GLOUCESTER COUNTY PLANNING COMMISSION
AGENDA

Thursday, December 5, 2024, 6:30 p.m.
Colonial Courthouse
6504 Main Street
Gloucester, VA 23061

GLOUCESTER COUNTY PLANNING COMMISSION MINUTES

November 7, 2024, 6:30 p.m.
Colonial Courthouse
6504 Main Street
Gloucester, VA 23061

Members Present:	Douglas Johnson, Chairman John Meyer, Vice Chair Christopher Hutson- Board Liaison Christopher Poulson James R. Gray, Jr. Kenneth B. Richardson
Members Absent:	Louis E. Serio, Jr. Natalie Q. Johnson
Staff Present:	Carol Steele, County Administrator Anne Ducey-Ortiz, Planning, Zoning & Environmental Programs Director Carol Rizzio, Assistant Planning, Zoning & Environmental Programs Director Tripp Little, Planner III William Hurt, Administrative Coordinator III

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1. CALL TO ORDER AND ROLL CALL

Chairman Doug Johnson called the November 7, 2024 meeting of the Gloucester County Planning Commission to order at 6:30 PM. Roll call established that a quorum was present.

2. INVOCATION AND PLEDGE OF ALLEGIANCE

Mr. Meyer led the Commission in the Invocation and Pledge of Allegiance.

3. CONSENT AGENDA

Motion to approve the Consent Agenda.

Moved Mr. Gray, seconded by Mr. Poulson, and carried by a unanimous vote.

a. Minutes of October 3, 2024 Meeting

b. Application (s) before the BZA in November

None.

c. Development Plan Review- October 2024

d. Quarterly Report (3rd Quarter)

4. PUBLIC COMMENTS

None.

5. PUBLIC HEARING

a. Z-24-02 Baldwin FT

Anne Ducey-Ortiz, Planning Director, presented the PowerPoint for Z-24-02 Baldwin Family Transfer Rezoning. She explained that the property owner is requesting to rezone the parcel from the RC-1 district to the SC-1 district. Although the surrounding property was once a farm, it has undergone several rezoning measures, resulting in its current SC-1 zoning and state park use. The property proposed to be rezoned contains 5.02 acres and cannot be subdivided under the RC-1 district, since this zoning district requires a minimum lot size of 5 acres for all lots created through the subdivision process. If rezoned to the SC-1 district, which allows for a minimum lot size of 2 acres if subdivided through the Family Transfer process, the applicant be able to subdivide the property if all other subdivision requirements are satisfied. The property contains two residences, which would not change following the rezoning and later subdivision, and is surrounded by Machicomoco State Park, which is operated by the Virginia Department of Conservation and Recreation (DCR). Ms. Ducey-Ortiz provided the transportation impact, which outlined a negligible impact on the surrounding roadways. The property has been granted an

easement that leads from the state road through the state park. She gave examples of potential uses for the properties if a subdivision was approved. The Virginia Department of Transportation reviewed the application and not objections to the proposal. However, she explained that DCR has contacted and met with Planning staff and discussed their concerns earlier that day regarding the misalignment of the current easement compared to the property owners' form of access and potential uses that could be permitted in the SC-1 district. She stated that staff recommended this rezoning to be forwarded to the Board of Supervisors for approval and concluded her presentation. The applicants were not present at the public hearing and no public was in the audience to comment.

William Hurt, Administrative Coordinator III, read one public comment, provided to the Commission from Lara Callahan on behalf of the Department of Conservation and Recreation (DCR). Ms. Callahan outlined the state agency's stance on the rezoning application, expressing the agency's effort to secure a new easement for the property that aligns with the property owners' current manner of access. She stated that the department was not in opposition to rezoning the property, but it was concerned about the potential of development increasing and expressed that its priority was to protect the existing resources and infrastructure of Machicomoco State Park. She also noted that DCR reserves the right to grant an easement upon terms deemed proper by the agency.

There was a discussion as to whether a state agency could provide comments. Staff acknowledged that it is an adjoining property owner and, therefore, it was appropriate to allow the comment to be read. However, Mr. Gray stated he did not believe state agencies are allowed to use the public comment period to demonstrate objections. Staff stated that they would seek clarification from the County Attorney.

Ms. Ducey-Ortiz then took questions from the Commission. The Commission discussed whether DCR had the legal authority to limit easement access for the applicant. Mr. Meyer asked Ms. Ducey-Ortiz if they could dictate the terms of the easement to the property and noted he was concerned with the state agency's authority over a resident's easement. Ms. Ducey-Ortiz stated that these easements are a set of rights that would be considered in a separate civil matter. Mr. Gray

added to Ms. Ducey-Ortiz's comment, acknowledging the County had no legal recourse in the matter between a state agency and resident's agreements. Mr. Gray also noted that the applicant's residence and property existed before the establishment of Machicomoco State Park.

Mr. Poulson made a motion to send the application for Z-24-02, with a recommendation for approval.

Mr. Richardson seconded that motion.

The motion carried unanimously, 5-0, with 2 members absent.

b. Z-24-03 York River Crossing

Tripp Little, Planner III, presented the PowerPoint for Z-24-03 York River Crossing. The property owner, York River Crossing Associates, LLC, requested the County to rezone their parcel from B-2, Village Mixed Use to B-1, General Business. Mr. Little explained the subject property was rezoned from B-3, Office Business, to RMX, Residential Mixed Use, in June of 2016. At the time, the RMX District was consistent with the desire for mixed-use village development in Gloucester Point, as expressed in the Gloucester County Comprehensive Plan and Gloucester Point/Hayes Village Development Area Plan. The property was zoned to B-2 as part of the Zoning Ordinance Update with the elimination of the RMX District. The owner requested the B-1 zoning to give greater flexibility in the type(s) of permitted businesses and to align the zoning of this property with the York River Crossing Shopping Center immediately to the north. Rather than holding up the entire Zoning Ordinance Update to address this one parcel, the Board approved the Zoning Ordinance Update and voted to consider the rezoning of this parcel separately and at no cost to the owner. The applicant did not offer a specific use of the property or supply a conceptual plan with the rezoning request. In his presentation, Mr. Little explained the property location and its adjacent neighbors and the differences in uses permitted within the requested zoning and current zoning. Mr. Little explained that Planning staff is not making a recommendation to the Commission since the Commission had already recommended the property be zoned B-2 during the Zoning Ordinance Update. He noted the applicant's requested rezoning would be inconsistent with the Comprehensive Plan and that not many additional land uses would be allowed by the

applicant's request than are permitted within the property's current zoning.

Mr. Little ended his presentation, and the public comment period began. Raymond Suttle Jr., attorney, spoke on behalf of the property owner (York River Crossing Associates). He expressed that the applicant wished to have the property rezoned to B-1 to be more compatible with the adjoining property, which is owned by the same principal owner. He offered to answer questions from the Commission, but the Commissioners had none at the time.

Mr. Johnson opened the floor for questions. Mr. Gray asked why the property was originally B-3. Ms. Ducey-Ortiz explained the property was zoned as B-3 to encourage office development during the county-wide rezoning in 1998. She explained that only office development was allowed within the B-3 district and that retail was not permitted within it. Several other B-3 properties were rezoned to B-1, and it was recommended to eliminate B-3 zoning by the Business Development Focus Group. Ms. Ducey-Ortiz also noted that staff recommendations have not changed since the latest rezoning of the property. Mr. Johnson asked for clarification if the currently approved site plan would no longer be valid if the rezoning were to be approved, which Ms. Ducey-Ortiz confirmed. During the Commissioner comments period, Mr. Richardson argued he couldn't foresee any uses not allowed B-2 on the property that could cause the applicant to require the B-1 district. Mr. Hutson asked Mr. Little how the rezoning would be inconsistent with the Comprehensive Plan. Mr. Little explained that their future development could impede on the transitional buffer area the property sat upon. He also noted that the Commission previously has been reluctant to rezone properties that did not have a proposed use at the time. Mr. Richardson confirmed this and said that previous votes differed from this application since this was part of a County-sponsored rezoning. Mr. Hutson inquired why the applicant did not request this during the Zoning Ordinance update. Mr. Suttle replied that they attempted to but, because it would require advertising another public hearing, there was a mutual decision not to. Mr. Poulson asked if the public hearing was advertised and if the adjacent property owner letters were mailed for this current rezoning, which Ms. Ducey-Ortiz confirmed. The Planning Commission also inquired

about the cost of the public hearing and the proximity of the property to wetlands.

Mr. Richardson made a motion to send the application for Z-24-03, with a recommendation for approval, to the Board.

Mr. Gray seconded that motion.

The motion failed 3-2, with 2 members absent, Mr. Richardson and Mr. Gray voting in favor and Mr. Meyer, Mr. Poulson, and Mr. Johnson voting opposed.

6. OLD BUSINESS

None.

7. NEW BUSINESS

a. FY26-30 CIP Introduction

Carol Steele, County Administrator, announced that the Capital Improvement Plan (CIP) would begin and thanked the members for their future evaluations. The Commission will be asked to evaluate line items for the 2026 fiscal year. All other fiscal year items would need to be evaluated based on whether they are consistent with the Comprehensive Plan. Ms. Ducey-Ortiz notified the Commission that they could request for CIP submitters to attend the next Planning Commission Meeting on December 5, 2024 where the Commission can discuss with the department/agency leaders about their project requests. The Commission has until December 1 to notify Planning staff which departments they would like to appear, in so they can make sure the required people are in attendance. Mr. Richardson asked if there were any applications for public hearings during December. Ms. Ducey-Ortiz confirmed that there were none. The packet information for the CIP will be released on Tuesday, November 12. Mr. Hurt would coordinate with the Finance Department to provide the necessary material to the Planning Commission. The Commissioners will submit their evaluations by December 16, 2024. Mr. Gray noted that the process used in the past year was simplified and easier to understand and expressed his appreciation for staff's past work.

b. Technology Overlay District Public Comments Discussion

The Board of Supervisors has directed the Planning Commission to look at establishing a Technology Overlay District (TOD). Mr. Little has been assigned to be the Project Planner for this initiative. Staff made suggestions for citizen outreach, primarily in areas that would be most impacted by a TOD. Ms. Steele followed up by noting discussions of data centers, and studies performed. She also encouraged the Commission to consider multiple town hall meetings on the subject, giving citizens a chance to understand the topic and provide public opinion. Mr. Poulson expressed concern regarding the huge power drawn by data centers and questioned the benefit. Ms. Steele explained that the County had limited ability to generate economic development and data centers generate a lot of tax revenue. Mr. Johnson and Ms. Ducey-Ortiz talked about arranging a new venue for a potential meeting. It was agreed that staff would provide information about data centers to the Planning Commission in their December packets as well as provide a forum for education for them and the public.

c. PC Nominations

The Planning Commission opened the floor for nominations for Chair and Vice Chair for 2025. Mr. John Meyer was nominated as Chair and Ms. Natalie Johnson was nominated as Vice-Chair.

Mr. Richardson made a motion to close the nomination period.

Mr. Gray seconded the motion.

The motion passed 5-0, with 2 absent, by unanimous voice vote.

Ms. Ducey-Ortiz advised the Commission that nominations would have the be open once more with a final vote taken in December, per the Rules of Procedure.

d. 2025 PC Schedule

The Planning Department has presented the Planning Commission meeting schedule for 2025. Meetings would continue to occur on the first available Thursday of every month. However, some holidays would cause the meeting to be moved to the following Thursday. The

schedule was agreed upon by Planning Commission members with no objections.

8. APPLICATION(S) BEFORE THE COMMISSION IN DECEMBER

None.

9. STAFF COMMENTS

Planning staff congratulated Planner II, Sean McNash, and his wife on the birth of their daughter.

Mr. Little asked for clarification on the interpretation of the Commission's vote on Z-24-03. Since the motion failed, Mr. Little asked if staff would be correct to interpret the vote as a recommendation of denial for the parcel's proposed zoning of B-1. Mr. Johnson confirmed this interpretation.

Ms. Ducey-Ortiz announced that the Comprehensive Plan Survey was ending soon and Planning Staff was receiving comments. Ms. Ducey-Ortiz suggested to present the findings at the January meeting.

10. COMMISSIONERS' COMMENTS

Mr. Richardson and Mr. Johnson wished everyone a Happy Thanksgiving.

11. ADJOURNMENT

Mr. Gray made the motion to adjourn.

Seconded by Mr. Richardson, and carried by a unanimous voice vote.

Meeting adjourned at 8:16 pm.

Doug Johnson, Chair

Anne Ducey-Ortiz, Secretary

Site/Development Plan	General Description/Use	Location/Tax Map #	Status	Zoning
Camellia Solar Amendment	Amendment to 20 MW Solar Energy Facility conditional to CUP-20-05	Along Daffodil Lane, east of the intersection with Ware Neck Road (26-70B, 70C, 70D, 70E, 70F, 70G, 82) RPC- 34587	**Approved 7-25-2024 LDP 5-3-2023**	C-2
Carvers Creek Solar Phase 1 Amendment	Amendment to Phase 1 of 150 MW Utility Scale Solar Energy Facility	Along Route 17 and Glenns Road (24 Parcels, 04-50) RPC- 12536	**Approved 4-30-2024 LDP 4-19-2023**	RC-1
Carvers Creek Solar Phase 2 Amendment	Amendment to Phase 2 of 150 MW Utility Scale Solar Energy Facility	Along Route 17 and Glenns Road (24 Parcels, 04-50) RPC- 12536	**Approved 5-1-2024**	RC-1
Fox Mill Centre – Amended Site Plan	Shopping Center- amendment to existing approved site plan	Route 17 S., south of Wal-Mart Supercenter and Outparcels (32-17, 19, 19A, 19N) RPC- 40693	**Approved 11-15-2024 LDP 6-18-2024**	B-1, conditional
Freeman Commercial Drive Thru Amendment	Amendment to drive-thru construction for a commercial business	Along Route 17 N, within the York River Crossing Shopping Center (51-68G) RPC- 30894	**Approved 1-16-2024 LDP 11-7-2018**	B-1
Gateway Private School	Conversion of a building into a private school	Along Hickory Fork Road, north of the intersection with Ark Road (30-33) RPC- 23628	**Approved 9-16-2024 LDP 10-28-2024**	SC-1
Glenns Food Mart	Expansion of the Glenns Food Mart for diesel pumps, a motel, and associated parking	At the corner of Route 17 S and Route 33 W (4-32, 32A, 33) RPC 13618	**AAR CCS 1-24-2024**	B-1
Gloucester High School Parking, Athletic Field, & Tennis Court Expansion	Expansion/relocation of parking areas, athletic fields, and tennis courts	Along Short Lane, east of the intersection with Route 17 (32-58C) RPC- 33056	**AAR CCS 8-26-2024**	SC-1
Gloucester Mathews Humane Society	Expansion of the existing animal shelter	Along South Jackson Lane, south of Sutton Road (32-208) RPC- 17446	**AAR CCS 11-18-2024**	SC-1
Miller's Services Headquarters	Office location for Miller's Services	Intersection of Industrial Drive and Commerce Drive (39-8B) RPC- 41475	**AAR CCS 12-29-2023**	I-1
New Life Ministry Center	Construction of a covered pavilion	Along Route 17 S, north of the intersection with Fields Landing Road (45-231A) RPC- 18035	**AAR CCS 6-24-2024**	B-1
Patriot's Walk Phase II- Amendment	Residential- 79 lot phase, 214 lot subdivision	Route 3/14 S., near Ware Neck (26D(1)-3-1, 26D(1)-C, I, J, K, L) RPC- 42798	**Approved 7-24-2024 LDP 8-30-2024**	SC-1
Patriot's Way	Residential- 39 lot subdivision	Patrick Henry Way, adjacent to the Patriot's Walk Subdivision (26-35E) RPC- 13991	**AAR CCS 10-29-2024**	SC-1
Ram's Convenience Store	Conversion of bank to a gas station and convenience store	Intersection of Route 17N and Jordon Road (51-209) RPC- 20644	**UCR Received 10-30-2024**	B-1
The Reserve at Gloucester Village (The Villages of Gloucester)- Phase 2	Residential (141 single-family lots and 71 townhouse lots)	Along Route 17S, south of the intersection with Burleigh Road (31-102) RPC- 16480	**AAR CCS 5-20-2024**	PUD-1, conditional
River Club at Twin Island Amendment	Amendment to condominium section of the development (54 units)	Along Stokes Drive, southwest of the Abingdon Volunteer Fire & Rescue station (50S(1)-63, 64) RPC- 42211	**Approved 5-3-2024**	PUD-1, conditional
Riverside Hayes Medical Center Parking Amendment	Amendment to approved site plan to expand parking lot	Along Route 17S, between intersections with Guinea Road and Tidemill Road (51E(4)-A) RPC- 35093	**Approved 4-30-2024 LDP 10-9-2024**	B-1

Note: To view each location, visit: http://gis.gloucesterva.info/
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Last updated: November 21, 2024

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Shephard's Way Apartment	Construct multi-family building	Intersection of Route 17N and Belroi Road (32A1(1)-3) RPC- 35149	**AAR CCS 8-5-2024**	MF-1
Swiss Legacy Development Plan Amendment	Amendment to approved Development Plan to revise site lighting arrangement	Behind Beckwith Farms connected to Beckwith Drive (Rte. 1095) (51-232, 248, 249) RPC- 12613	**Approved 7-29-2024 LDP 8-15-2023**	SF-1
Verizon Wireless- Figg Shop (Co-Location)	Construct monopole cell tower	Along Indian Rd. near Beaverdam Park (18-57) RPC- 22791	**Approved 10-23-2024**	RC-1
Ware Academy Phase 2 Amendment	Amendment to site plan for expansion of the existing school building to include additional educational areas	At the intersection of Route 3/14 and Indian Road (25-135) RPC- 10016	**Approved 8-27-2024 LDP 5-23-2024**	SC-1
Wells Fargo ATM at York River Crossing Shopping Center	Amendment to existing shopping center site plan to add a drive through ATM	Along Route 17N and Guinea Road (51-68) RPC- 26396	**Approved 2-9-2024**	B-1
Winterberry Solar Amendment	Amendment to the approved Site Plan for a 20 MW Solar Energy Facility conditional to CUP-20-02	Along Nursery Lane, west of the intersection with Route 17S (39-6, 7, 7A, 8C) RPC- 26891	**Approved 11-14-2024 LDP 5-17-2022**	SC-1, CUP-20-02
Achilles Open Broadband	Broadband tower	Behind Achilles Elementary, along Guinea Road (52-519) RPC- 23815	**Approved 11-1-2023**	SC-1
Art Colony	Artist studios with 4 accessory residential units	East side of Botetourt Avenue, south of Main Street (32A2(2)BK F-81, 82, 83, 86) RPC- 15510	**AAR CCS 8-24-2020**	B-2
Baylor Medical- Amendment	Medical Office	Route 17S., across from Riverside Walter Reed Hospital (24-120) RPC- 33048	**AAR CCS 9-29-2020 LDP 1-11-2013**	B-1
Brent & Becky's Open Broadband	Broadband tower	Behind Brent & Becky's Bulbs, along Daffodil Lane (26-70A) RPC- 27915	**Approved 11-9-2023**	B-2
Burger King	Addition of second drive-thru lane to existing restaurant	Intersection of Route 17S and First Fox Street (32-20) RPC- 24114	**AAR CCS 9-24-2021**	B-1
Care-A-Lot Pet Supply	Retail pet supply store	Along Route 17N at the intersection of Route 17 and Providence Road (45-531) RPC- 13630	**AAR CCS 6-10-2022**	B-1
Classic Car Café	Deli - Sandwich and fountain drinks (Renovation of existing building)	Intersection of John Clayton Mem Hwy and Burkes Pond Rd (20-32A, 32B) RPC-23870	**Approved 5-4-2009***	B-1
Coleman's Crossing- Amendment	Residential & Business- 82 townhouse units and mixed-use business	Route 17 S., north of Crewe Road (45-120, 45Z(1)-Z) RPC-43966	**AAR CCS 10-19-2017* LDP 11-17-2010**	MF-1, B-2, conditional
Cow Creek Solar	1 MW Solar Energy Facility conditional to CUP-20-03	Southeast of Foster Road (25-120C) RPC-12629	**AAR CCS 12-2-2022**	SC-1, CUP-20-03
The Crossings at York River	Residential- 109 multi-family units	South of York River Crossing Shopping Center (51-78) RPC- 40099	**Approved 9-29-2017* LDP 10-2-2012**	RMX, conditional

