DATA CENTERS IN THE DMV

What we heard from COG Forums on Energy and Water

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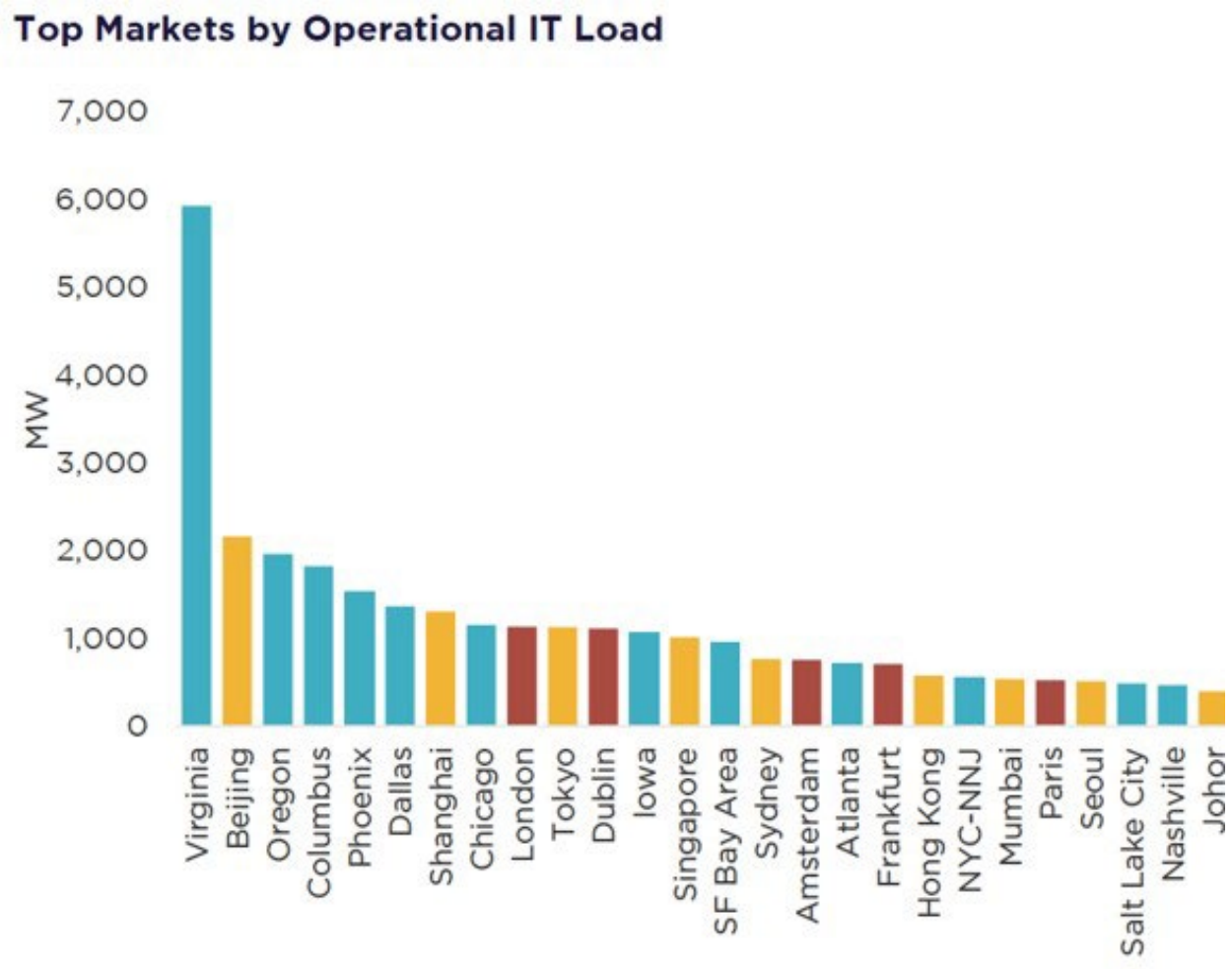
Climate, Energy and Environment Policy Committee (CEEPC)
March 25, 2026



