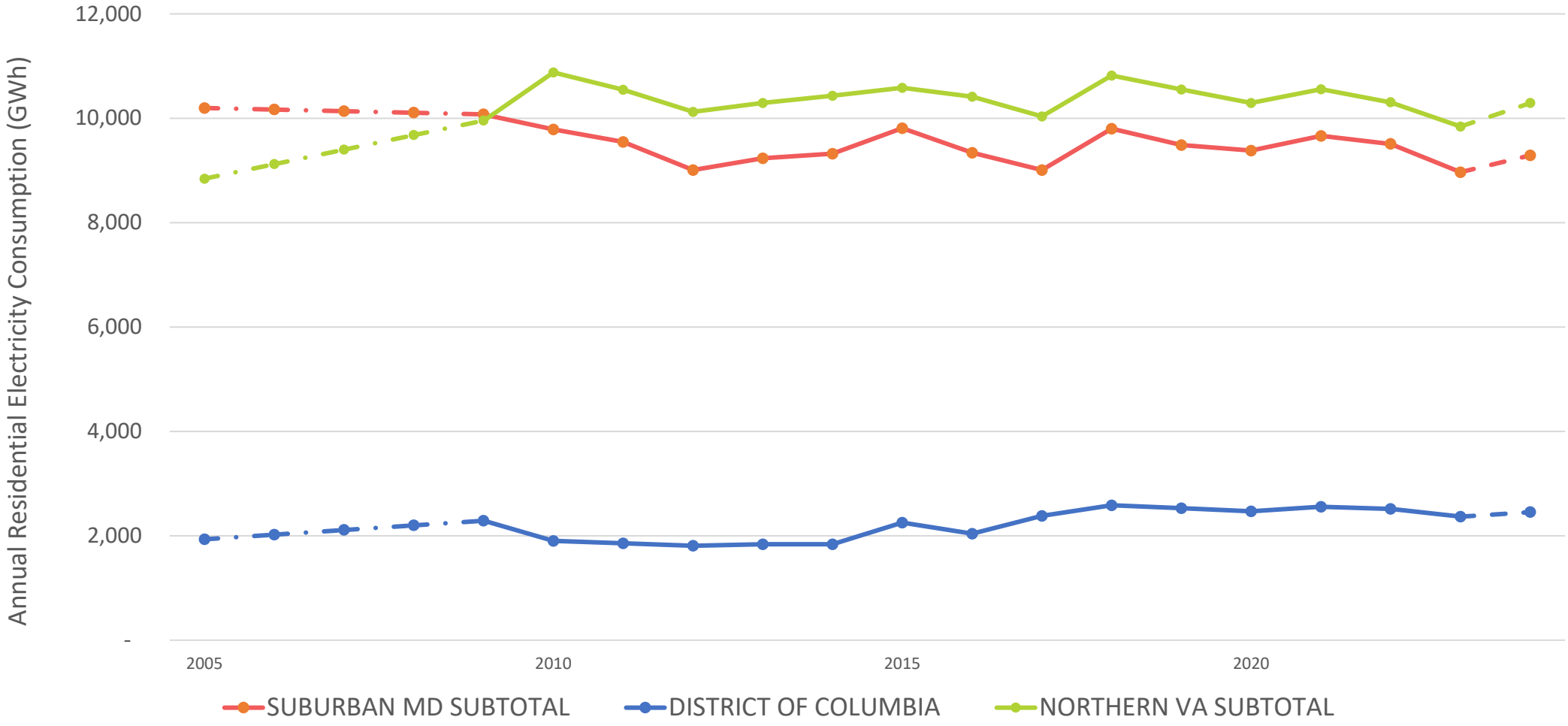