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Dollar General Gloucester (John Clayton)	Dollar General store	Intersection of John Clayton Mem Hwy and Burkes Pond Rd (20-32A, 32B) RPC-23870	**AAR CCS 2-9-2018***	B-1
Dove Field Farms	Residential- 17 lot subdivision	Gum Fork Rd (38-43) RPC-26266	**Approved 4-22-2009* LDP 5-29-2024**	SC-1
Dunkin Donuts	Drive-thru restaurant	Intersection of Route 17N and Greate Road (51A(3)Bk B-55-59, 72-75) RPC- 20163	**Approved 10-24-2022 LDP 4-29-2024**	B-1
Dutton Fire Station 4 Open Broadband	Broadband tower	Next to Dutton Fire Station 4, along Dutton Road (11-34F) RPC- 27694	**Approved 11-1-2023**	RC-1
Fiddler's Green Road Plan	Residential- 88 lot subdivision	Fiddler's Green Road (31-149) RPC- 21400	**Approved 7-25-2012***	SF-1, conditional
Fiddler's Green Pump Station	Pump station for subdivision	In the subdivision (31-149) RPC- 21400	**Approved 7-25-2012***	SF-1, conditional
Fox Mill Centre – Outparcel #5 Amended Site Plan	Outparcel lot for commercial development (amendment to existing site plan)	Route 17 S, east of Wal-Mart Supercenter, outparcel (32-17K, 19H) RPC- 41274	**AAR CCS 2-26-2019***	B-1
Girl Scout Camp- Burkes Mill Pond	Cabin for Girl Scout camp	On Burkes Pond Rd along Burkes Pond (20-19) RPC- 34759	**Approved 9-6-2018***	C-2
Gloucester Toyota	Expanded outdoor display area	Route 17 N, north of the Gloucester Business Park (32-51A, 51B, 39-1) RPC- 41026	**AAR CCS 3-2-2016***	B-1, conditional
Haywood Development Amendment	Amendment to Haywood Floor Covering development	Intersection of Commerce Drive and Enterprise Court (39-8J) RPC- 33427	**Approved 9-14-2023 LDP 9-27-2023**	I-1
Legacy Springs	Assisted living center	Route 17 N, south of the Lighthouse Worship Center (45-438) RPC- 30154	**AAR CCS 6-19-2019***	B-1
Oak Bridge Meadow Event Hall Barn	Event Venue pursuant to SE-17-05	Off Woods Cross Road near the Beaverdam Swamp (16-77) RPC- 22028	**AAR CCS 3-20-2018* LDP 4-3-2018**	RC-1 SE-17-05
Old Dominion Ice Company	Ice House/Parking	Route 17 N., at N-Out Food Mart (51A(3)BK B-62 thru 68, 68A) RPC- 42734	**Approved 8-28-2012***	B-1
The Other Moving Company (TOMCO)	Retail and Storage Facility (After-the-fact Site Plan)	Route 17 N, south of Route 17-Brays Point Road intersection (45-532) RPC-27410	**AAR CCS 9-24-2015***	B-1
Patriot's Walk Phase I Amendment	Residential- 79 lot phase, 214 lot subdivision	Route 3/14 S., near Ware Neck (26D(1)-2-2) RPC- 42798	**AAR CCS 8-19-2019***	SC-1
Patriot's Walk Phase IIIA	Residential- 79 lot phase, 214 lot subdivision	Route 3/14 S., near Ware Neck (26D(1)-3-1, 26D(1)-J) RPC- 42799	**AAR CCS 2-23-2019***	SC-1
The Reserve at Gloucester Village (The Villages of Gloucester)- Phase 1	Residential (28 single-family lots and 95 townhouse lots) and commercial	Along Route 17S, south of the intersection with Burleigh Road (32-34D, 36) RPC- 41259	**Approved 6-21-2023 LDP 11-22-2022**	PUD-1, conditional

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Riverside Walter Reed Cancer Center- Amendment	Amendment to addition to existing medical center building	Within the Riverside Walter Reed Hospital Complex (11 Parcels, 24-127A) RPC-41587	**Approved 11-17-2023 LDP 12-13-2023**	B-1
Riverside Walter Reed Wellness Center Parking Lot Expansion	Parking lot expansion	Within the Riverside Walter Reed Hospital Complex (24-127A, 127D, 127E, 127H) RPC-43410	**AAR CCS 11-17-2017***	B-1
Safe Harbor Self Storage Expansion	Expansion of the existing mini-storage (self-storage units) use onto the adjacent parcel	Along Route 17N, behind the 17 Plaza Shopping Center (45-389A) RPC- 11991	**Approved 1-13-2023 LDP 2-27-2024**	B-1 & I-1, conditional
Steider & Associates	Construct two office buildings	Along Steider Drive, west of Business Route 17 (32C(1)-16A, 17A, 35) RPC- 43460	**Approved 7-28-2022**	B-2
Stillwater Landing- Roadway Plan	Roadway Plan for Stillwater Lane improvements within Stillwater Landing Subdivision	Along Stillwater Lane, southeast of the intersection with Farys Mill Road (17-22) RPC-40557	**Approved 1-28-2022**	SC-1, conditional
Tractor Supply Site Plan Amendment	Amendment to the approved Site Plan for a drive through pick up area	Along Route 17 and Beehive Drive (32-181) RPC- 41250	**Approved 4-6-2021**	B-1
Under The Stars	Event Venue conditional to CUP-20-01	Along Dutton Road, north of the intersection with Harcum Road (11-16 (In Part)) RPC- 11136	**AAR CCS 2-8-2023**	RC-1
Village Lane Condominiums	Residential- 12 condominium units	Next to Village Lanes & Hillside Cinema (32-277B) RPC-19636	**AAR CCS 4-18-2013***	MF-1, conditional
WaWa, Inc.- Hickory Fork	Amendment to existing site plan to modify diesel pumps facilities	Southern corner, intersection of Hickory Fork (Rte. 614) and Rte. 17 (39-109A) RPC-20958	**AAR CCS 4-15-2019***	B-1
Wawa, Inc.- Tidemill	Gas station and convenience store	Northeastern corner, intersection of Tidemill (Rte. 641) and Route 17 N (51-81) RPC- 30084	**AAR CCS 2-13-2020***	B-1, conditional
Yorkshire Woods Subdivision	Residential- 9 lot Subdivision	Pinetta Rd (22-126A) RPC-32764	**Approved 1-09-2009***	SC-1

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Planning Commission Meeting Schedule for 2025

Major Subdivision Deadline	*Planning Commission Meeting Date*	*Rezoning/CUP Deadline*
11/27/2024	**January 9, 2025**	11/14/2024
12/26/2024	**February 6, 2025**	12/12/2024
1/23/2025	**March 6, 2025**	1/9/2025
2/20/2025	**April 3, 2025**	2/6/2025
3/20/2025	**May 1, 2025**	3/6/2025
4/24/2025	**June 5, 2025**	4/10/2025
5/29/2025	**July 10, 2025**	5/15/2025
6/26/2025	**August 7, 2025**	6/12/2025
7/24/2025	**September 4, 2025**	7/10/2025
8/21/2025	**October 2, 2025**	8/7/2025
9/25/2025	**November 6, 2025**	9/11/2025
10/23/2025	**December 4, 2025**	10/9/2025

GLOUCESTER COUNTY
Planning, Zoning & Environmental
Programs Department
6489 Main Street
Gloucester, VA 23061
(804) 693-1224
www.gloucesterva.info

M E M O R A N D U M

TO: Planning Commission

CC: Carol Steele, County Administrator
George Bains, Deputy County Administrator
Ted Wilmot, County Attorney

FROM: Anne Ducey-Ortiz, Director Planning, Zoning, & Environmental Programs

DATE: November 21, 2024 for December 5, 2024 Planning Commission Meeting

SUBJECT: Planning Commission Chair and Vice Chair Elections

At the Planning Commission's November 2024 Meeting, the Chair received nominations for the 2025 Chair and Vice Chair positions. However, in accordance with the Commission's Rules of Procedure (Section 3-3), no vote was to be taken until the December meeting. Furthermore, any additional nominations shall be received during discussion of this at the December meeting with a vote to follow immediately.

Since members will serve one-year terms, may succeed their initial term for only one additional term, and Mr. Johnson (the Chair) and Mr. Meyer (the Vice Chair) have served two years in their current positions, they cannot be renominated for these positions. At the Commission's November meeting, Mr. Meyer and Ms. Johnson were nominated for the Chair and Vice Chair positions, respectively. Elected officers must receive a majority vote of the entire voting membership (at least 4 votes) and will start their term at the beginning of the January 2025 meeting.

Please notify our department if you are unable to attend this meeting so staff can ensure that a majority will be present to conduct the elections. Thank you for your diligent work on the Planning Commission. Feel free to contact Sean McNash or Anne Ducey-Ortiz at 804-693-1224 if you have any questions prior to the December meeting.

PC Action: Receive any additional nominations and elect a Chair and Vice Chair for 2025.

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TO: Planning Commission

FROM: Anne Ducey-Ortiz, AICP, Director of Planning, Zoning, and Environmental Programs
Sean McNash, Planner II

CC: Carol Steele, County Administrator
George Bains, Deputy County Administrator
Maria Calloway, Chief Financial Officer
Ted Wilmot, County Attorney

DATE: November 21, 2024 for December 5, 2024 Planning Commission Meeting

RE: PC Review of potential Capital Improvement Plan Projects for FY 26-30

The Planning Commission has received the electronic distribution of the proposed FY 26-30 Capital Improvements Plan (CIP) Projects in early November in preparation for discussion of these projects and the CIP at the December Planning Commission Meeting. Between receiving the proposed projects and the December meeting, the Planning Commission should review the projects and contact staff no later than Monday, December 2 if they feel that any department should attend the December meeting to further explain any or all of their projects so the Commission can appropriately rate these projects. **County staff representing specific departments will only be attending this meeting if requested by the Planning Commission by the December 2 deadline so Planning, Zoning, and Environmental Programs staff can confirm that an individual from the associated department is able to attend.**

Please note the following dates, which include Planning Commission meetings and what CIP items will be discussed at these meetings as well as deadlines for receiving and returning Commission feedback:

Date	Items Received/Discussed
November 7 – December 16	PC members rate projects and return ratings to Planning and Zoning
December 5	Regular meeting: Presentations of CIP projects from departments requested by Planning Commission; PC discussion of projects
December 16	Final date for PC members to return project rankings to Planning and Zoning staff
January 9, 2025	Regular meeting: PC vote on Resolution of Comprehensive Plan consistency

Similar to last year, the Planning Commission will be asked to rate the need, impact, and Comprehensive Plan compliance for current year projects (FY 26) along with the Comprehensive Plan compliance for projects scheduled for FY 27 through FY 30, which can be done in digital form. All ratings will need to be completed and returned to County staff (planningstaff@gloucesterva.info) by Monday, December 16.

As was included with the November packet, staff is providing a list of the applicable sections of the Comprehensive Plan for your reference while rating the projects for consistency with the Comprehensive Plan. Feel free to contact Anne Ducey-Ortiz or Sean McNash in the Department of Planning, Zoning, and Environmental Programs at 804-693-1224 if you have any questions prior to the December meeting or during your review of the projects.

PC Action: Participate in the Commission's discussion, listen to presentations (if any), and ask any necessary questions.

Department	Comprehensive Plan Chapters	
	Community Facilities	**Other Chapters**
The Community Facilities chapter of the Comprehensive Plan has set out Goals, Objectives, and Implementation Strategies that generally address the following projects, which can be found on pages 87 through 120. (**Comprehensive Plan | Gloucester County, VA (gloucesterva.info)**)		
Engineering/Emergency Management	• Pgs. 90-91 • Pgs. 114-119	• Transportation ○ Pgs. 68-69 ○ Pgs. 77-79 ○ Pgs. 85-86
Information Technology	• Pgs. 90-91	
Library	• Pg. 94	
Parks, Recreation, & Tourism	• Pgs. 90-91 • Pgs. 95-102	• Cultural and Historic Resources ○ Pgs. 191-194 ○ Pgs. 197-198 • Economic Development ○ Pgs. 39-41 • Natural Resources ○ Pgs. 159-161 • Transportation ○ Pgs. 71-79 ○ Pgs. 85-86
Sherriff	• Pgs. 90-91 • Pgs. 114-117	
Schools	• Pgs. 90-94	• Economic Development ○ Pg. 43

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TO: Planning Commission

CC: Carol Steele, County Administrator
George Bains, PE, Deputy County Administrator
Ted Wilmot, County Attorney

FROM: Tripp Little, Planner III
Anne Ducey-Ortiz, AICP, Director of Planning, Zoning, and Env. Programs

DATE: November 26, 2024 for December 5, 2024 meeting

RE: Information on Data Centers & Technology Overlay

At its November 7, 2024 meeting, the Gloucester County Planning Commission (PC) requested that staff provide additional information regarding data centers and Technology Zones/Overlay Districts prior to scheduling public outreach.

Following this memo, staff have assembled some basic information from a variety of sources. You will find:

1) "Data Center 101" from Dominion Power;
2) "Planning for the Infrastructure of the Digital Age" from the Piedmont Environmental Council;
3) A map showing existing/proposed transmission lines and data centers;
4) An overview of the newest ANSI telecom standards for data centers;
5) An article from the Virginia Mercury that outlines environmental & economic impacts;
6) An overview of Technology Zones in VA – including the types of incentives employed; and
7) Louisa County's Technology Overlay District ordinance.

Please review this information and let us know what questions, if any, you still have and what (if any) further information you would like to see.

Staff reached out to VACo to see if any legislation had been pre-filed for the 2025 General Assembly (GA) session (January 8 – February 22). We were told not yet – but that the Joint Legislative Audit and Review Commission (JLARC) had just completed a study on data centers, and that it would be published in December 2024. VACo expects this study to generate some legislative action in 2025.

Staff have also begun the process of assembling a panel of speakers for informational sessions with the PC and public. So far, the experts we have contacted have indicated that the January/February timeframe would be problematic due to (their) staff commitments during the GA session. We will continue to work towards getting speakers and dates arranged.

Feel free to contact Tripp or Anne at 804-693-1224 if you have any lingering questions after your review of the enclosed materials. We will provide additional information about the JLARC study when it becomes available.

PC Action: Review the enclosed materials, and contact staff if further information is needed or desired.

Data Center 101

Data Center Attraction & Site Selection

Objectives

- Develop understanding of Data Center Industry
- What is required to attract Data Centers?
- What comes with a Data Center?

Market Overview & Trends

- VA is home to the # 1 Data Center Market in the World
- 2022 Peak Load: 2,767 MW (equivalent to 685,700 homes)
- 21% of Dominion Energy's electricity sales as of 2022
- Fastest growing customer segment in VA
  - Annual growth: 450+ MW
  - Continued growth opportunities for the foreseeable future
  - DE has connected 75 data centers in the last 3 years
- Increased interest in sites outside Loudoun and Prince William
- Typical data center customer is 30 MW, typical large industrial customer is 30 MW

5 Types of Data Centers

1: Cloud

- Cloud providers offer cloud based operating systems and applications
- Typically, large buildings and clusters on a campus or in a tight geographic area.
- Purpose built for the specifics of the cloud company
- Examples: Amazon, Microsoft, Google
- This is the largest data center segment of customers in VA
- Heavy concentration in Northern VA

5 Types of Data Centers

2: Colocation

- Datacenter operator builds the building and leases data halls to end users who install the servers
- Similar to a hotel for other companies' servers
- Operator provides the facility power, cooling and physical security
- Examples: Digital Realty, Equinix, QTS
- This is the second largest segment of data center customers in VA
- This segment currently targets Northern VA

5 Types of Data Centers

3: Enterprise

- The user of the datacenter owns and operates the building for its purposes
- Examples: Facebook, banks, US Government
- This segment tends to locate throughout VA, not just in Northern VA

4: Fiber Interconnection Facility

- Point where fiber cables and networks meet and connect
- These tend to be very small facilities
- This segment tends to locate throughout VA, not just in Northern VA

5 Types of Data Centers

5: Crypto Miners

- These customers operate dedicated facilities to mine cryptocurrencies
- This segment tends to locate outside of Northern VA
- This is a very volatile industry and does not tend to remain in business for long periods of time

What does a data center look like?

- 2 story buildings, approximately 125,000 sq. ft.
- 25 to 30 acres per building
- Onsite substation & transmission infrastructure
- Approximately 10 employees per building
- Complete onsite diesel generation & fuel storage
- Security fencing & guarded access points

Must-Haves to be Competitive

- Support for new transmission infrastructure
- Support from local government:
  - Advanced planning & zoning
  - Fast track program – Site planning & permitting
  - Favorable tax rates
- Access to transmission / fiber infrastructure
- Low cost of electricity
- Renewables generation

Transmission Infrastructure

- Data Centers require transmission & substation infrastructure
  - Evaluate local appetite for new infrastructure
  - Proximity to site is important
  - Standard 230,000 kV right of way is 100’ to 150’

Site Selection

- Look for sites adjacent or close to existing transmission
  - Look for sites where fiber and electricity intersect
  - Less infrastructure equals faster time-to-market
  - Approximately 75 to 150 acres per site, but larger sites are becoming the norm
- Engage Dominion Energy to assess transmission adjacent to sites
- New transmission construction timeframe is 3 to 4 years in rural areas

Cost of Electricity

- Electricity is the most expensive operational cost for a data center facility
- Data Center customers want a variety of rate options
  - Market-based rate
  - Renewable rate options

Other Infrastructure

- Need fiber infrastructure
- Need access to water/ sewer capacity
  - Requirements vary significantly based on user
- Engage infrastructure owners to understand capacity and routes

Tax Rates

Tax rates on computing equipment MUST be competitive, especially in NEW areas

- Customer prefer published rates, not special tax deals or abatements

Existing Examples

• Chesterfield County	$0.24/ $100 of equipment
• Henrico County	$0.40/ $100 of equipment
• Fredericksburg Regional Alliance	$1.25/ $100 of equipment
• Prince William County	$1.35/ $100 of equipment
• Loudoun County	$4.20/ $100 of equipment

What does success look like?

Sites

- Multiple approved sites with plenty of power, fiber & water solutions
- Qualifying sites can support any industry

Jobs/ Investment/ Taxes

- Limited full-time, but high paying jobs
- Large number of temporary construction contract support jobs
- Large capital investment
- Incremental tax revenue

Data Center Economic Development Team

Stan Blackwell -
Director of Customer Service & Strategic Partnerships

Richard Imel -
Manager - Economic Development

Dominic Minor -
Economic Development Manager

Questions?