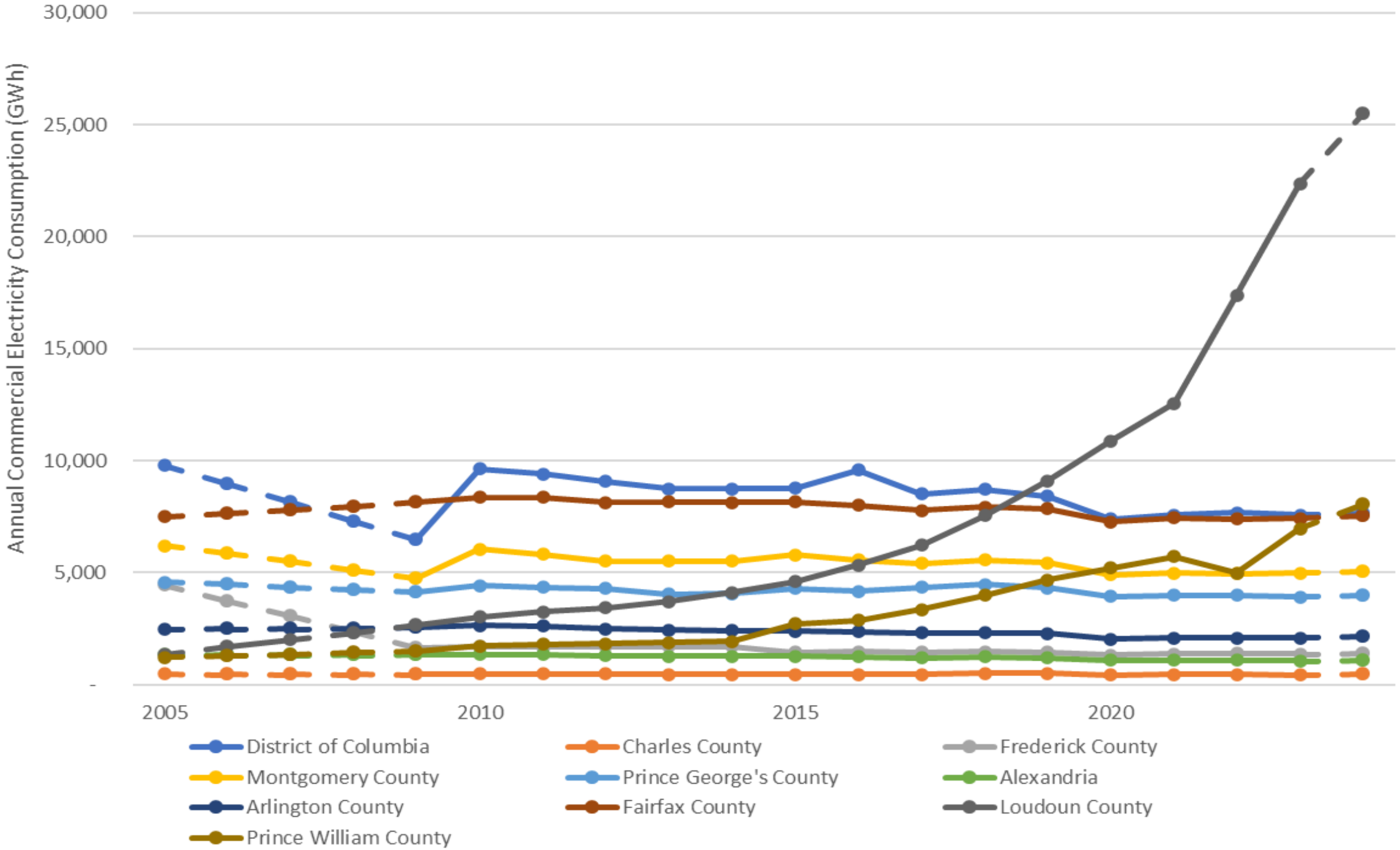
Graph courtesy of Chris Kimm, Data Center Coalition, at Energy Forum