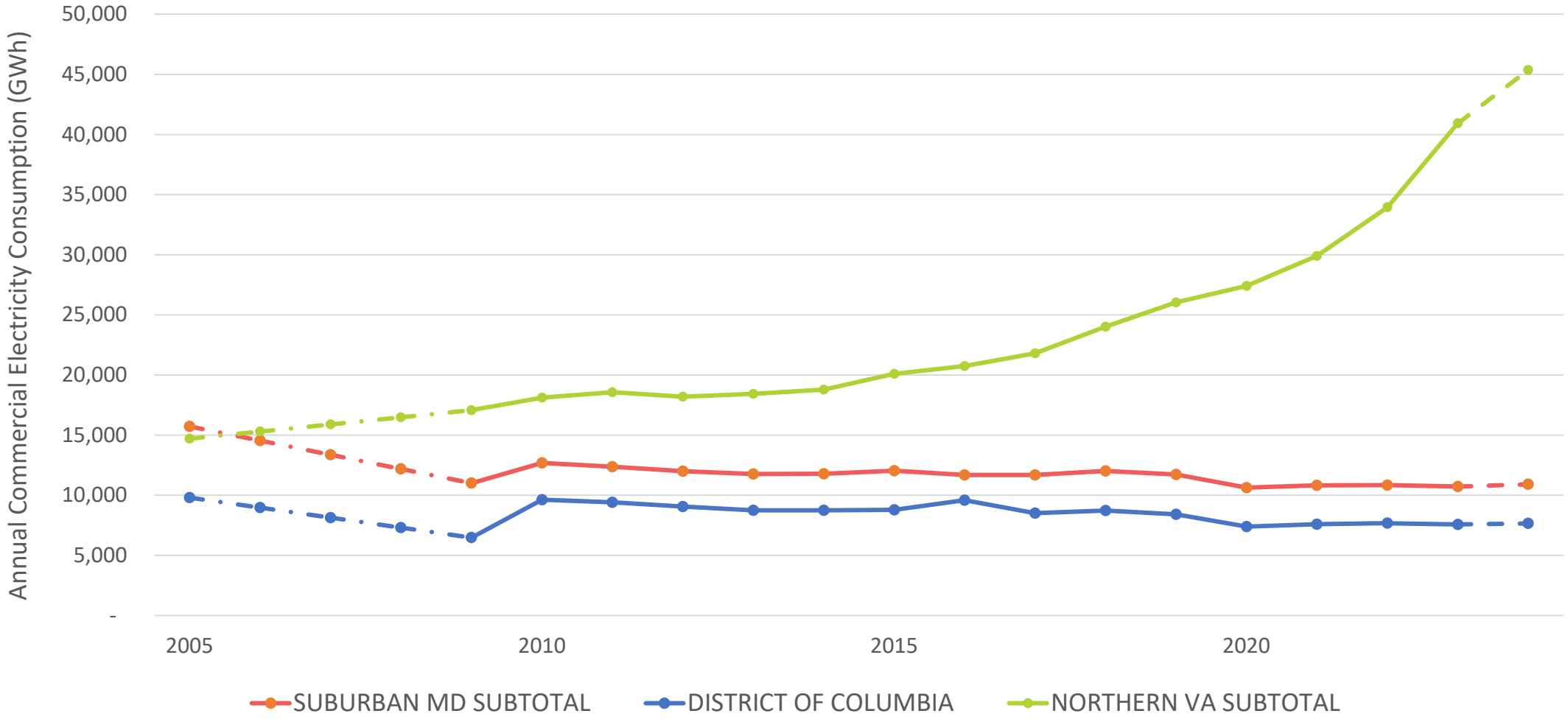
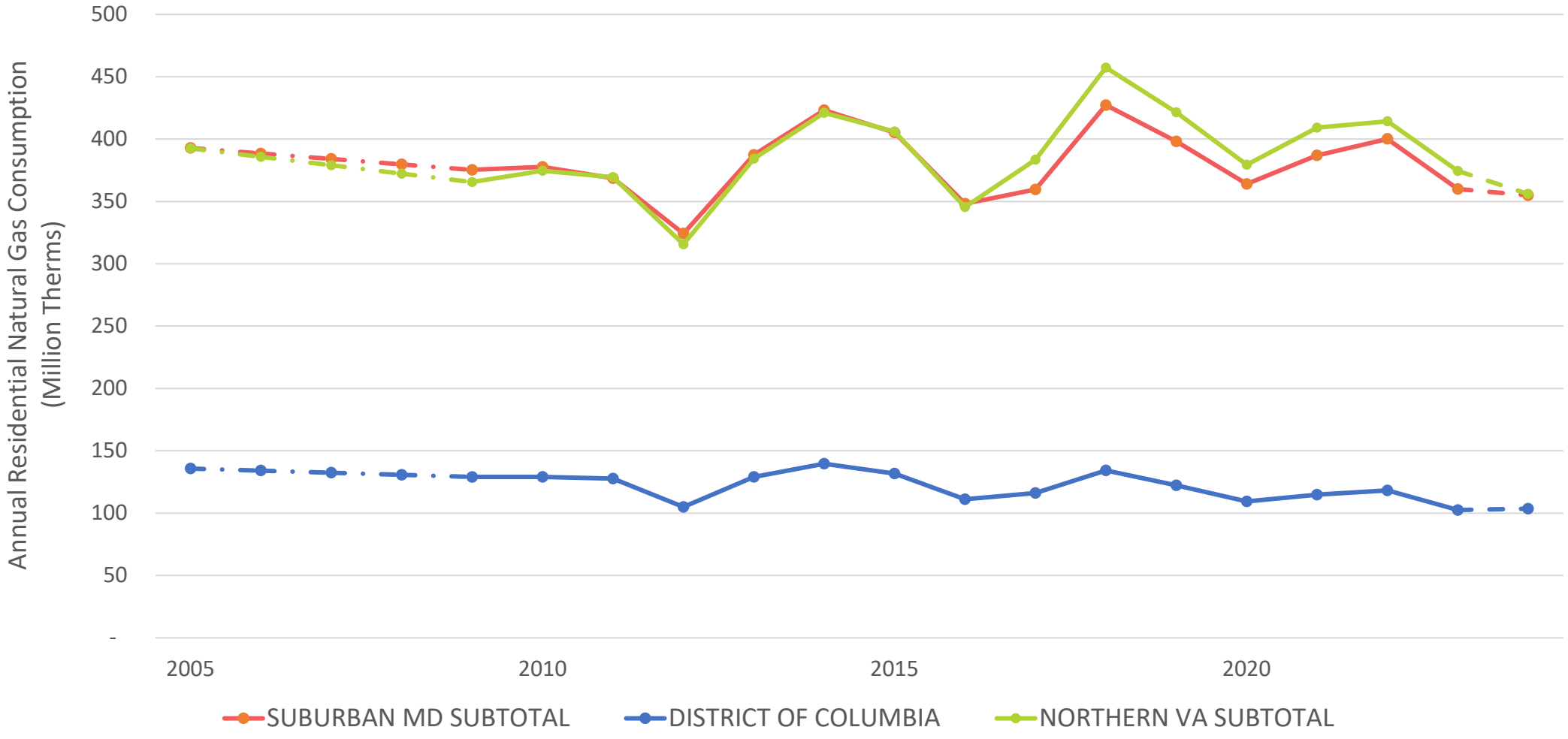
Residential Electricity Trends