Planning for the Infrastructure of the Digital Age

Julie Bolthouse, AICP

Director of Land Use, Piedmont Environmental Council

The Digital Age

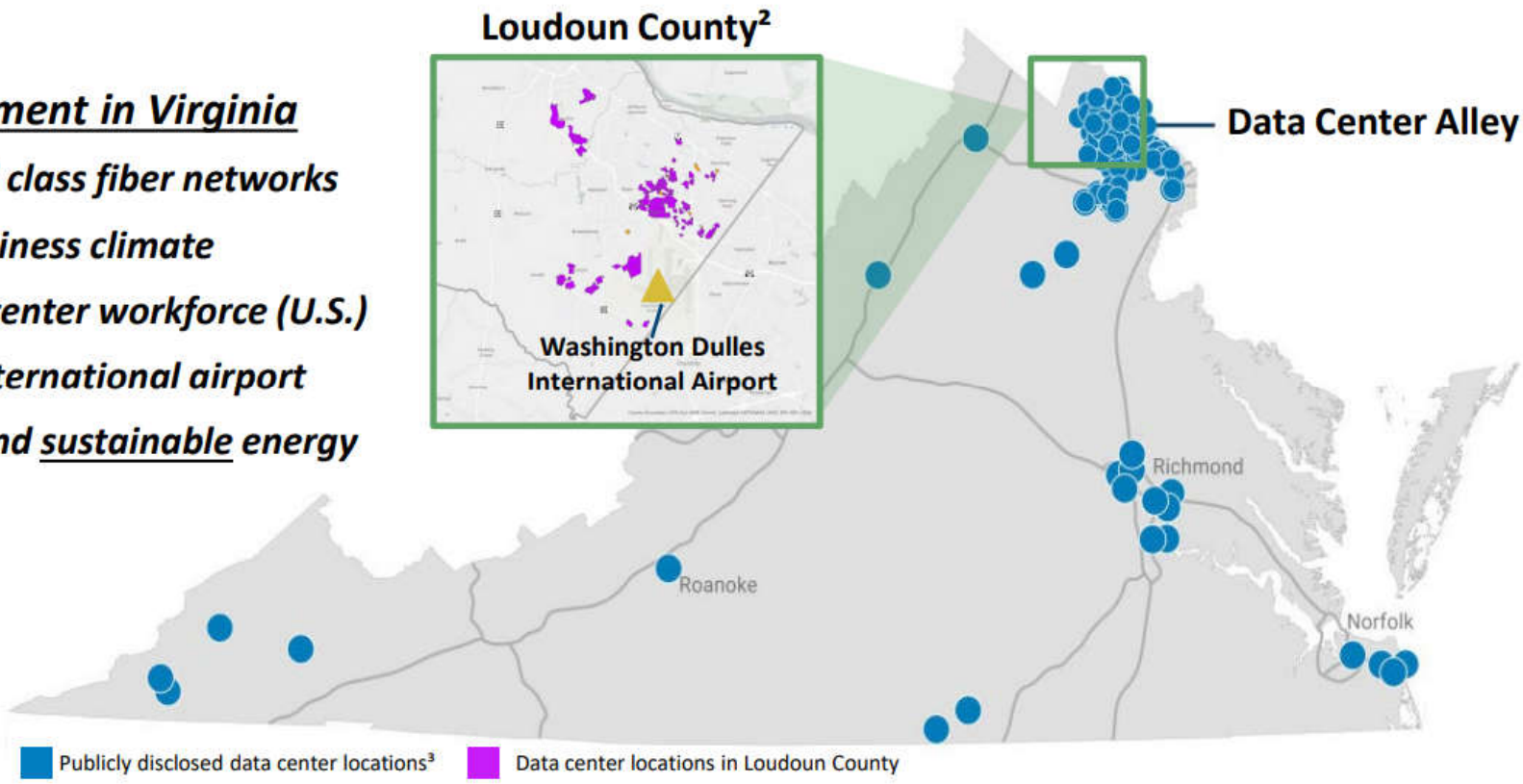
- Outsourcing of information technology functions
- Advancing smartphone technology and apps (5G)
- Roll out of rural broadband
- Digitalization and data storage
- Internet of things
- Self driving vehicles
- Artificial intelligence and machine learning

Dominion Energy Virginia

Northern Virginia boasts the largest data center market in the world[1]

Data center development in Virginia

- ✓ *Connectivity to world class fiber networks*
- ✓ *Attractive business climate*
- ✓ *Access to largest data center workforce (U.S.)*
- ✓ *Access to nearby international airport*
- ✓ *Access to affordable and sustainable energy*



Committed to deliver safe, reliable, affordable and sustainable energy to our customers

Dominion

[1] https://www.vedp.org/industry/data-centers [2] February 2022 Loudoun County Data Center Land Study [3] Data Center locations provided by Data Center Hawk

Data Centers: Connected by Fiber and Powered by Electricity

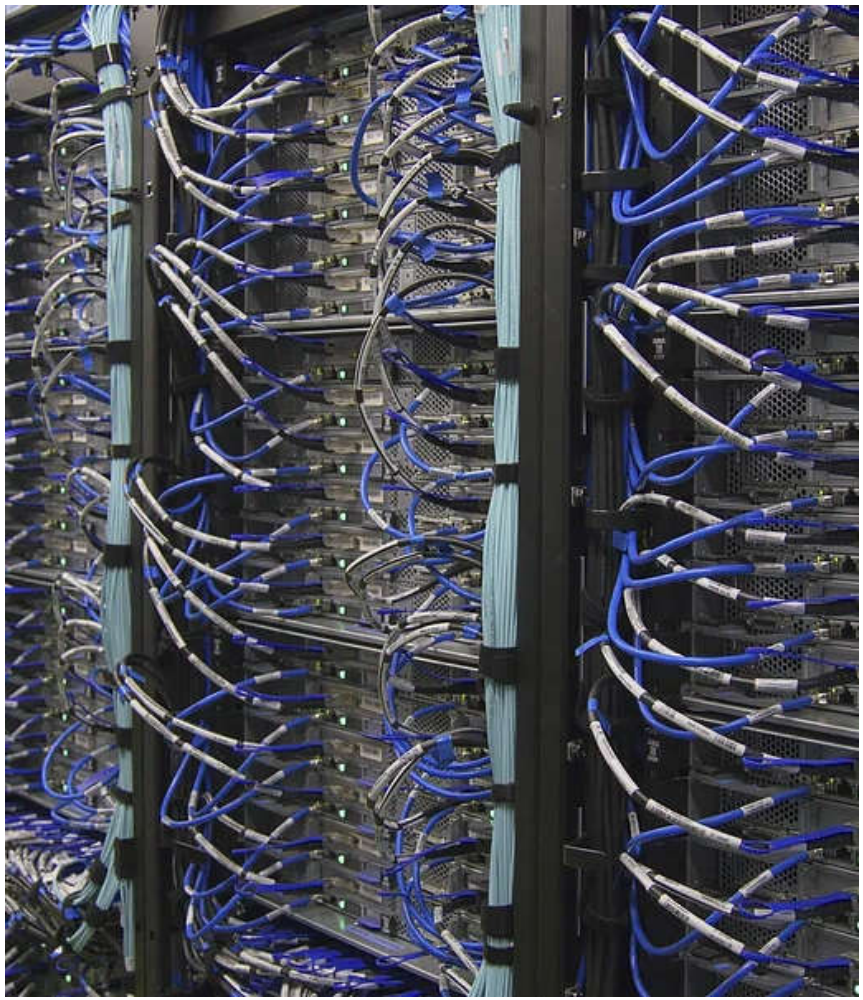
Loudoun Now - August 17, 2023

Outgoing Deputy County Administrator Charles Yudd said he thinks Loudoun's next big planning challenge won't be land use, as it has been for the past three decades, but infrastructure, especially energy infrastructure.

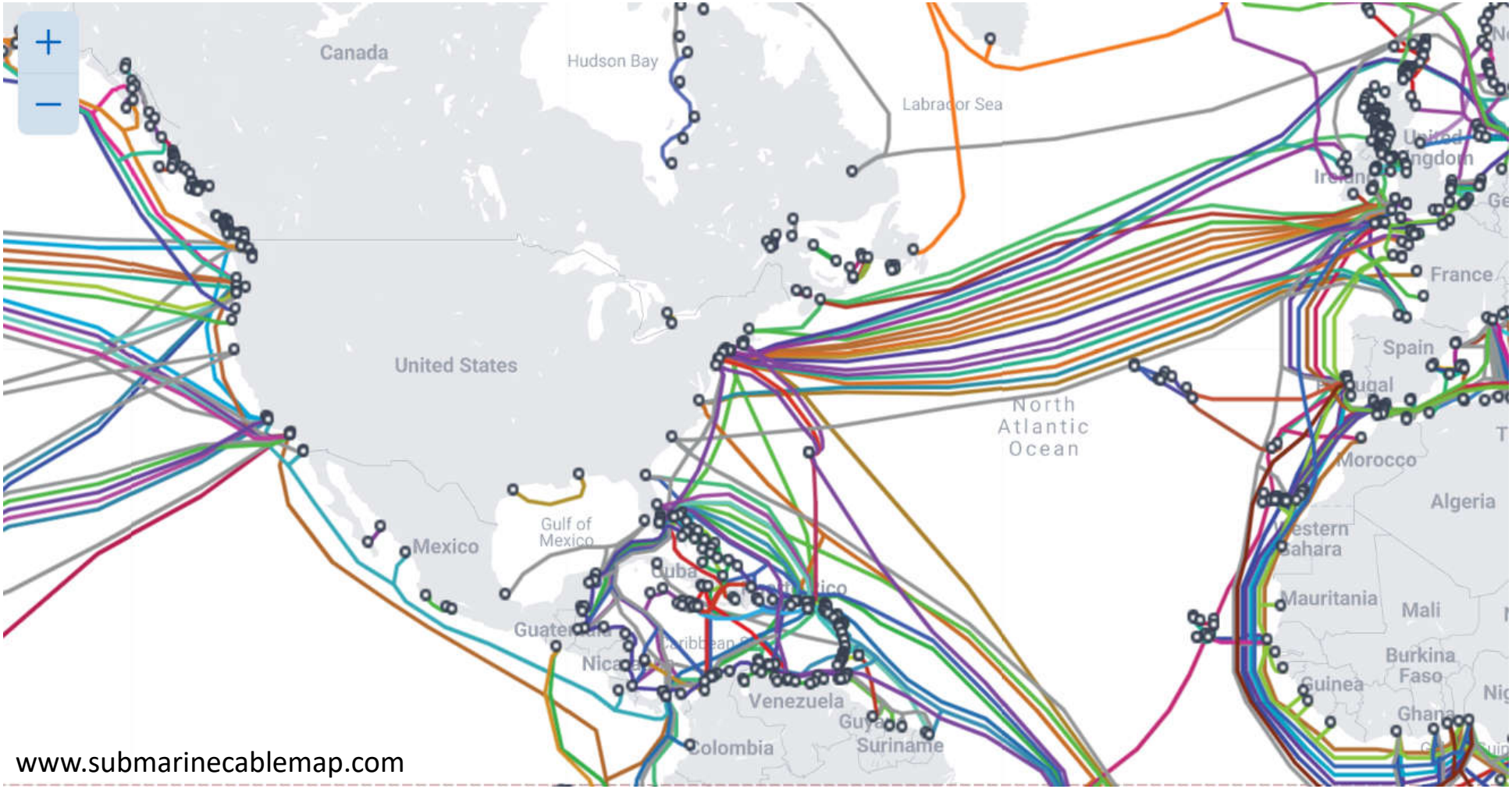
Fiber Connects Everything

Dark/Lit Terrestrial Fiber:

- **Internet Content Providers** (e.g. Google, Facebook, Microsoft, Akami and Alibaba)
- **Service Providers** – Typically telecommunications or cable companies (e.g. Verizon, AT&T, Cox, or Comcast)
- **Dark Fiber Providers** – Fiber available for lease from owners (e.g. Crown and Castle, Lumen, and Zayo)



Submarine Cable Map:

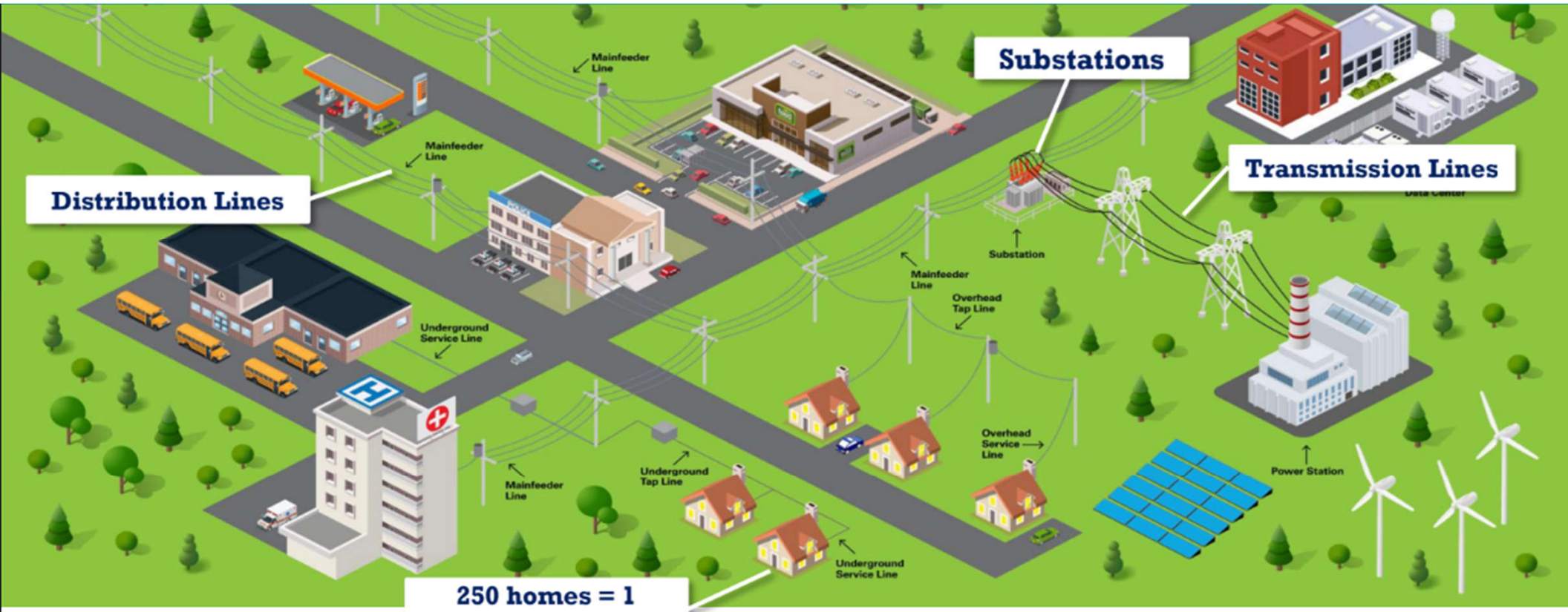


Virginia Beach is the landing point for four transoceanic fiber connection cables.

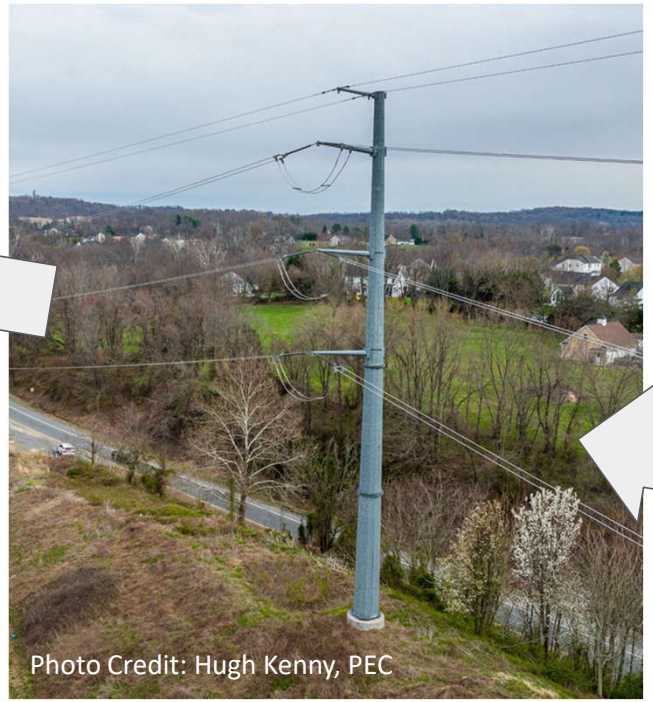
Source: www.vedp.org/industry/data-centers

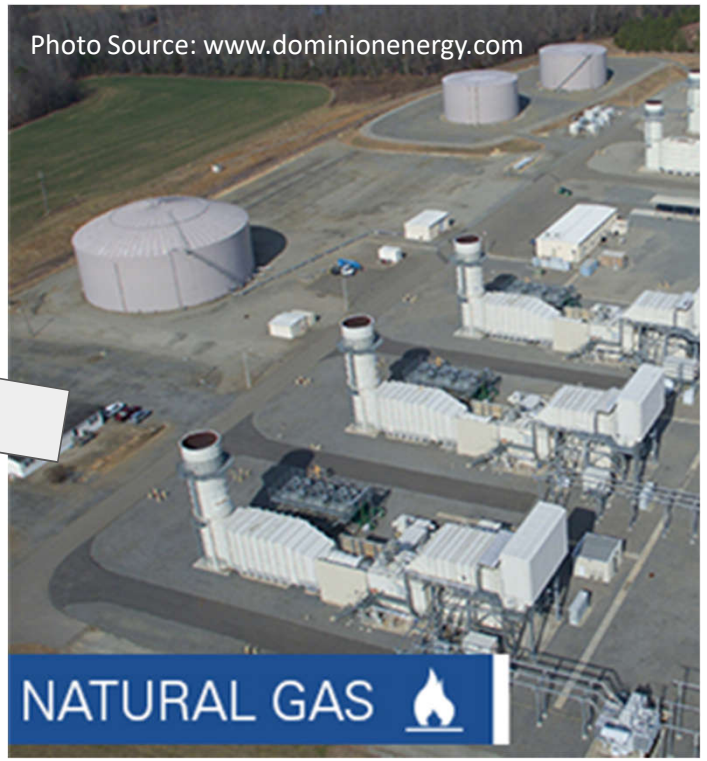
The Electric Grid

1000 watts = 1 kilowatt
1000 kW = 1 megawatt
1000 MW = 1 gigawatt



Data Centers Consume a Huge Amount of Electricity





PENN TODAY

The hidden costs of AI: Impending energy and resource strain

Deep Jariwala and Benjamin C. Lee on the energy and resource problems AI computing could bring.