Source: Cushman & Wakefield Research, datacenterHawk, DC Byte

Why DMV is a prime data center market

Data centers have been drawn to Loudoun County and Virginia, and expanding in region, due to:

- Proximity to end users
- Fiber cable
- The region's water and power capabilities
- Available land
- Tax and regulatory incentives


Annual Commercial Electricity Consumption (GWh)
30,000
25,000
20,000
15,000
10,000
5,000
-
2005
2010
2015
2020
District of Columbia
Charles County
Frederick County
Montgomery County
Prince George's County
Alexandria
Arlington County
Fairfax County
Loudoun County
Prince William County

Energy Impacts Are Large, Fast-Moving, and Regionally Interconnected

- 25% of data center capacity in the Americas is located in Northern Virginia, placing Metropolitan Washington at the center of the global technology ecosystem.
- Data centers currently account for 4 GW of energy use in Virginia, but Dominion is preparing for 25 GW demand by 2031.

Data Center Growth Is Accelerating – Hard For Infrastructure To Meet Demand

- U.S. and global data demand is growing exponentially
- In U.S., data is expected to reach **80 gigawatts (GW) by 2030**, up from 25 GW in 2024
- Example of challenge: Data centers now face a 3-plus year delay in being able to connect to the grid
- Data center draws for communities:
  - Support AI and cloud computing: AI is helping technological breakthroughs and research and development in many sectors, including health care
  - Provide tax revenue
  - Have potential to lower the overall fixed energy and water costs for all by adding need infrastructure

What Elected Officials Should Know About Energy Impacts

- Data center energy demand is on different scale than other commercial users.
- Forum examined pathways for near- and long-term energy production to meet these new large load interconnections.
- Reliability and residential electricity affordability, and cross-sector communication are key issues.
- Need to increase system efficiencies, and data centers need to bring their own clean onsite energy production, backup power, and storage, while giving generation and interconnection time to ramp up.
- Dominion, Pepco, and PJM have guardrails and plans in place to keep the grid operating reliably.

Water Risk Is Driven By Peak Demand and Cumulative Impacts

- Data center water demand varies, based on cooling technology, IT load, seasons.
- Uncertainties complicate long-term forecasting and infrastructure investment (tenant/cooling unknowns, rapid tech shifts, and NDAs/data gaps).
- Peak demand, not average use, drives regional risk. Short duration, high demand periods (often during hot, dry conditions) create the greatest strain on water infrastructure.
- The Potomac River requires basin-wide, cumulative impact management. As a shared and vulnerable resource, regional coordination is essential because individual projects may appear manageable while cumulative impacts pose significant risk.
- Besides water supply, data centers can affect wastewater characteristics and stormwater runoff, raising operational and water-quality challenges that require coordination between utilities and local governments.

What This Means For Local And Regional Decision Makers

- Data centers require a balance between the computational and economic benefits of AI & data center's fast-paced proliferation and energy and water supplies, and other land uses. Balance this boom with other community priorities and environmental sustainability.
- Due to the changing types and scales of data centers the past is not prologue.
- Regional coordination is essential: Water, energy, and land use decisions in one jurisdiction affects others.
- Reliability and rate payer affordability are paramount for both energy and water planning.
- Nationally, state and local governments are sharpening policy tools to ensure that data centers are aligning with community needs. Sharing best practices will guide decisions.
- Data center transparency and local government coordination/communication with stakeholders is critical: Better information sharing improves planning and public trust.
- AI can contribute solutions to energy and water issues.
- Still to come: COG's 3rd Data Center Forum focus will focus on land use and economic considerations.