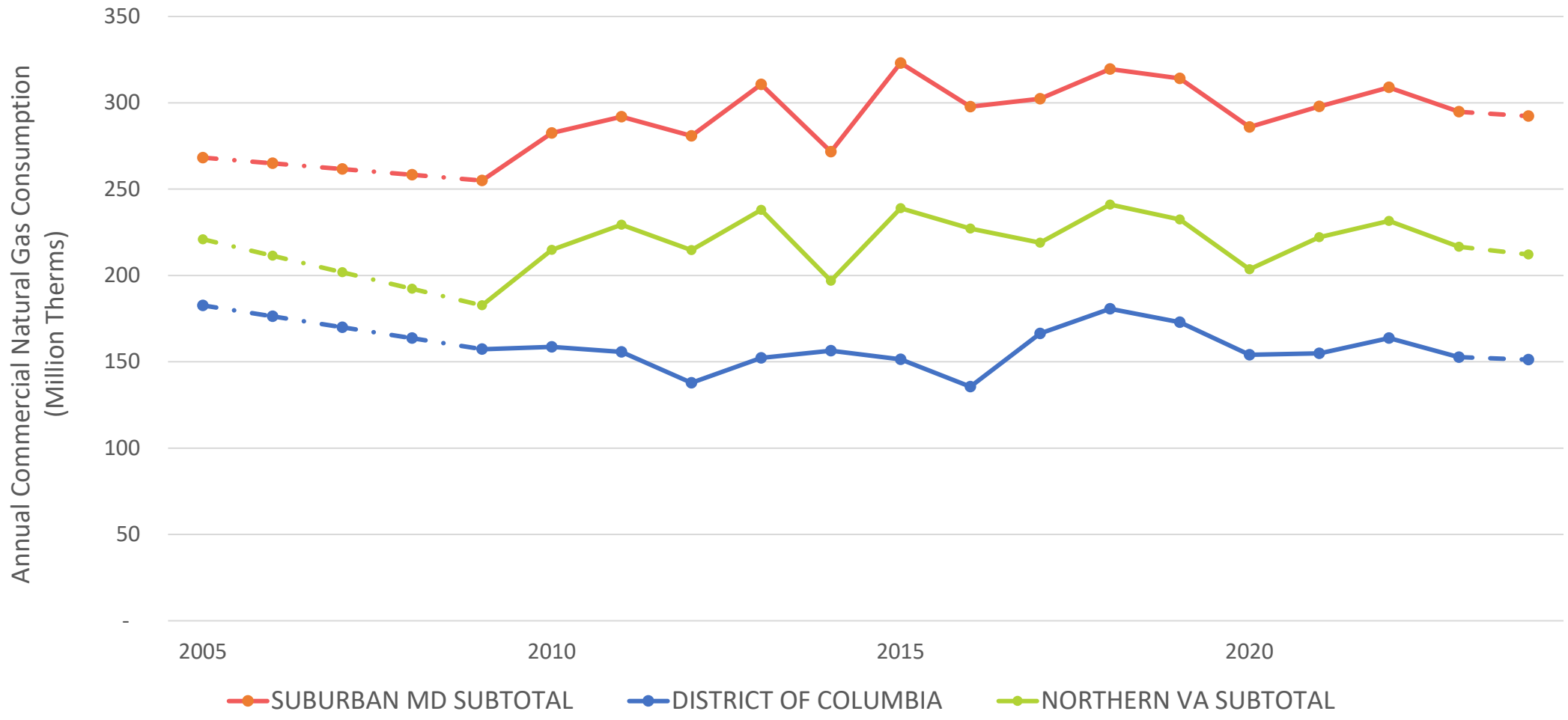
Commercial Electricity Trends



Residential Natural Gas Trends

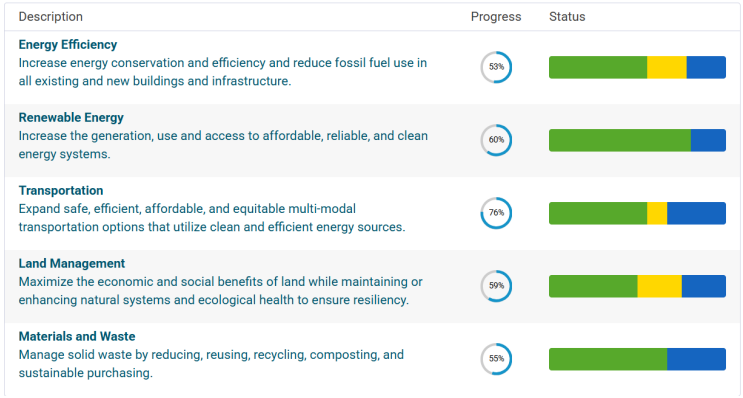


Commercial Natural Gas Trends



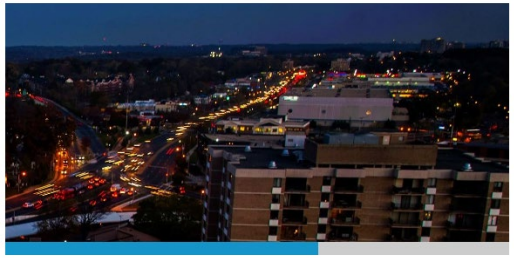
GHG Case Study #1: Rockville

- ***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.