By Nathi Magubane

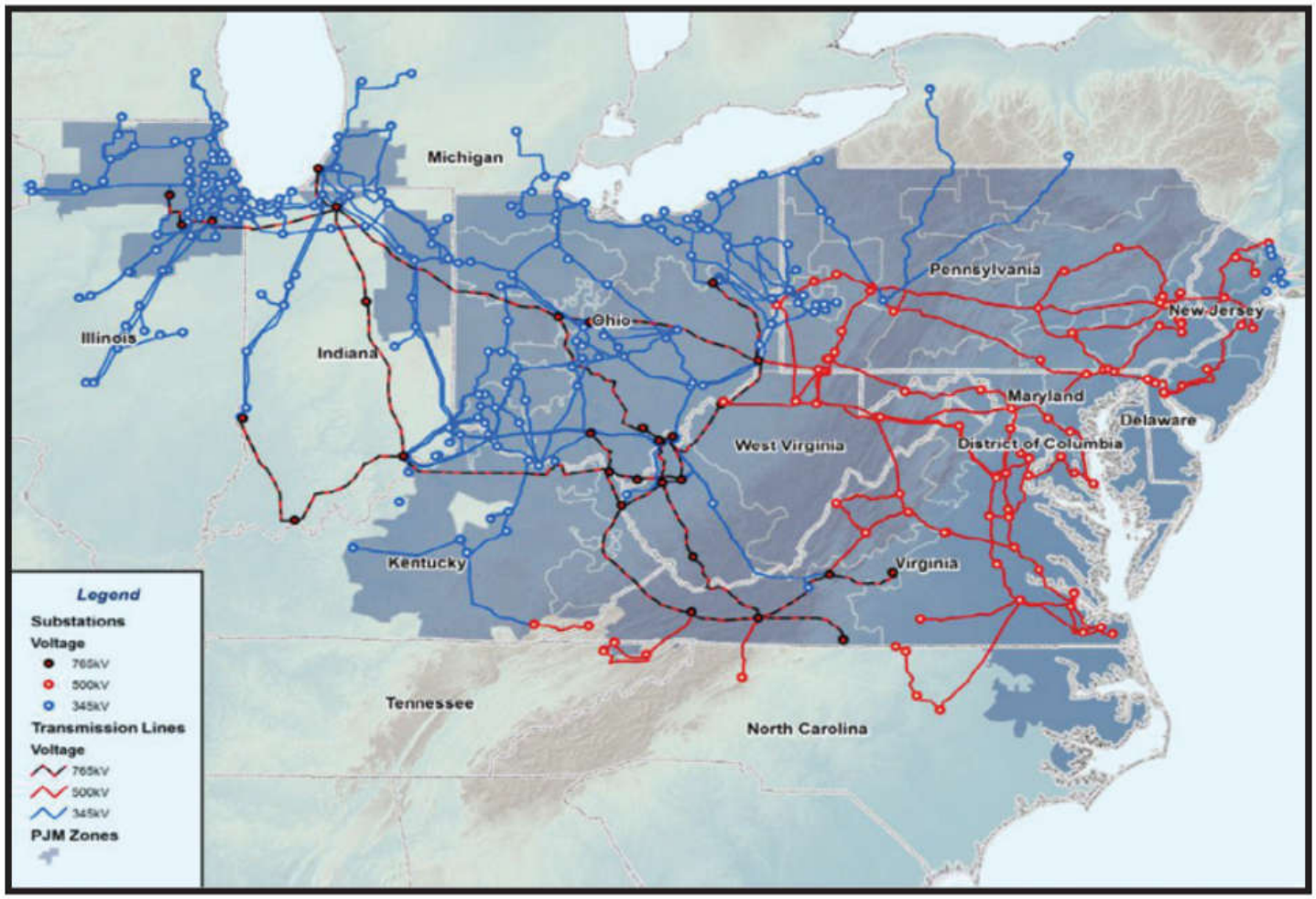
March 08, 2023

https://environment.upenn.edu/events-insights/news/hidden-costs-ai-impending-energy-and-resource-strain

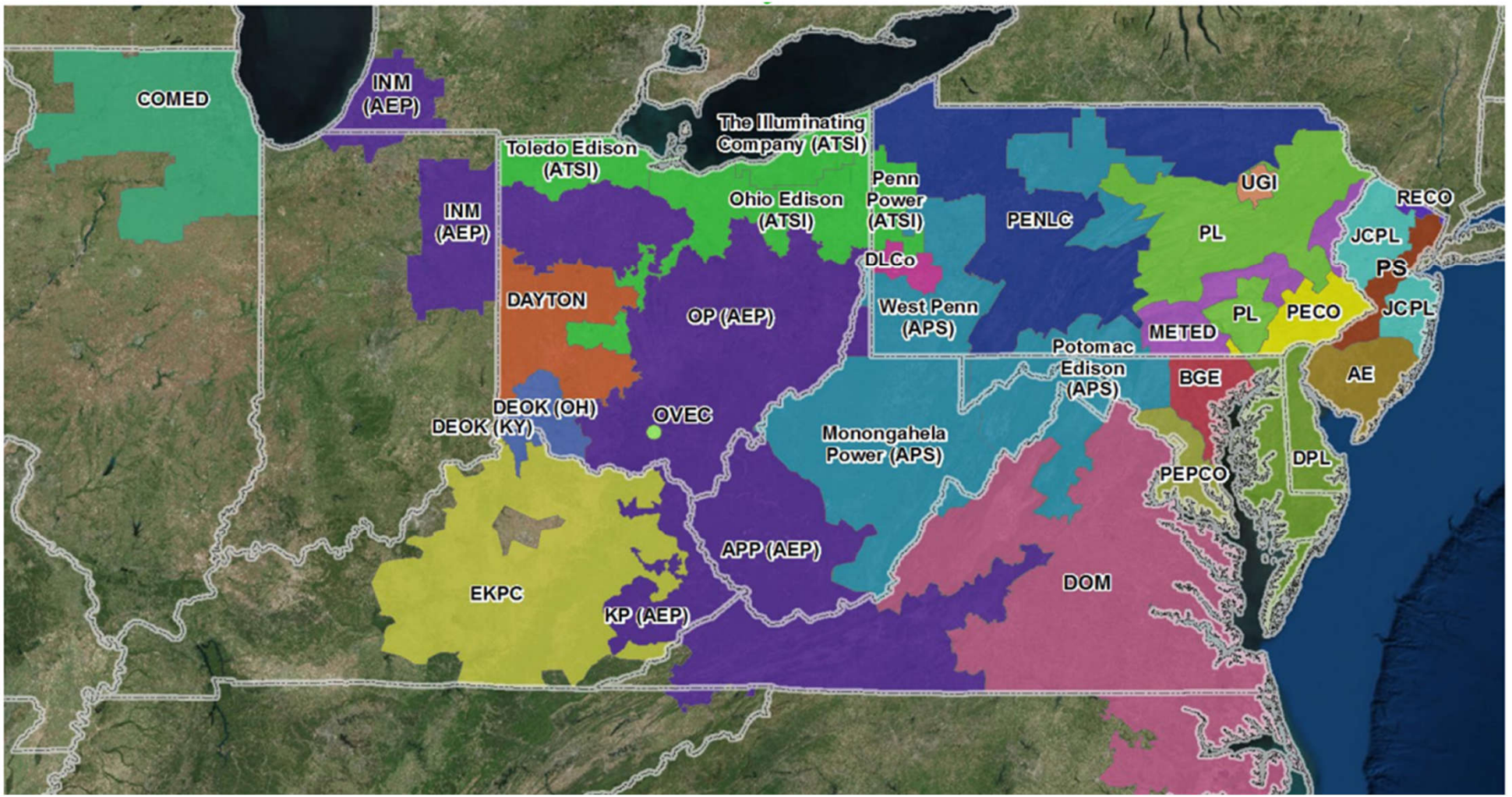
“We take it for granted, but all the tasks our machines perform are transactions between memory and processors, and each of these transactions requires energy. As these tasks become more elaborate and data-intensive, two things begin to scale up exponentially: the need for more memory storage and the need for more energy… in 2018 our computers consumed roughly 1-2% of the global electricity supply… If we continue at this rate, by 2030, it's projected to rise between 8-21%, further exacerbating the current energy crisis.” – Jariwala

Role of RTO

Acting as a neutral, independent party, PJM operates a competitive wholesale electricity market and manages the high-voltage electricity grid to ensure reliability for more than 65 million people.



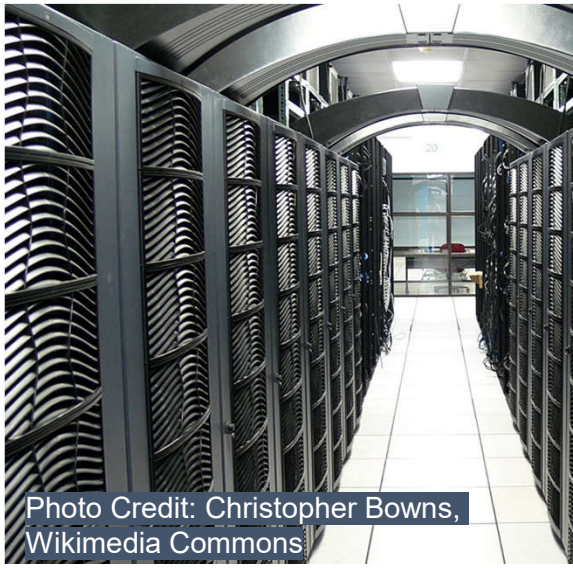
PJM Interconnection


COMED
INM (AEP)
The Illuminating Company (ATSI)
Toledo Edison (ATSI)
Ohio Edison (ATSI)
Penn Power (ATSI)
INM (AEP)
DAYTON
OP (AEP)
DLCo
PENLC
UGI
PL
RECO
JCPL
PS
West Penn (APS)
PL
PECO
JCPL
METED
Potomac Edison (APS)
BGE
AE
DEOK (OH)
DEOK (KY)
OVEC
Monongahela Power (APS)
DPL
PEPCO
APP (AEP)
DOM
EKPC
KP (AEP)

Transmission Planning Standards (varies by utility, this is Dominion Energy Standards)

- Direct-connect load at any substation is limited to 300 MW (due to reliability criteria)
- Generally only 230kV and below are used to serve local load requests. Tapping into 500kV with a new substation is typically only done to resolve system level issues.
- The State Corporation Commission provides regulation of electric facilities; however, it requires a CPCN (certificate of convenience and public necessity) for most lines over 138kV or those placed underground or including structures in a navigable waterway.
- Local government regulates permitting (siting, zoning, and site plan) of substations.
- Rough estimates of what lines can carry (varies based on conductor and conditions):
  - 230 kV line around 1 to 1.6 GW
  - 500 kV line around 4.3 to 5.2 GW
- Single source radial transmission line load is generally limited to 100MW
- Dominion requires reinforcements when load exceeds 300MW (N-1-1 contingency; simultaneous loss of 2 major units); applies to both line loss and substation loss

What is a Data Center?



Types of Data Centers

- **Cloud** - hosted off-premises (ex: Amazon (AWS), Microsoft (Azure), Google
- **Colocation -** companies rent space (ex: Digital Realty and QTS)
- **Enterprise -** built, owned, and operated by companies (ex: Meta)
- **Bitcoin Miner -** dedicated to cryptocurrency (ex: TeraWulf)

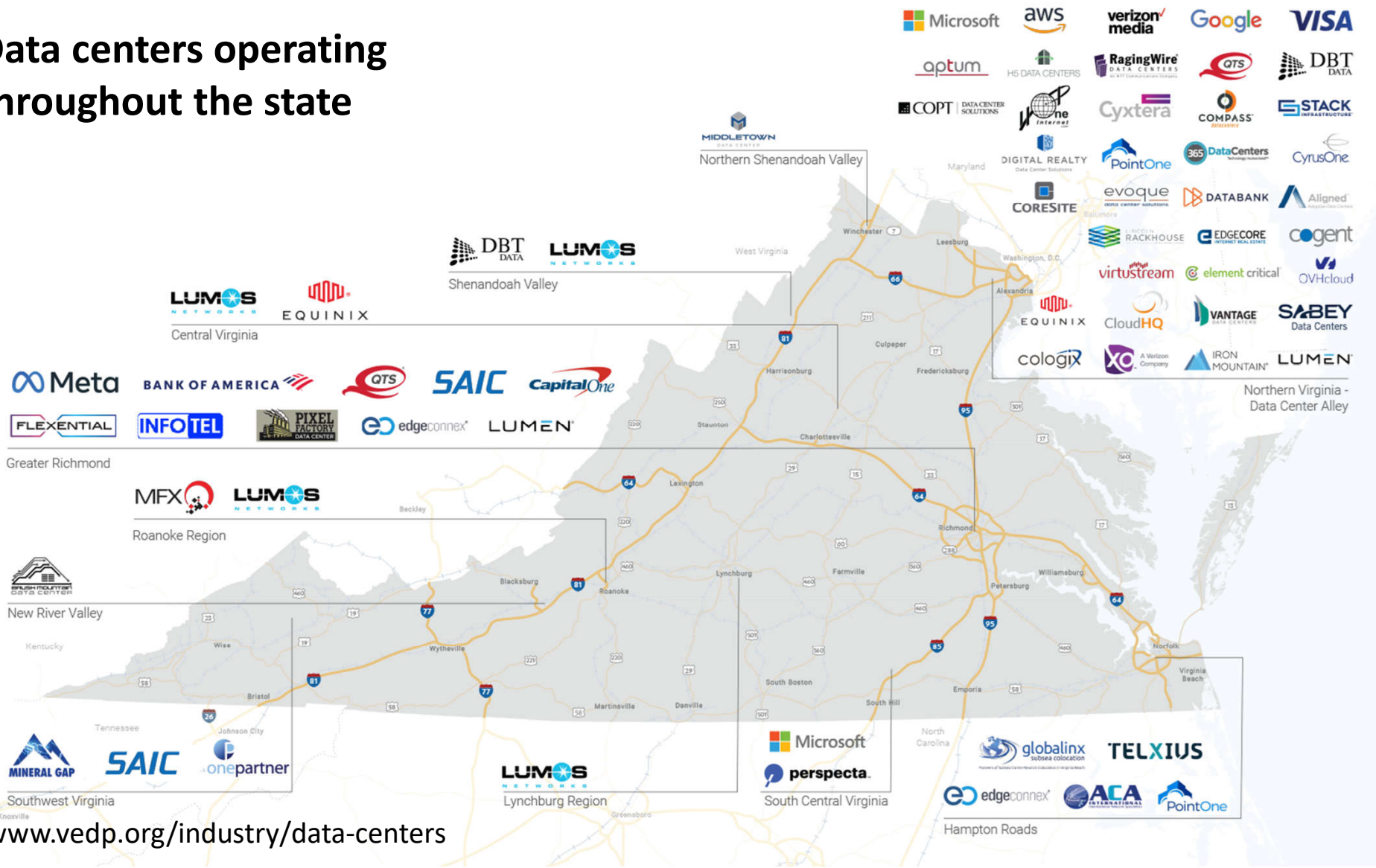
What is a Hyperscale data center?

What about Edge data centers?

An edge data center is a small data center that is located close to the edge of a network, closer to end users and devices. They deliver cached content and cloud computing closer to consumers so that the applications and services they use perform faster and are more secure. They are usually tied into a large network of data centers with a large core data center campus.

Edge data centers are all the buzz but not that much of the market yet…

Data centers operating throughout the state



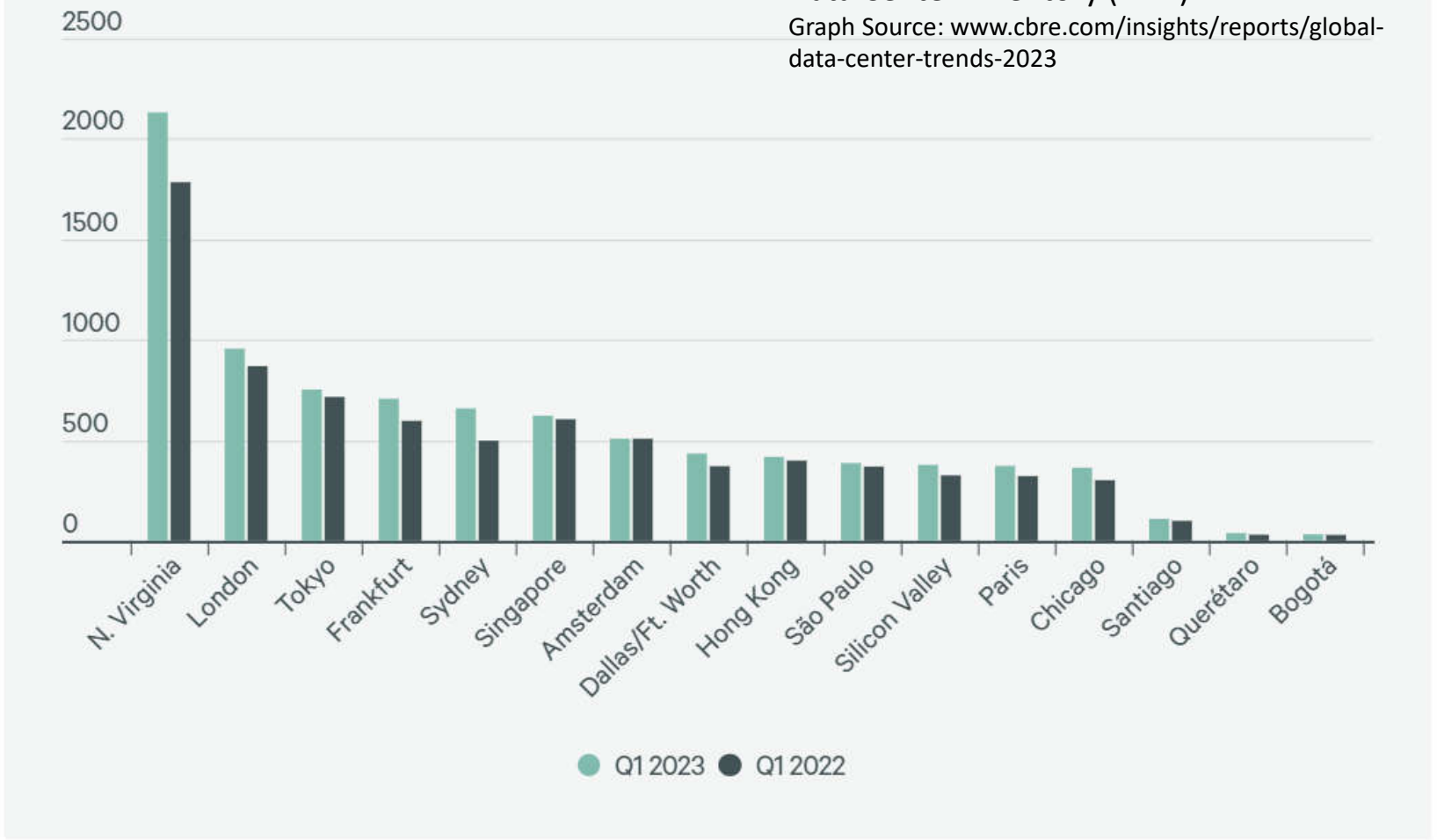
Source: www.vedp.org/industry/data-centers

Major Data Center Markets

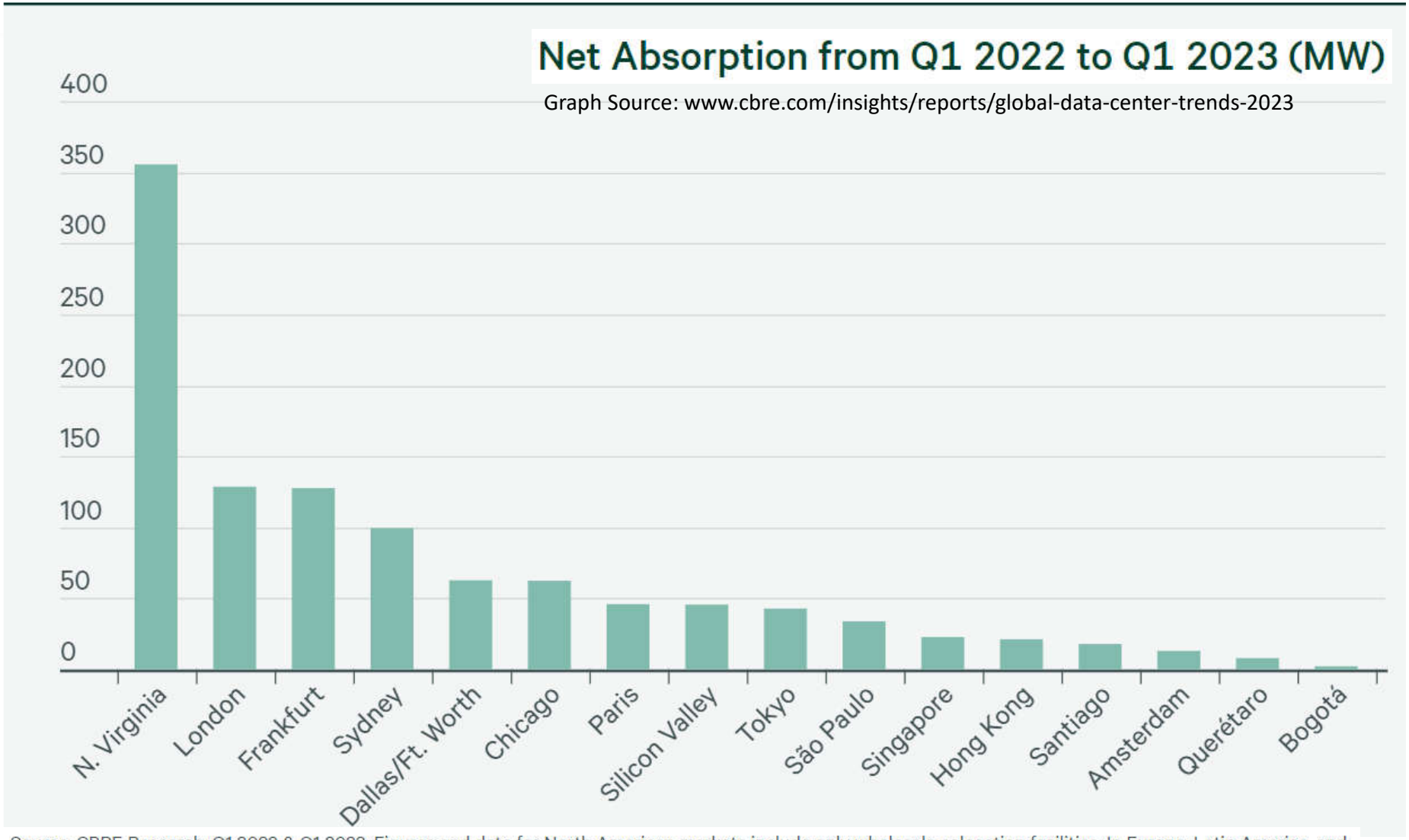
Image Source: www.cbre.com/insights/reports/global-data-center-trends-2023

Data Center Inventory (MW)

Graph Source: www.cbre.com/insights/reports/global-data-center-trends-2023



Source: CBRE Research, Q1 2022 & Q1 2023. Figures and data for North American markets include only wholesale colocation facilities. In Europe, Latin America, and Asia-Pacific, total inventory includes both wholesale and retail colocation facilities.