Land Use and Economics Data Center Forum - Objectives

Elected officials, government agency staffs, industry, researchers, and policy organizations:

- Learn about the evolving land use, economic and policy context
- Discuss issues, tradeoffs, and considerations
- Explore best and promising practices, opportunities for regional coordination and shared solutions

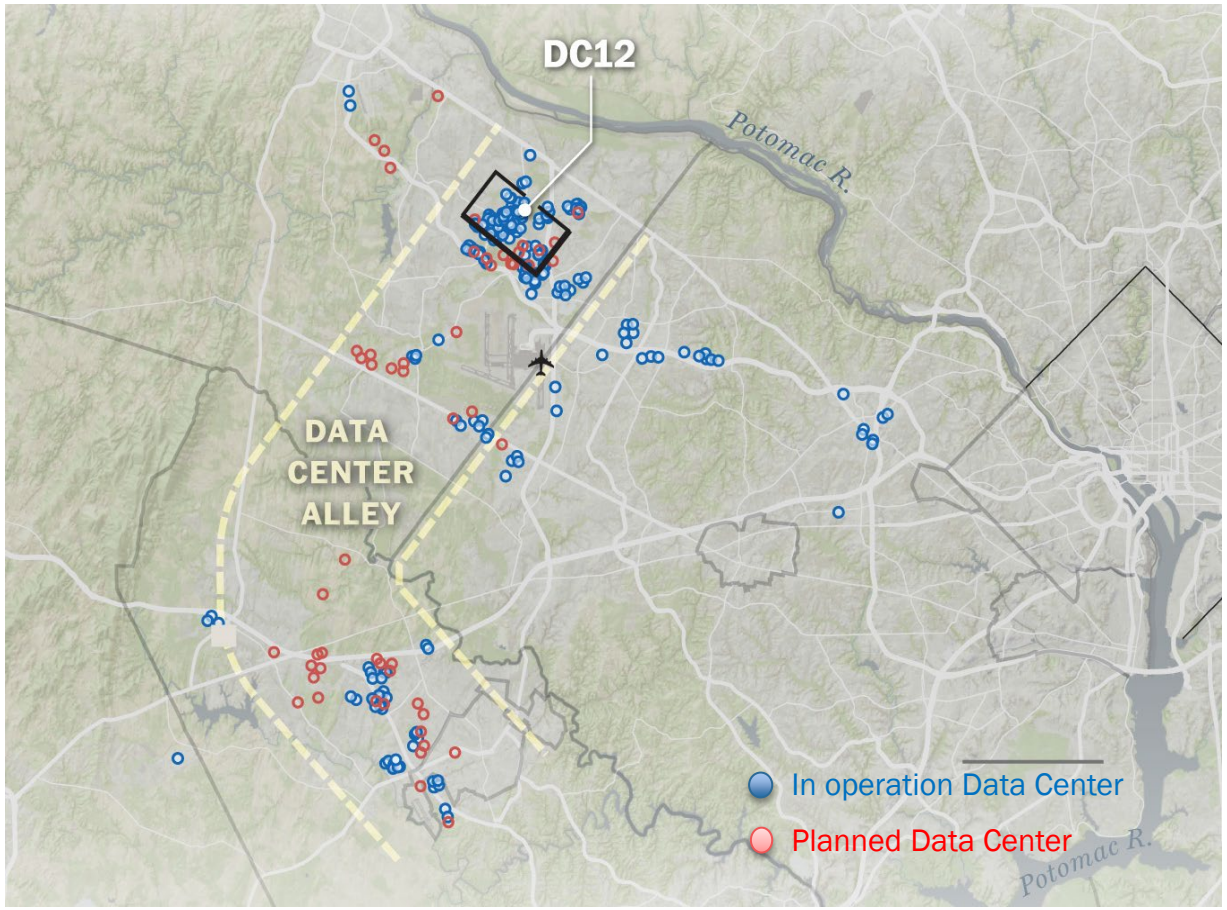
Late April / Early May, 2026

Eastern Loudoun County, 2024. Source: The Washington Post

Metropolitan Washington Council of Governments

Land Use and Economics Forum Topics - Proposed

- Managing Growth
  - Land use decisions, community priorities and impacts
  - Facility, siting, and related needs: existing and look-ahead
  - Approval processes, zoning and permitting and community benefits
  - Public engagement, discussion, and framing
- Economic considerations
  - Tax frameworks: incentives, sales and use exemptions, taxation, added requirements / conditions
  - Revenue generation, benefits, cost allocations
  - Economic development strategy: tradeoffs, & opportunities



Source: Baxtel, The Washington Post

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