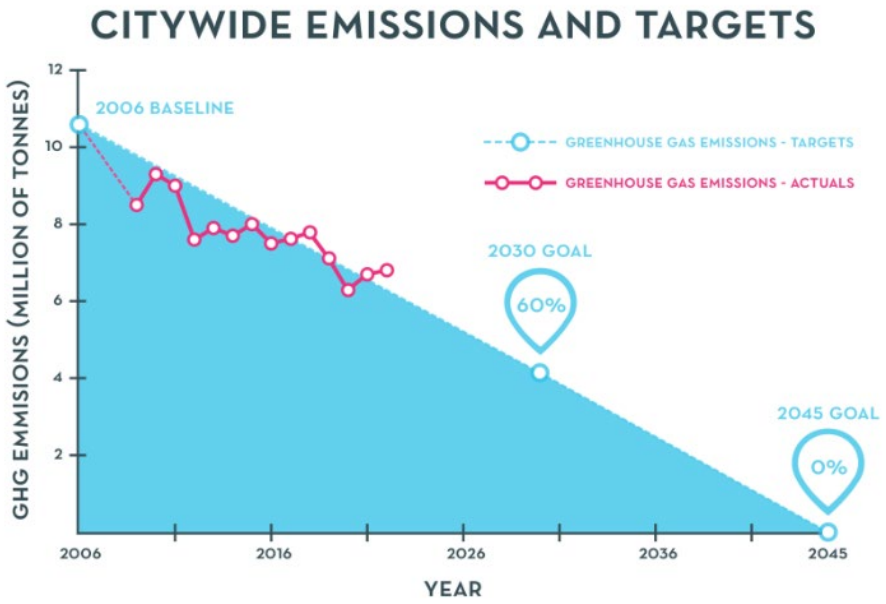
REDUCE GREENHOUSE (GHG) EMISSIONS
Reduce GHG emissions from the community and municipal government operations to at least 50 percent below 2005 levels by 2030 to be on track to reach net zero by or before 2050.

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 District'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.



District's GHG Emissions *Inventory* in 2022 Annual Reports

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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

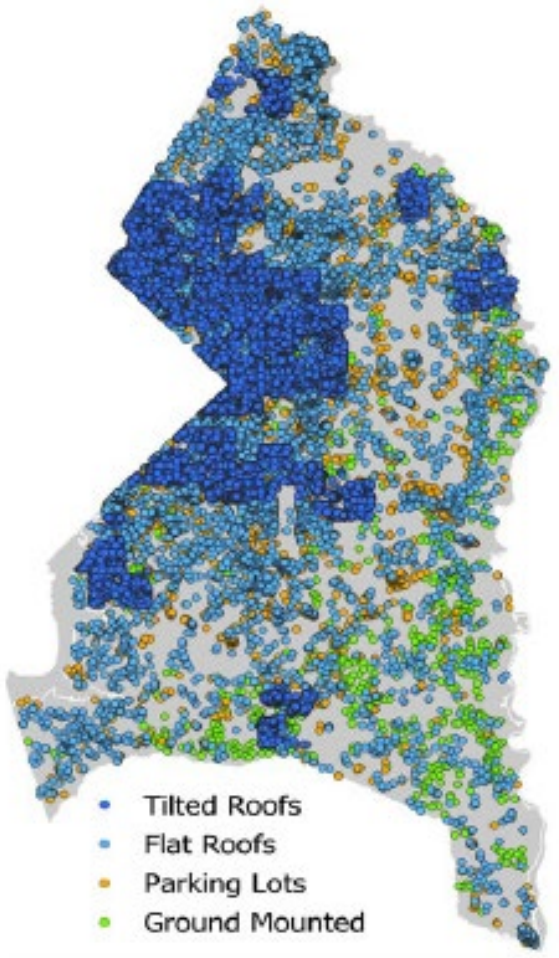
SOLAR UNITED NEIGHBORS

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 of total capacity.
- ***Benefits:***
  - Progress towards expanding energy self-sufficiency
  - Enable's 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
- ***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.

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

Construction site of new building (Source: Gilbane)

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.

AIA: Alice West Fleet Elementary School

SQ Case Study #7: 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 #8: 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.

SPROUT
Stewarding Planting Restoring Our Urban Trees

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

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