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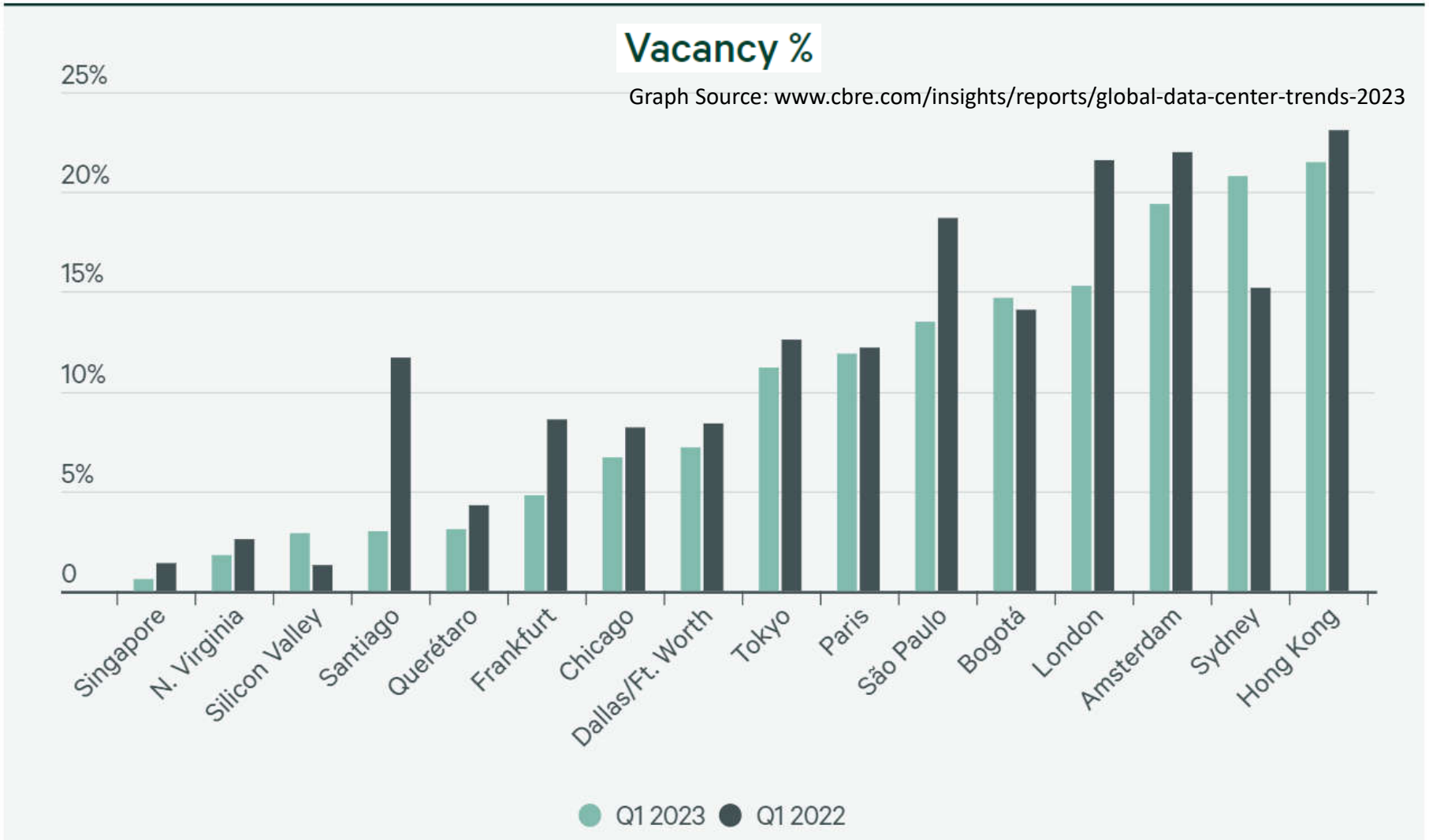
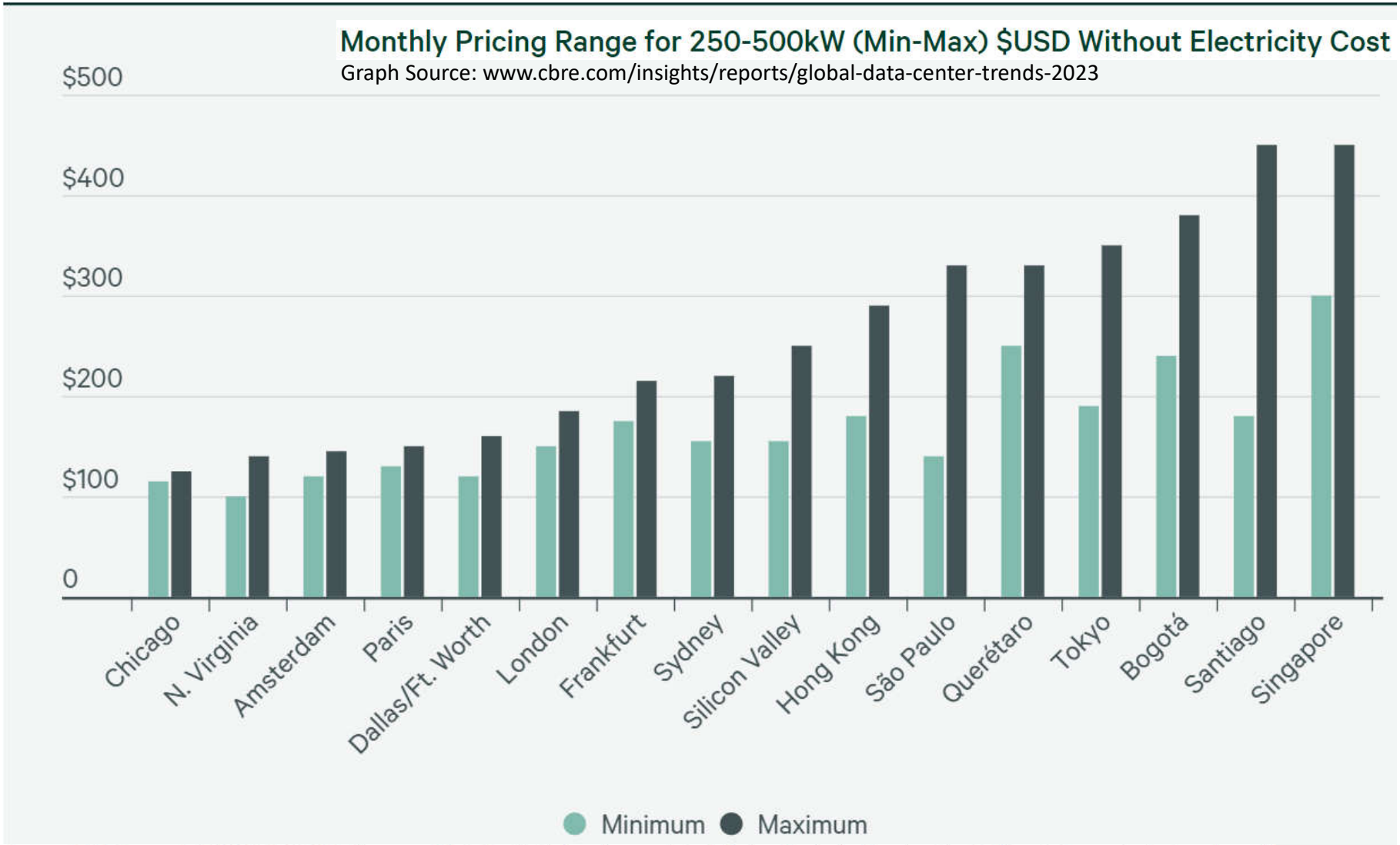


Graph Source: www.cbre.com/insights/reports/global-data-center-trends-2023

Source: CBRE Research, Q1 2022 & Q1 2023. Figures and data for North American markets include only wholesale colocation facilities. In Europe, Latin America, and Asia-Pacific, total inventory includes both wholesale and retail colocation facilities.



Source: CBRE Research, Q1 2022 & Q1 2023. Figures and data for North American markets include only wholesale colocation facilities. In Europe, Latin America, and Asia-Pacific, total inventory includes both wholesale and retail colocation facilities.

Approved and Applications Filed with Localities…

County	Status	Development Sqft	Estimated Power Range
Loudoun	Approved	12,286,529	1,843MW – 5,529MW
	Applications	10,938,449	1,641MW – 4,922MW
Prince William	Approved	10,719,984	1,608MW – 4,824MW
	Applications	42,510,328	6,377MW – 19,130MW
Fauquier	Approved	2,901,000	435MW – 1,305MW
Culpeper	Approved	4,630,000	695MW – 2,083MW
	Applications	1,990,000	299MW - 896MW
Stafford	Applications	6,010,000	902MW – 2,705MW
Spotsylvania/Caroline	Applications	6,600,000	990MW – 2,970MW
King George	Applications	7,500,000	1,125MW – 3,375MW

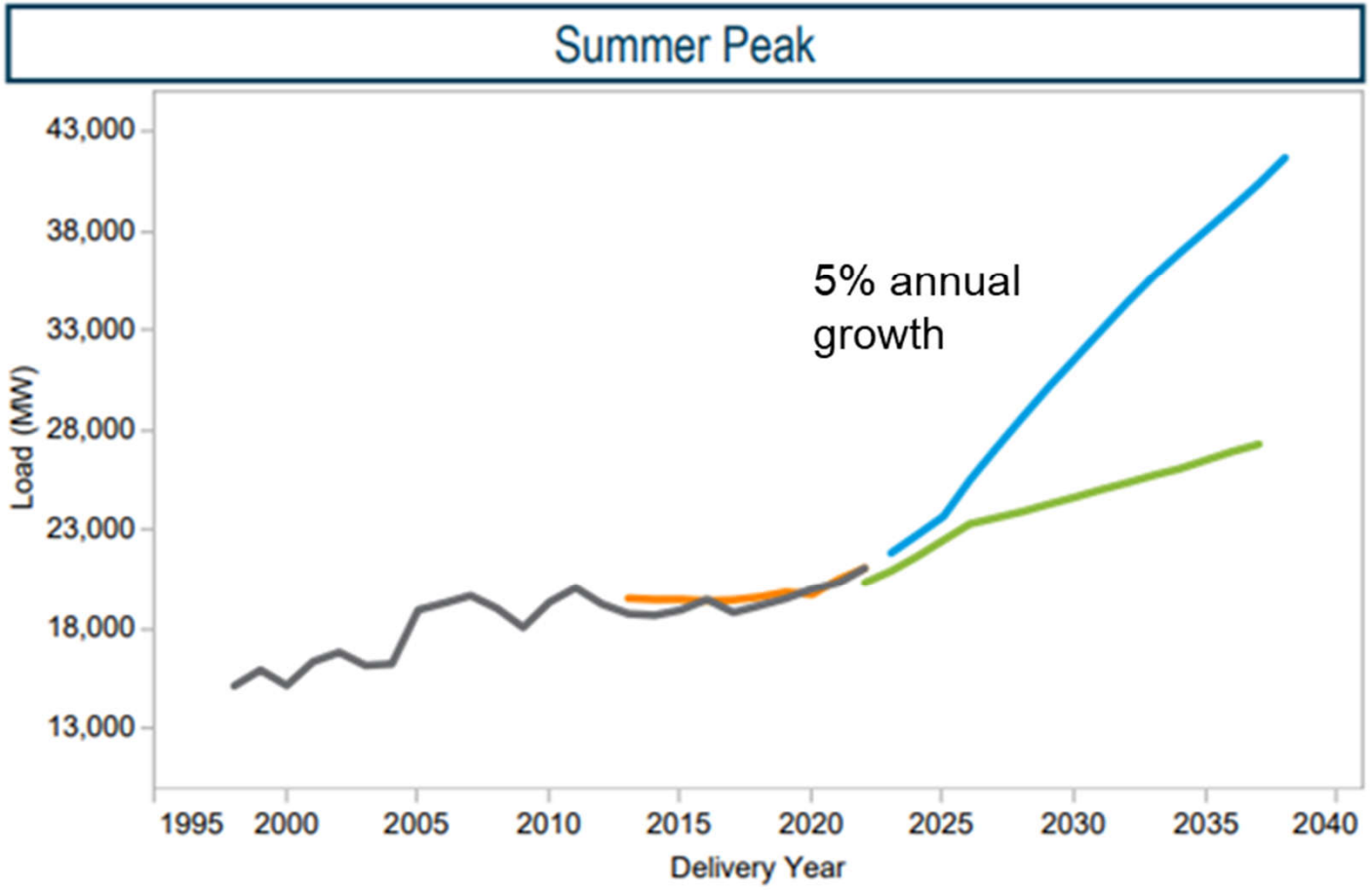
Approved and Applications Filed with Localities…

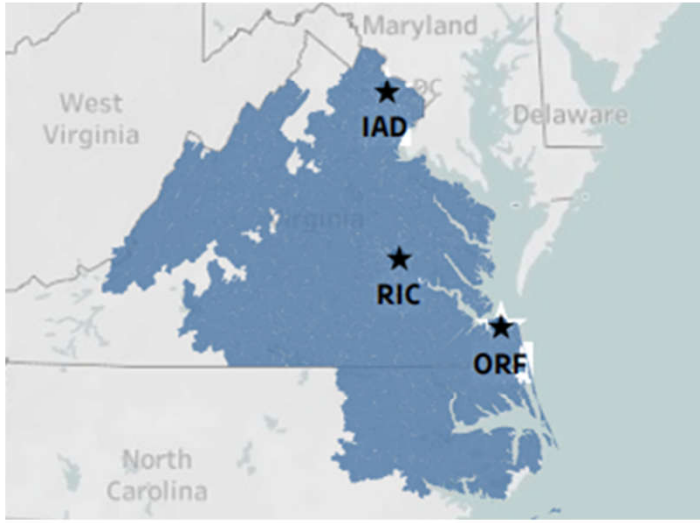
County	Status	Development square feet	Estimated Power Range
			1,843MW – 5,529MW
			1,641MW – 4,922MW
			1,608MW – 4,824MW
			6,377MW – 19,130MW
			435MW – 1,305MW
Culpeper	Approved		
	Applications		
Stafford	Applications		
Spotsylvania/Caroline	Applications		
King George	Applications	[illegible]	[illegible]

Total Approved:
30,537,513 square feet
4,611MW – 13,742MW

Total With Applications:
106,086,290 square feet
15,915MW – 47,739MW

Dominion Area Explosive Growth Trends





Why do Localities Find Data Center Attractive?

- They generally don't usually create a lot of traffic
- They don't require school seats
- They create some jobs (although not as much as many other forms of economic development)
- **They offer a lot of tax revenue**
  - **Personal Property Tax (IT Equipment)**
  - **Real Estate Tax**

Loudoun Now August 15, 2023
Town Vice Mayor of Leesburg Neil Steinberg said on Leesburg's recent decision on data centers, *"in the end, it is all about the money, and it is a lot of money..."*

Local Land Use Impacts of Data Centers Vary…

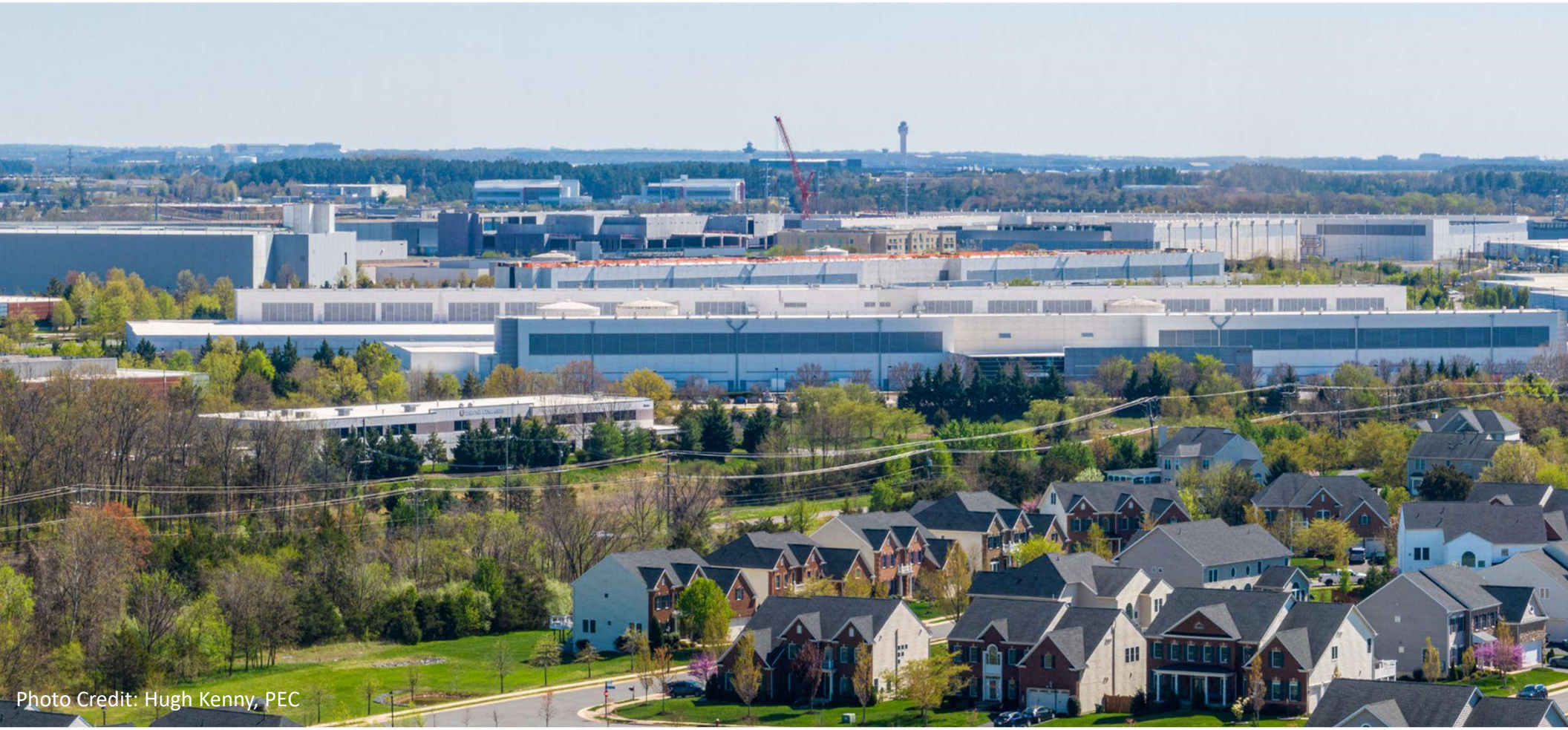
- Traffic
- Effect on Adjacent Uses
- Lighting
- Building Design
- Energy Usage
- Air Quality
- Noise
- Water Usage and Wastewater
- Water Vapor Plumes
- Fire Protection and Fuel Storage

Traffic

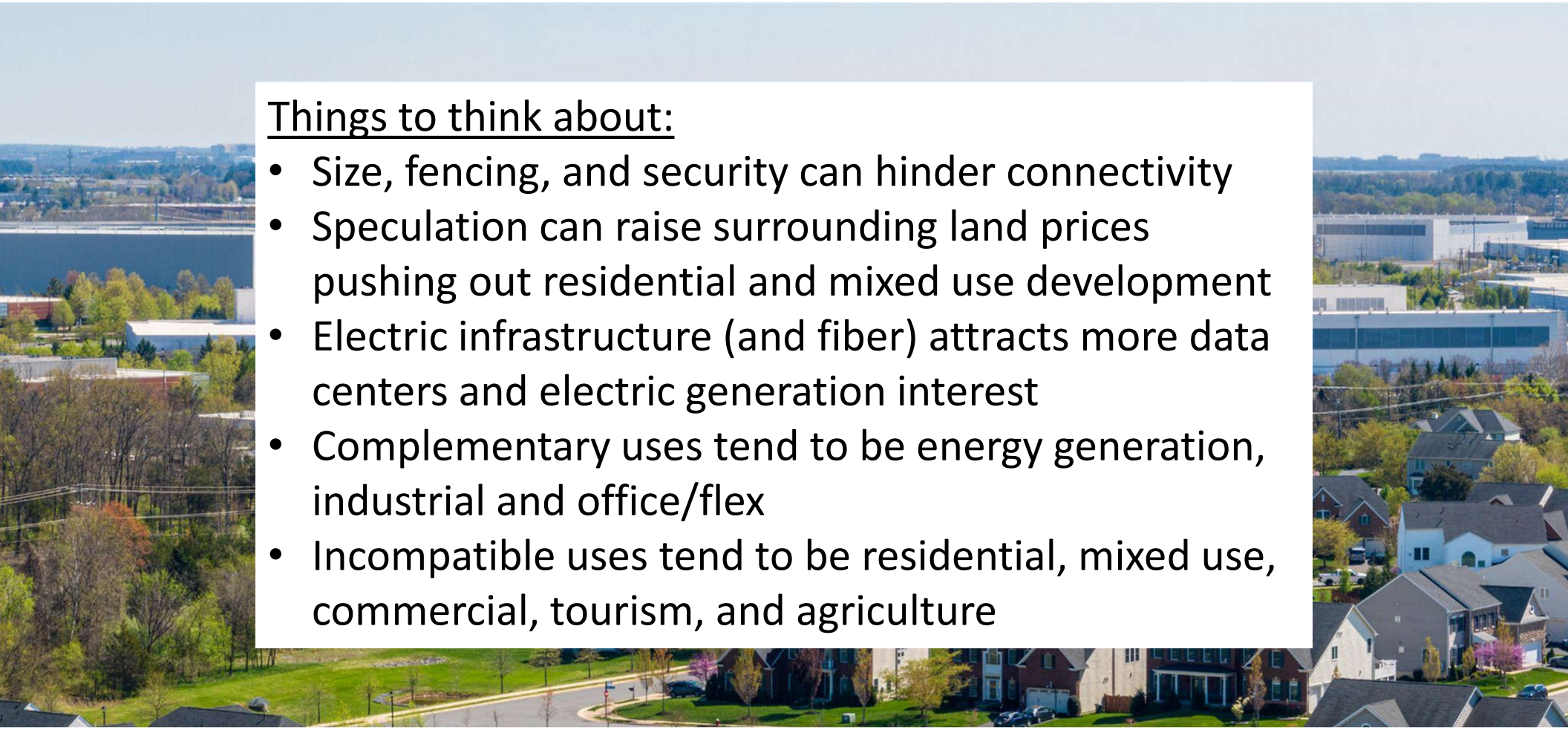
Digital Reality colocation data center with conference and work space

Amazon cloud data center

Effect on Adjacent Uses



Effect on Adjacent Uses



Things to think about:

- Size, fencing, and security can hinder connectivity
- Speculation can raise surrounding land prices pushing out residential and mixed use development
- Electric infrastructure (and fiber) attracts more data centers and electric generation interest
- Complementary uses tend to be energy generation, industrial and office/flex
- Incompatible uses tend to be residential, mixed use, commercial, tourism, and agriculture

Lighting

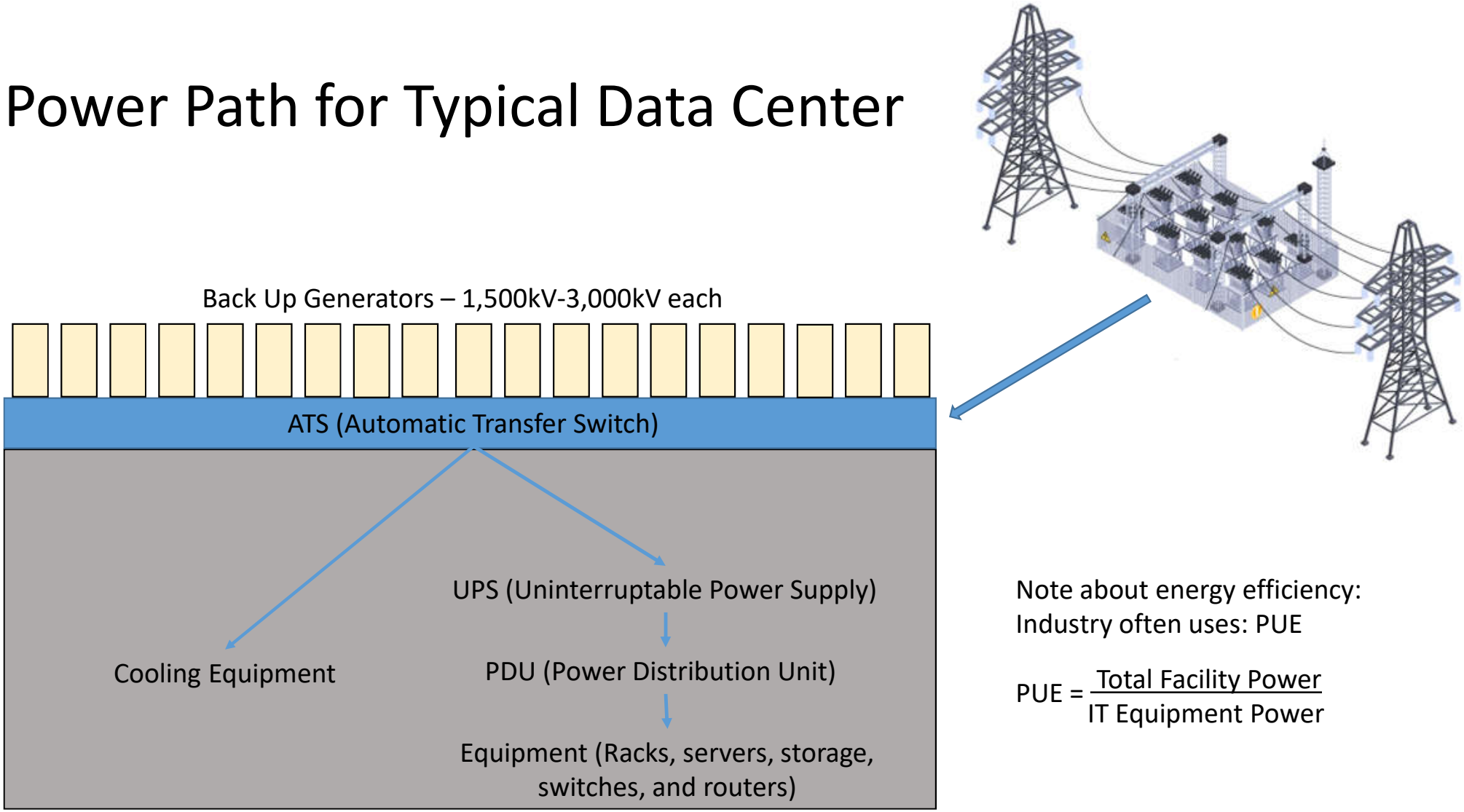
Good data center lighting example; Amazon data centers in Ashburn

Building Design and Massing

Things to think about:

- Height limits/FAR/building footprint limits (affects power usage as well)
- Encourage different architectural treatments to break up the monolithic appearance of the primary façade (such as building step-backs, projections, recesses, fenestration (or simulated windows), differentiated surfaces and materials)
- Use screening and site layout to ensure mechanical and storage facilities are not visible from the primary façade.
- Roof parapets, equipment penthouse, or other visually solid screen should be used to screen roof top equipment (this may help some with noise as well).

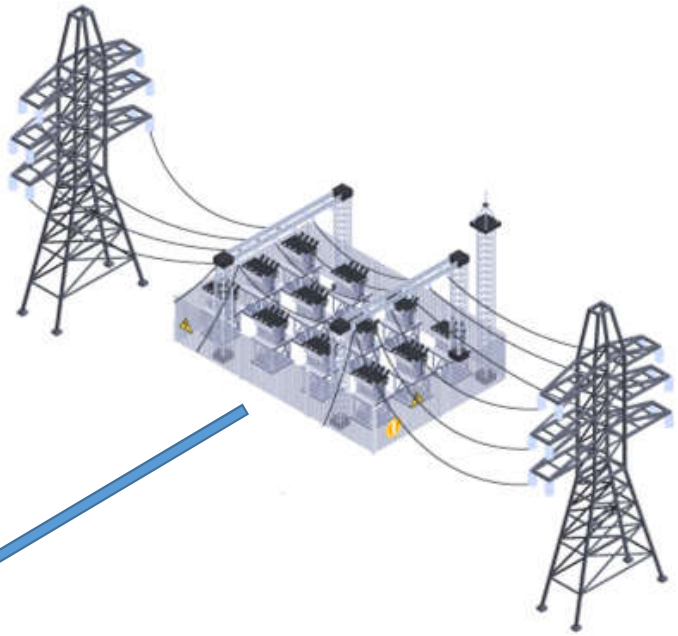
Power Path for Typical Data Center

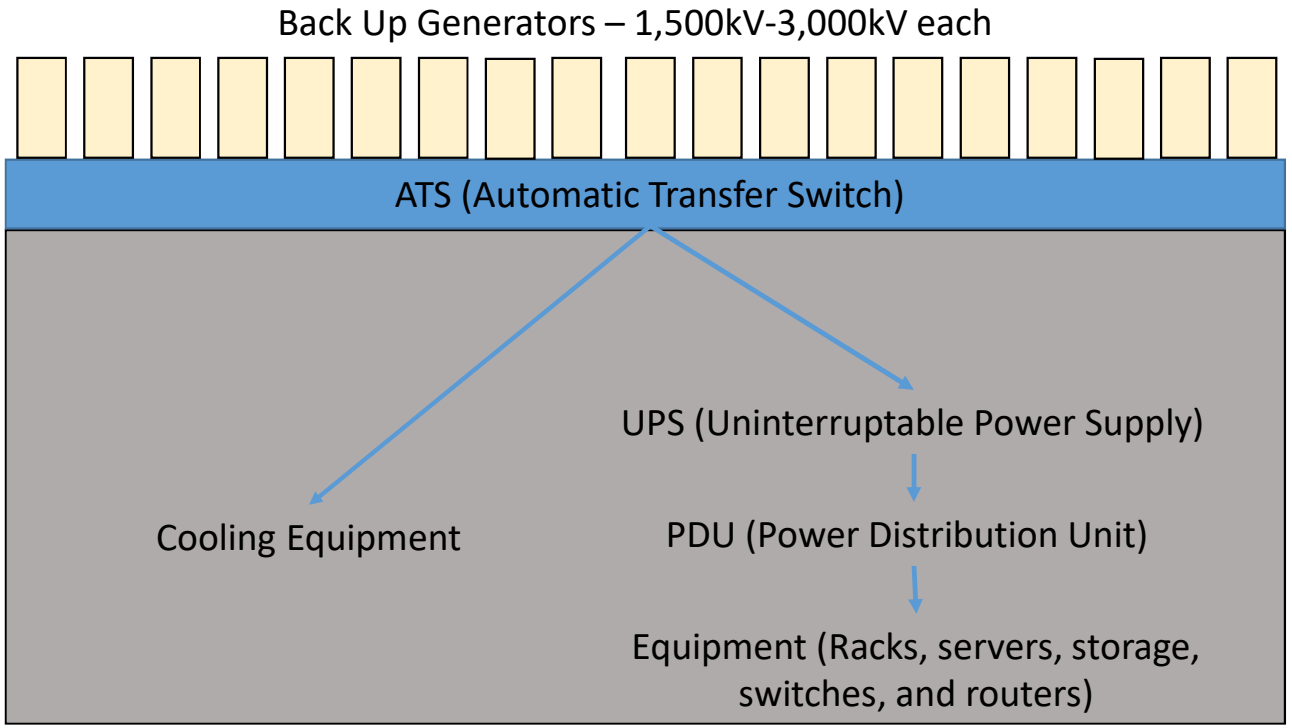


Note about energy efficiency:
Industry often uses: PUE

$$PUE = \frac{\text{Total Facility Power}}{\text{IT Equipment Power}}$$

Power Path for Typical Data Center





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Backup Generators

Whole House Generators are from 7.5 to 26kW


Photo credit: www.homedepot.com

Commercial Generators run from 1500kW to 3500kW


Photo credit: peo-acwa-flickr-cc

Generator Regulations

EPA Generator Tiers:

Tier I - first set of emission standards covering all new non-road mobile diesel engines

Tier II - Adopted 1999. Addressed NOx, carbon monoxide, unburned hydrocarbons and particulate matter (PM)

Tier III - Implemented between 2006 and 2008. Restricting exhaust emissions further.

Tier IV – Implemented 2008 to 2015. Mandated reduction of sulfur content and 90 percent reduction of PM and NOx emissions. Uses the best emissions-reduction technology available

Virginia DEQ Emergency vs. Non Emergency Standards

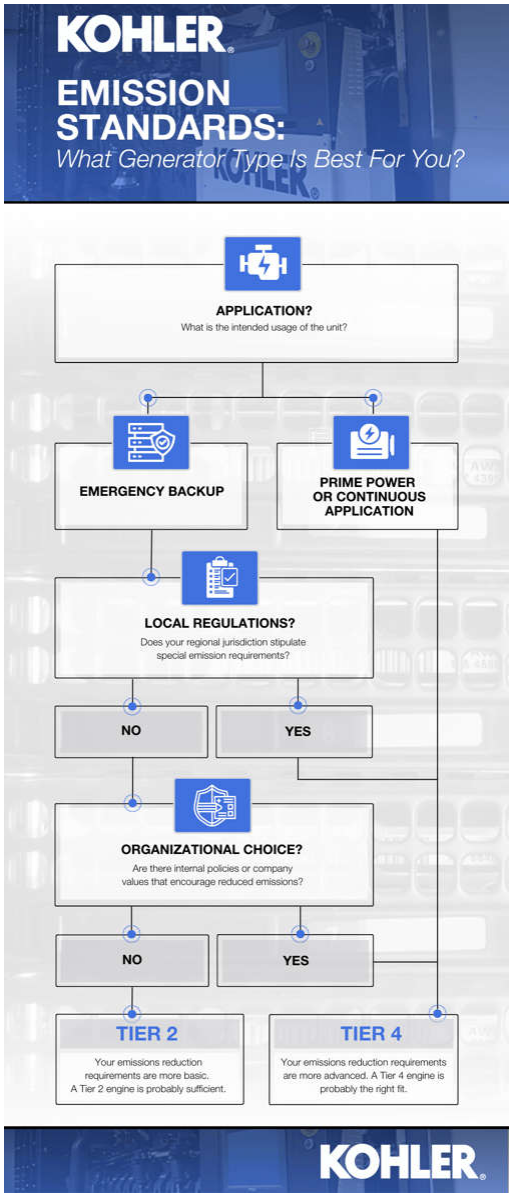
Emergency Generators (Tiers 1-3, most are 2)

- Use of low sulfur diesel fuel oil
- Must use good operating practices and perform appropriate maintenance
- Emission limit = 6.0 g/hp-hr

Non-Emergency Generators (Tier 4)

- Use of low sulfur diesel fuel oil
- Emission limit = 0.60 g/hp-hr
- Requires diesel particulate filters (DPF)
- Requires diesel oxidation catalyst (DOC)
- Requires open or closed loop SCR (Selective Catalytic Reduction) systems

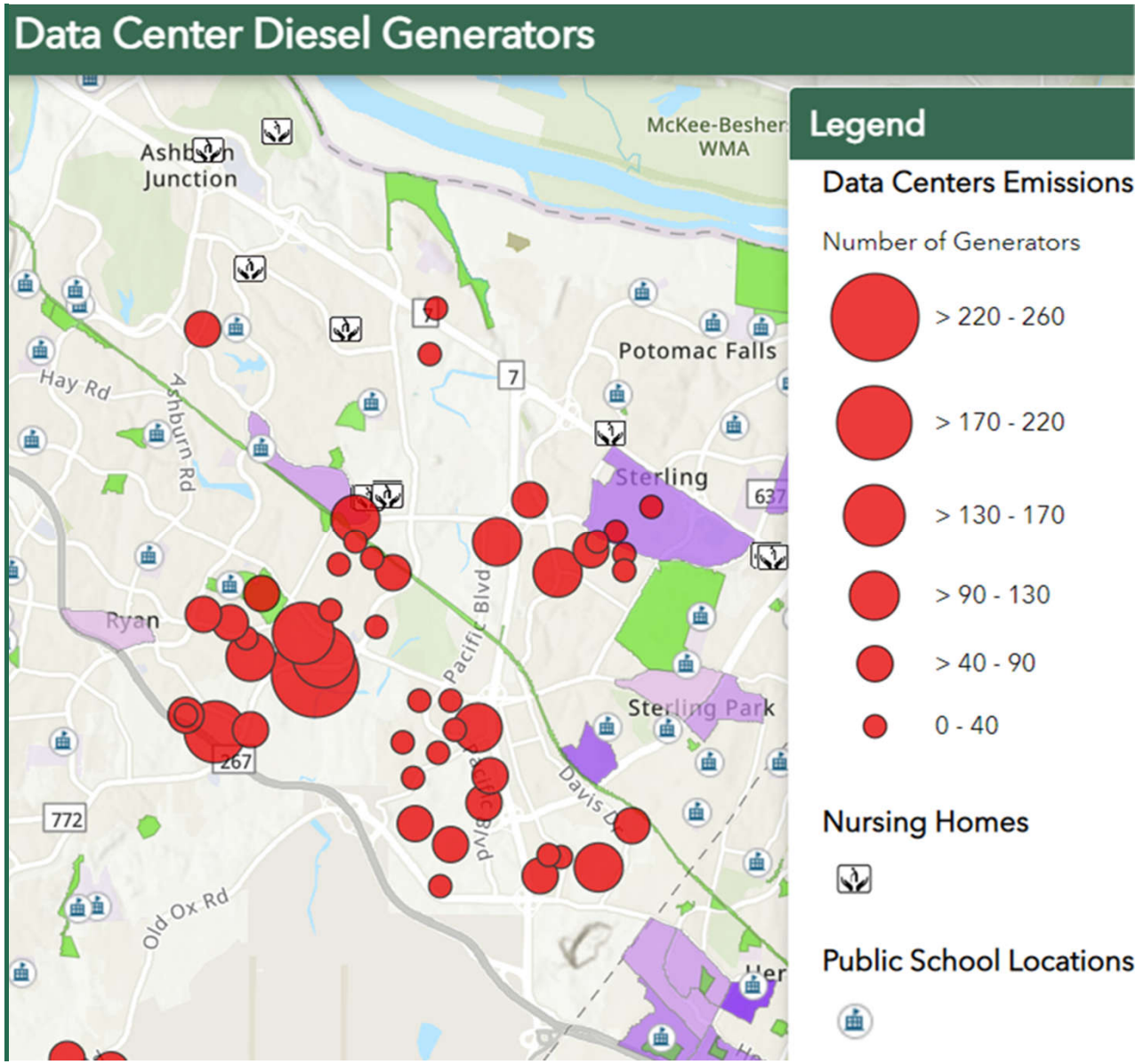
How companies decide what generator type to use:



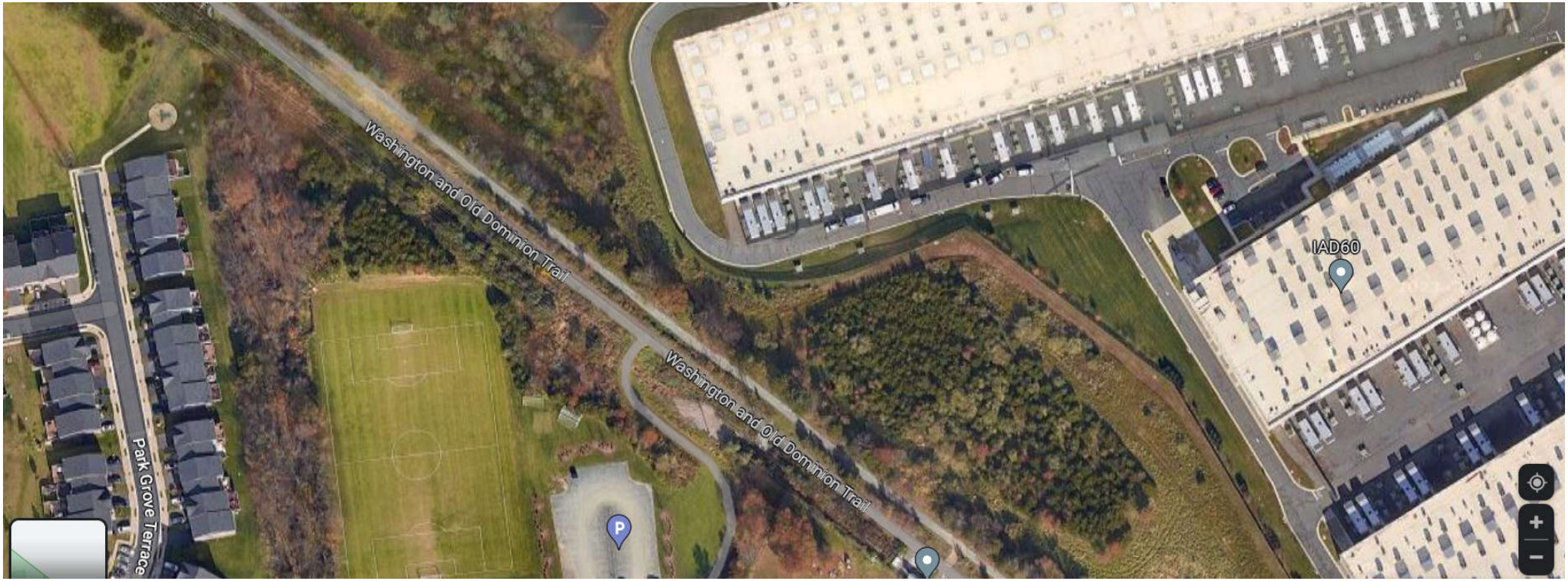
Source: https://insights-datacenters.kohlerpower.com/emission-standards-for-data-centers-a-decision-making-guide

There are over 4000 data center diesel generators permitted in Loudoun, the vast majority are Tier II

www.pecva.org/work/energy-work/data-centers-diesel-generators-and-air-quality-pec-web-map/



Amazon Datacenters in Ashburn, VA



Google Map Clipped Image 2023

Noise Issues

- Cooling (air conditioning compressors and chiller fans)
- Generators (run for maintenance and emergencies)
- Cyptocurrency (noisier than other data centers but don't need to run 24/7 the same way as other data centers, may be able to cut them off…)

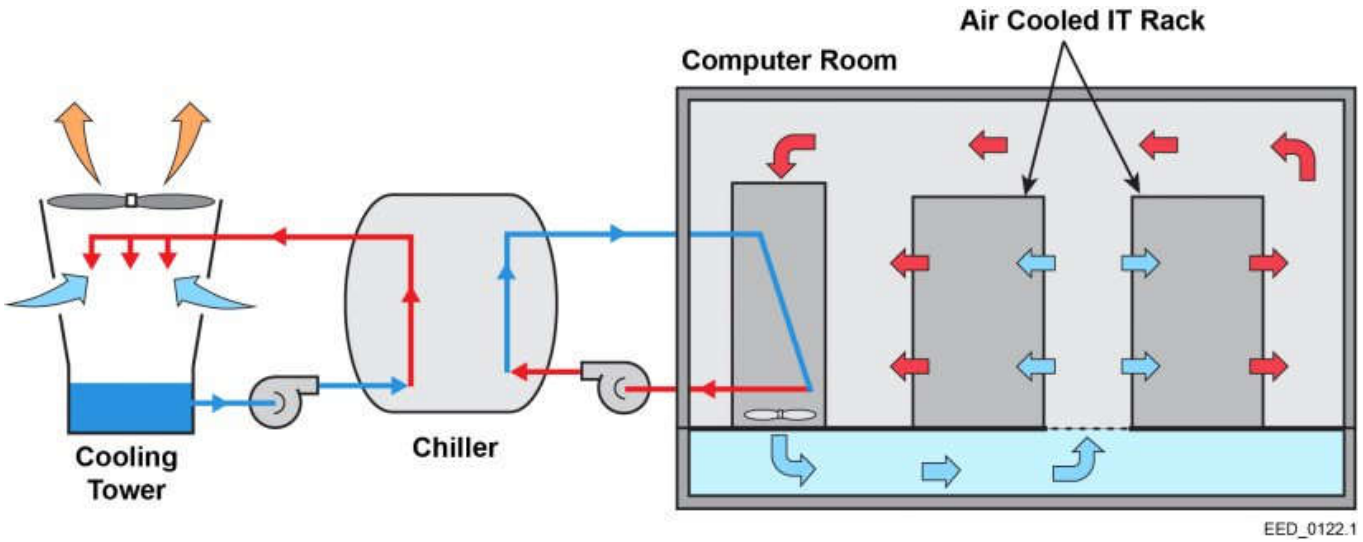
Roof of 2-story data center in Ashburn, VA

Bitfury Mines, Georgia

Thoughts for addressing noise issues

- Avoid allowing data centers in close proximity to residential development
- Require noise study upfront rather than going through costly battle to enforce noise ordinance after construction
- Some cooling systems are quieter than others. Liquid cooling is not only more energy efficient it is also much quieter because it eliminates fans.
- Require generator maintenance to be done during waking hours and not on weekends.
- Consider only allowing cryptocurrency data centers to run during daytime hours

Typical cooling at data center



This is a simplified schematic of a typical data center that relies on evaporation from a cooling tower as the last stage of heat removal from the facility.

Source: www.energy.gov/femp/cooling-water-efficiency-opportunities-federal-data-centers

Cooling Techniques (often combination of several)

Air Cooling - CRAC systems (computer room air conditioner) which provides traditional air cooling or CRAH (computer room air handler) systems which use cooling coils and a chiller system to remove heat.

Closed loop cooling design:

- Air-cooled chiller (no water loss)
- Adiabatic cooling has no cooling tower (much less water loss)

Liquid Cooling - liquid Immersion or direct-to-chip (uses less energy and less water)

Hybrid Cooling – In row cooling unit or rear-door heat exchangers (uses less energy and less water)

Other industry solutions to reduce water consumption:

- Free cooling or air- or water-side economizers (utilizing naturally cool air or water)
- Rainwater harvesting and treatment for use in cooling
- Bleed recovery using reverse osmosis units to treat water blown down from evaporative cooling system
- Trigeneration using absorption chillers (onsite power generations using natural gas)

Design Configurations: Room, Row, Rack, or Hybrid; raised floor; hot/cold aisles; blanking panels

Things to think about

- **Water Usage** – Evaporative cooling towers can use a lot of water and are often only are a sustainable choice when there is gray water available
- **Energy Usage** – Air cooling without evaporative cooling uses more energy
- **Noise** – Use and location of HVAC equipment (fans, condensers, compressors, and cooling towers); require noise study up front
- **Blowdown** – The capacity of wastewater treatment facility to handle amount and concentration of projected blowdown from evaporative cooling systems
- **Water Vapor Plumes** – Cooling tower plumes are harmless but can be unsightly and create public concern
- **Trigeneration** - Additional Community Impact of a Trigeneration facility (basically an onsite natural gas power plant)

Fire Protection

- Locality will likely need additional training for first responders to fires at data centers (see Loudoun's ER manual)
  - Lithium-ion batteries thermal runaway
  - Physical access can be challenge
  - Entry gates (may restrict longer vehicles)
  - Security policies can delay response
  - Facility size and lack of markings
- Locality may need additional equipment such as trucks with taller ladders
- Local inspectors may need additional training if first data center in locality
- Ensure proper fire protection and fighting system in place for data center and fuel storage yard

Fuel Storage

- Above ground storage is safer than underground storage tanks for preventing leaks
- Bulk fuel storage should be separated from generators and buildings
- Fuel storage containers must have secondary containment and overfill protections
- Insure there are no storm drains near fueling stations that could end up polluting nearby wells, rivers, ponds and water reservoirs if there was an overflow

Onsite Power Generation

Loudoun Now - August 17, 2023
Outgoing Deputy County Administrator Charles Yudd said he thinks Loudoun's next big planning challenge won't be land use, as it has been for the past three decades, but infrastructure, especially energy infrastructure.

"We see high-demand users contemplating small nuclear reactors, things that might need to be incorporated into business systems," he said.

SMR Nuclear to Hydrogen On-Site Power Generation Plan Proceeds In Surry County, Virginia

An illustration of Green Energy Partners' and IP3's jointly planned data center and energy campus near the Surry Nuclear Power Station in Southeastern Virginia.

Source: Onsite Energy Plans for New Data Center Projects, August 23, 2023. Matt Vincent: www.datacenterfrontier.com

Natural Gas to Hydrogen Plan Emerges for On-Site Data Center Power Generation In West Virginia

Rendering of the proposed Mountaineer GigaSystem by Fidelis New Energy, LLC, including hyperscale, carbon neutral data centers providing for both production and consumption of lifecycle net zero hydrogen. Credit: Fidelis New Energy, LLC

DuPont Fabros NJ1 data center in Piscataway, New Jersey (now owned by QTS)

Final Thoughts

- Define data centers/cryptocurrency (possibly separately) and any type of onsite power generation allowed
- Adopt use-specific standards (require basic information on data center type and cooling system, projected energy and water usage, building design, site layout with substation, generators, fuel storage and containment area, noise study, etc)
- No perfect model ordinance to point to but take a look at:
  - Loudoun County, VA (building design standards, screening of mechanical equipment, etc.)
  - Prince William County, VA (Data Center Opportunity Zone Overlay District)
  - Prince George County, VA (building design standards, require noise study, etc)
  - Town of Leesburg, VA (building design standards, sustainability recommendations, etc)
  - Niagara Falls, NY (High Energy Usage Overlay District)
  - Frederick County, MD (building design, landscaping, screening, noise standards, etc)
  - Pitt County, NC (separation from sensitive uses, requires noise study and underground wiring)
  - Chandler, AZ (preconstruction noise baseline study, annual noise study during peak operation, requires sound mitigation measures, establishes generator maintenance time limitations, etc)

Final Thoughts

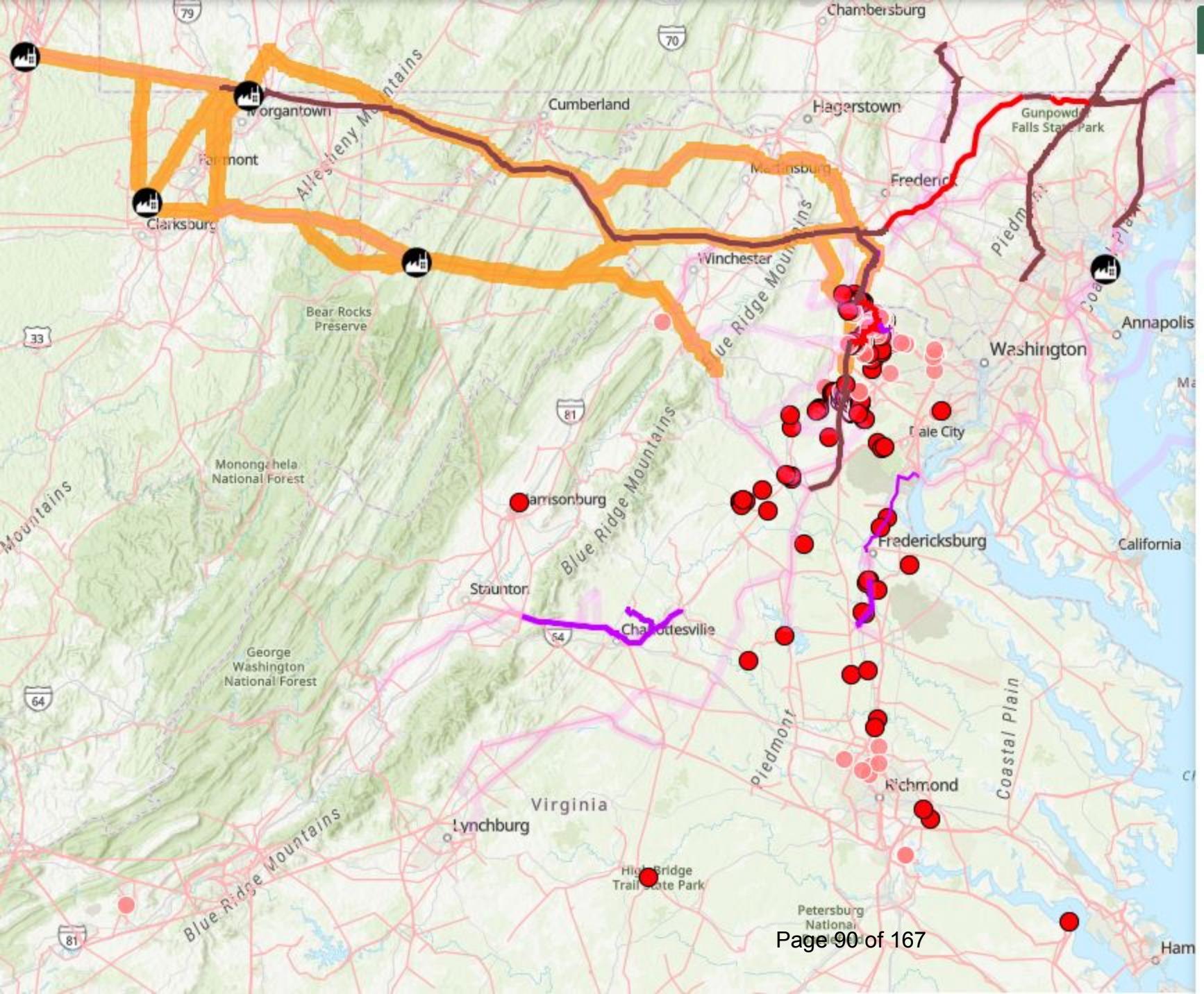
- Don’t sign NDA’s and review FOIA regulations and what is considered proprietary information (a general concept plan with building locations, anticipated power usage, generator yard, fuel storage, substation, etc and basic description of type of data center and cooling is not proprietary info)
- Meet with your utility to discuss electrical infrastructure required during review not after approval! This requires full information such as projected MW of data center and planned location of substation.
- DEQ oversees the air permitting of generators but to protect the public health safety and welfare localities could adopt local regulations on the number or location of diesel generators in proximity to sensitive uses such as schools, parks, trails, elderly living facilities, hospitals, etc.

More information

- UpTime Institute - IT advisory organization tracking industry trends and providing guidance
- CBRE – commercial real estate services and investments research and provide insights
- Data Center Dynamics (DCD) - Articles, white papers, training, webinars, magazine
- Data Center Frontier – Articles, white papers, projections/trends, webinars, videos
- Podcasts – The Data Center Frontier Show, DCD Zero Downtime, Not Your Father's Data Center Podcast (less technical and more local focus)
- APA Illinois Chapter On-Demand Education Course on Crypto Mining & Data Centers (David Morley, AICP, Stewart Weiss, and Tom Thunder) CM 1.25
- PJM Transmission Expansion Advisory Committee (TEAC) – determining transmission line routes to deliver power to northern Virginia and other small data center hubs in the state
- Take a tour of Loudoun's Data Center Alley and schedule tour of inside of colocation data center with Iron Mountain or QTS
- **Visit PEC's website**

www.pecva.org/our-work/energy-matters/data-centers-energy-demand/

Questions?



Legend

Coal Power Plants with Maximum Output over 1,000 MW

PJM 2022 Window 3: Selected Transmission Proposals (from 10/31/23)

- New Transmission Line (Route to be determined by utility)
- Expand Existing Right of Way
- Rebuild in Existing Right of Way

PJM 2022 Window 3: Original Transmission Proposals from 9/5/23

Data Centers in Virginia

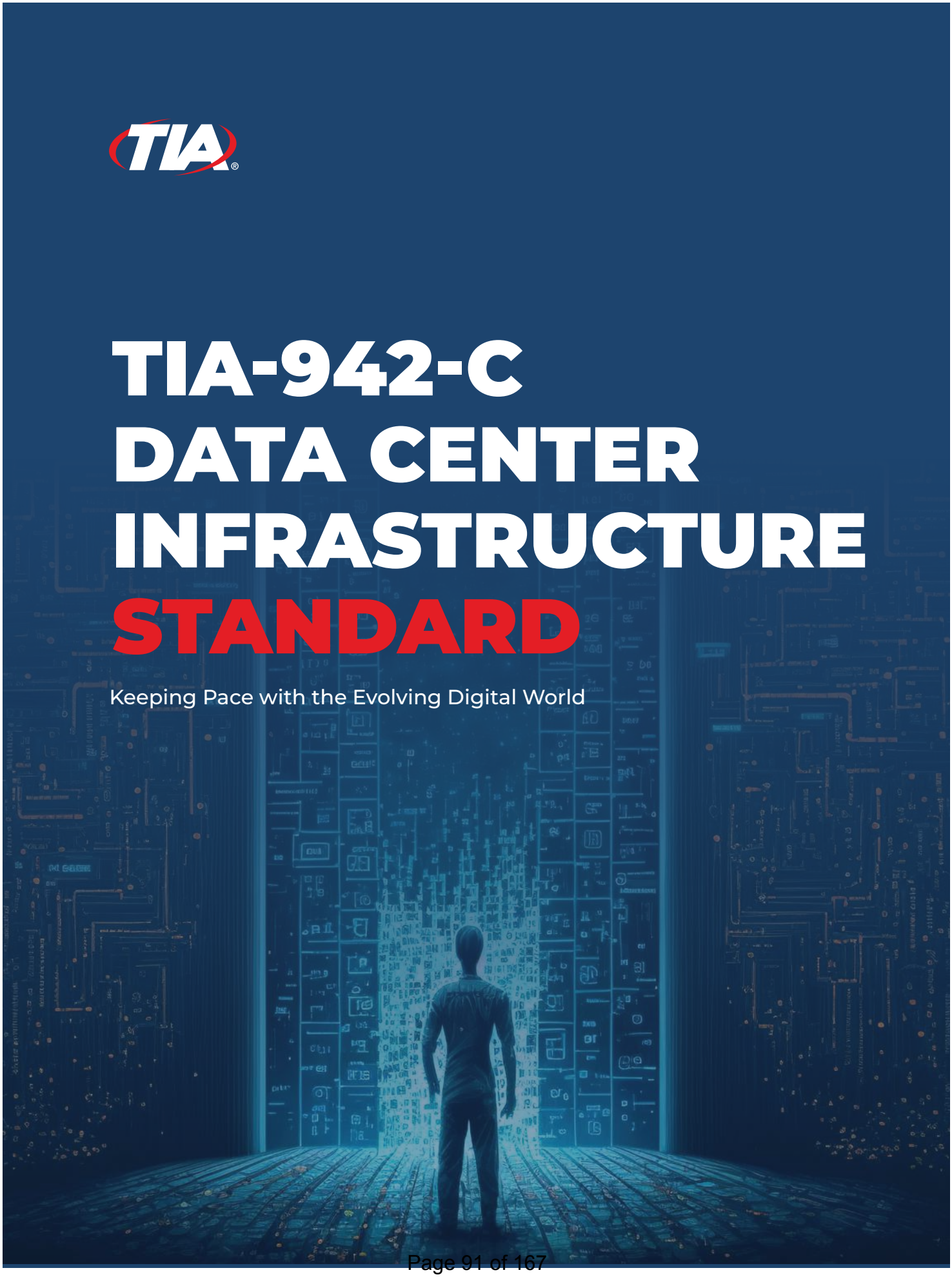
- Existing
- Proposed

Proposed National Interest Electric Transmission Corridor NIETC

Existing Electric Transmission Lines

TIA-942-C DATA CENTER INFRASTRUCTURE STANDARD

Keeping Pace with the Evolving Digital World

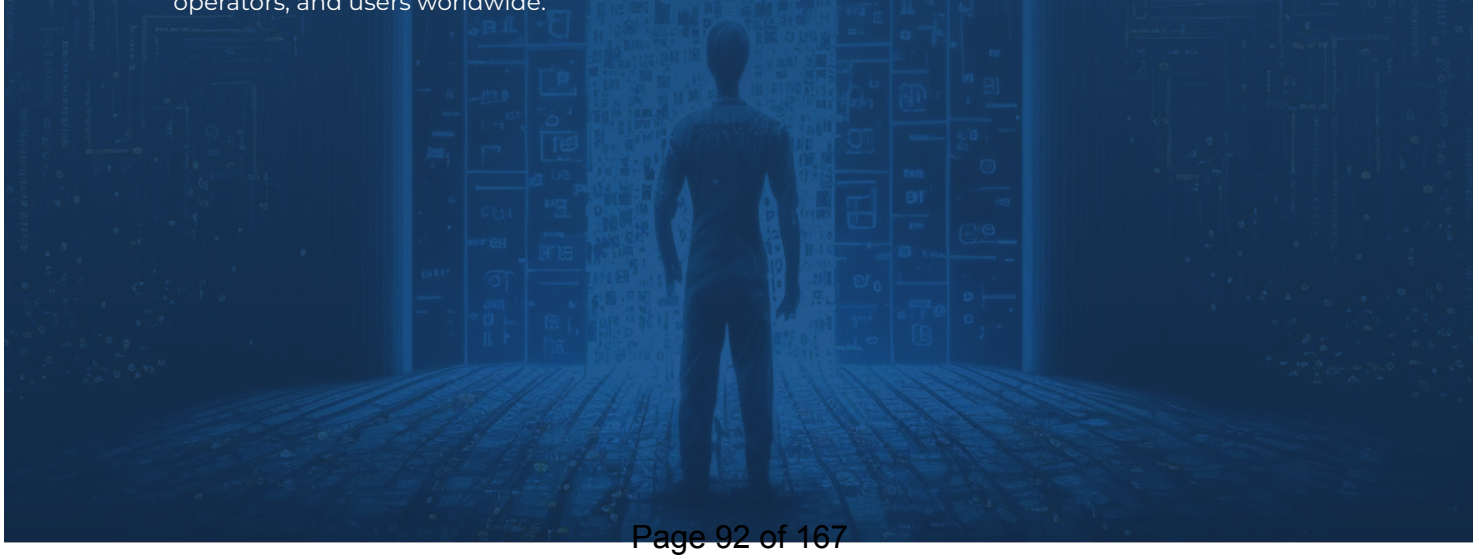


INTRODUCTION

The ANSI/TIA-942 Telecommunications Infrastructure Standard for Data Centers is a globally adopted standard developed and maintained by members of the Telecommunications Industry Association (TIA) TR-42 Engineering Committee, which comprises industry representatives with expertise across all aspects of a data center. It specifies minimum requirements and guidelines for data center design, including power systems, mechanical systems, architecture, security, telecommunications systems, fire protection, and safety. It also serves as the foundation of the TIA-942 Certification Program that enables data center facilities to be independently reviewed and certified for conformity to the standard, providing greater assurance to customers and stakeholders.

As a publicly available standard developed via consensus-based, objective, and industry-driven specifications, TIA-942 offers an extensive global scope with transparency and standard nomenclature applicable to any data center size or type. Since its inception in 2005, it has become the go-to resource for data center designers, owners, consultants, suppliers, operators, and users worldwide.

As an industry standards-making body, TIA continually updates standards to keep pace with the latest market trends, technologies, and the global economy. Since the last complete revision of ANSI/TIA-942-B in 2017, significant technological advancements and unprecedented trends have necessitated upgrades to data center cabling, power and cooling infrastructure and the need to rethink several design, installation, and operations aspects. In early 2022, TIA released the ANSI/TIA-942-B-1 Addendum for Edge Data Center Infrastructure to address new edge data centers deployed closer to end users to provide low-latency transmission and instantaneous data processing for emerging applications. At the same time, the TR-42 Engineering Committee officially opened the full TIA-942-B standard for updates and revisions. Following two years of industry collaboration, TIA has now released the latest TIA-942-C version of the standard with several modifications that address the latest technologies and trends in the evolving digital world.



EMERGING TRENDS AND TECHNOLOGIES IMPACTING THE DATA CENTER

Data centers of all types and sizes face pressure to reduce environmental impact by lowering their energy consumption, water usage, and carbon footprint. At the same time, global data generation is predicted to reach 181 trillion gigabytes by 2025, with a significant portion created and processed at the edge.[1] This surge coincides with emerging artificial intelligence (AI), machine learning (ML), 5G, and IoT/IIoT technologies that demand higher power and cabling densities.

THE DRIVE FOR SUSTAINABILITY

In the face of climate change, data centers worldwide have come under the scrutiny for their energy consumption and carbon footprint. According to the International Energy Agency (IEA), data center energy consumption could double from 2022 to more than 1,000 Terawatt hours (TWh) by 2026 without significant efficiency improvements. That total is roughly equivalent to Japan's entire annual electricity consumption. Much of the expected higher energy consumption is due to high-performance computing technologies like AI and cryptocurrencies, which could double by 2026.[2]

As a result of increasing consumption, organizations have pledged net-zero operations by 2050 or sooner, and regulatory pressure is growing. The European Union (EU) Energy Efficiency Directive (EED), is expected to be signed into law by the end of 2024, and will require data centers with a demand of 100 kilowatts (kW) or more to report their energy performance, including energy reuse factor, renewable energy use, cooling effectiveness ratio, and power and carbon usage effectiveness (PUE and CUE). Ireland, which has become a hotbed for data centers due to low tax rates, saw a 400 percent increase in data center power consumption from 2015 to 2022, representing 20 percent of all power generated in the country.[3] As a result, Ireland's Commission for Regulation of Utilities (CRU) published a decision

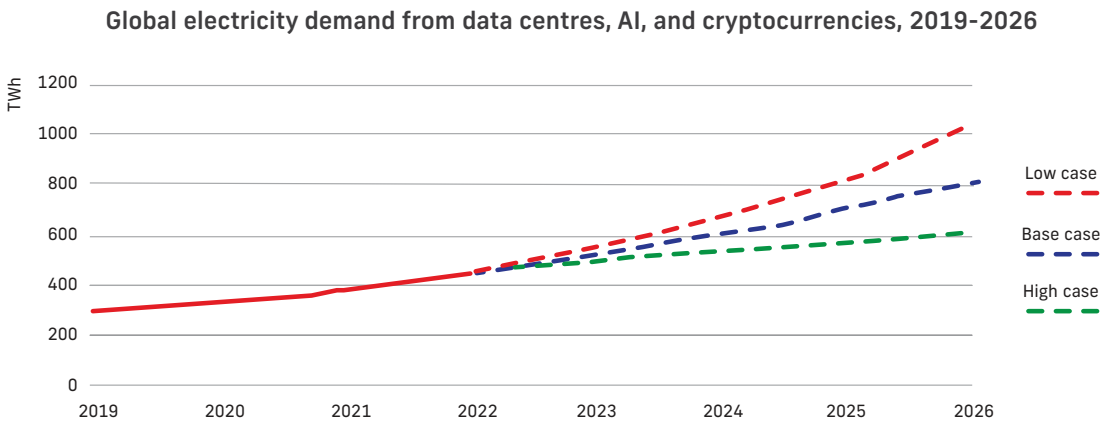


Figure 1: Global electricity demand from traditional data centers, dedicated AI data centers, and cryptocurrency consumption (excludes demand from data transmission networks). Source: IEA

on assessment criteria for data centers applying for grid connection, including impact on the surrounding region and the ability to generate and store electricity on site.[4] Denmark also has an expanding data center sector. It has become the hub of the new pan-European initiative Net Zero Innovation Hub for Data Centers, a collaboration between a number of data center operators.[5]

Similar initiatives are underway in the rest of the world. In China, where electricity demand in the data center sector is expected to double from 2020 to 2030, regulations are being updated to promote sustainable practices.[6] In the U.S., The White House Office of Science and Technology Policy (OSTP) has published a report with recommendations for annual electricity usage, greenhouse gas emissions, and electronic waste recycling performance reporting. Proposed legislation in Virginia, a U.S. hotbed for data center activity, requires site assessment before approval to evaluate a data center's impact on agricultural resources, carbon emissions, and water usage. In Oregon, a proposed bill would require data centers to reduce carbon emissions by 60 percent by 2027, with annual reporting to demonstrate compliance.[7]

Some of the ways that data centers can reduce their energy consumption include best practices and technologies that improve PUE, such as deploying more energy-efficient equipment (e.g., switches, servers, etc.), consolidating and removing unused equipment, and raising air inlet temperatures closer to the mid-range of the ASHRAE 18° to 27°C (64 to 81°F) recommendation.[8] Improving airflow and maintaining proper separation of hot and cold air via a hot aisle/cold aisle configuration, aisle containment systems, in-row or in-rack cooling, and advanced liquid cooling systems can also improve efficiency, as well as deploying air-side economizers that use outside free air to cool the data center. To lower costs and carbon footprints, data centers are also turning to renewable energy sources like solar, wind, and hydro with battery energy storage systems (BESS). Forward-thinking data centers are even reusing generated heat to heat other facilities or homes in surrounding communities to reduce their carbon footprint.

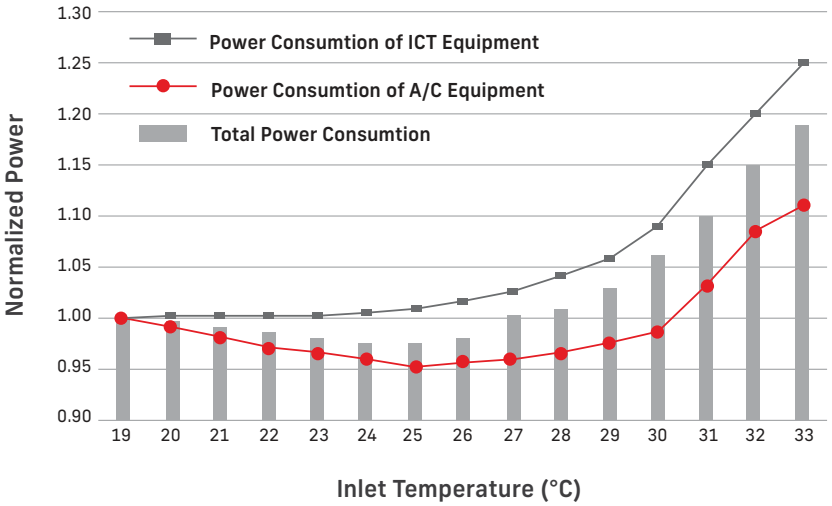


Figure 2: Increasing air inlet temperature range to 23 to 26°C (73 to 79°F) can lower total power consumption.

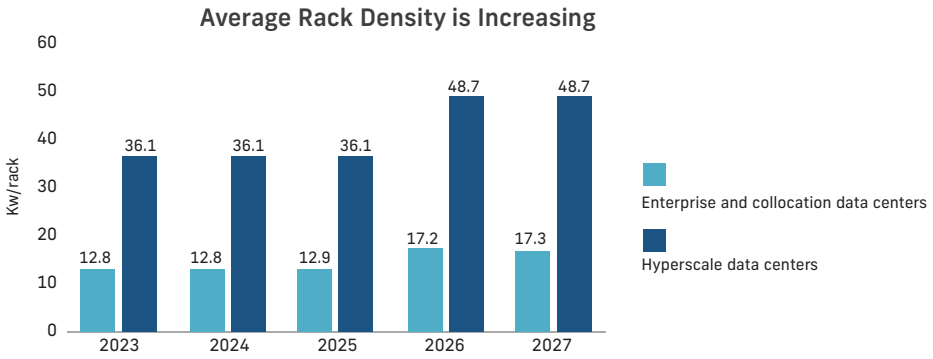


Figure 3: Average rack power densities are increasing, especially in hyperscale data centers. Source: JLL

RISING RACK POWER DENSITIES

As more data centers deploy emerging digital services and high-performance computing (HPC) technologies like AI, rack power densities are increasing in enterprise, colocation, and hyperscale data centers.[9] In 2022, 25 percent of enterprise data centers reported having rack densities greater than 20kW, and some hyperscale data centers with extreme density racks have already reached 80kW or higher.[10] Higher rack power densities lead to higher heat generation. As a result, ASHRAE's Technical Committee 9.9 published the fifth edition of its Thermal Guidelines for Data Processing Environment in 2021 with a new class H1 for high-density systems, narrowing the recommended temperature range from 18° to 27°C (64 to 81°F) to 18° to 22°C (64 to 72°F) for these environments.

At around 25kW/rack or lower, data centers can keep equipment cool via passive air-cooled solutions such as maintaining proper airflow in and around equipment and deploying hot aisle/cold aisle configurations, aisle containment systems, and highly efficient computer room air conditioning (CRAC) systems. However, rack power densities above 25kW/rack increase the demand on air-cooled systems to prevent equipment failure and costly downtime. By the same token, cooling also accounts for 30 to 50% of total data center energy consumption, so increasing the capacity of CRAC systems by adding more cooling and/or lowering temperatures comes with costs and consequences.[11] Due to increasingly stringent energy consumption regulations, sustainability initiatives, and rising energy prices, many data centers are now turning to highly efficient liquid cooling solutions, such as rear door heat exchangers, direct-to-chip cooling, and liquid immersion technologies that use chilled water or dielectric fluid to bring cooling directly to the cabinet, equipment, and heat-generating components within the equipment (e.g., computer processing and graphical processing units).

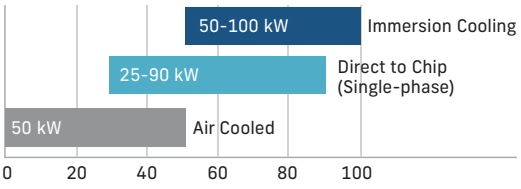


Figure 4: Data centers with rack power densities of 25kW or higher are migrating to more efficient liquid cooling technologies. Source: ASUS

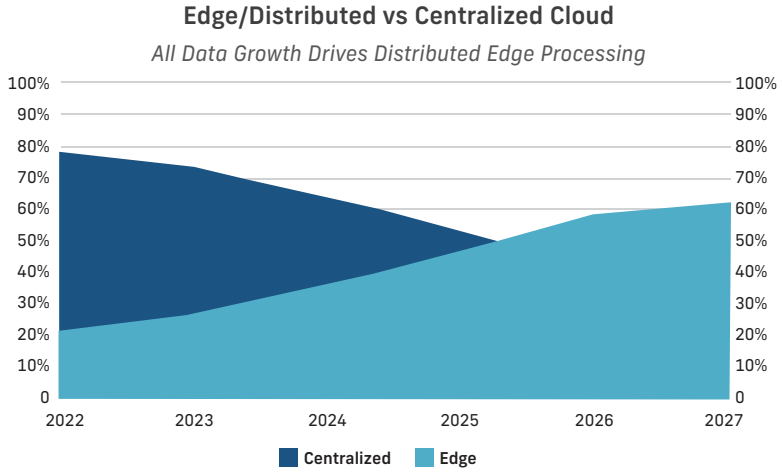


Figure 5: By 2027, 62 percent of enterprise data is expected to be processed at the edge

THE GROWTH OF EDGE COMPUTING

Technologies like 5G, AI, ML, IoT/IIoT data analytics, virtual and augmented reality (AR/VR), video streaming, and gaming demand near-instantaneous network functionality performed in milliseconds. Large core centralized cloud data centers, often located hundreds of miles from the source, can't deliver the extremely low latency required for these real-time applications. Edge computing solves the latency problem by storing and processing data in smaller decentralized data centers closer to the source. As these applications grow, market research predicts that by 2027, 62 percent of data will be processed at the edge.[12]

Depending on the applications to be supported, edge data centers range in location, owner/operator, and size. An edge data center could be just a switch and a few servers in an outdoor enclosure on a city street corner to process ultra-low-latency smart traffic and autonomous vehicle data, or a single rack in a hospital closet for processing and analyzing real-time patient monitoring information. An edge data center could also be multiple racks in a container or shelter at the base of a 5G cell tower or on the outskirts of a rural community to support real-time applications for thousands of users. They can also comprise dozens of racks in a regional central office to support content delivery networks (CDNs), such as those that cache video-streaming content for thousands of local users. An edge data center can even reside within a traditional colocation data center near an urban center for aggregating and processing massive amounts of data for latency-sensitive cloud applications.

With the increasing adoption of edge-native applications, edge data centers are expected to proliferate. Reports suggest a 26% annual growth rate, reaching nearly $35 billion by 2028 (from $14 billion in 2023).[13] However, due to the mission-critical nature of many edge applications, ensuring low latency and high resiliency is paramount. Many edge data centers also differ significantly from traditional ones—especially smaller, remote unmanned facilities. Therefore, they have unique requirements for site selection, power, cooling, physical security, operations, and maintenance.

EVOLVING CABLING INFRASTRUCTURE

Data center cabling infrastructure also needs to adapt to the ever-changing digital landscape. Bandwidth demands are surging, particularly between switches and servers. This shift is driving a move away from traditional twisted-pair copper cabling towards fiber optics for switch-to-server links. Fiber offers significant advantages in terms of speed, handling 10 to 400 Gigabits and beyond while boasting a smaller and lighter design. However, as rack power densities increase, so does the amount of cabling. Data centers are packing more equipment into less space. This includes powerful generative AI systems with high-compute CPUs and GPUs that require massive amounts of data for parallel processing. A typical AI cluster can house hundreds or thousands of these processors, all interconnected with multiple high-speed connections (e.g., 100, 200, or 400 Gigabit). This results in a significant amount of cabling at the rack level, requiring proper management to prevent damage and maintain optimal airflow.

Data centers contain more than just servers and switches. They are also intricate facilities with their own cabling infrastructure for network operations, lighting, security, life safety, and other facility functions. Performance reliability and resiliency are paramount, so data centers often deploy numerous smart IoT sensors. These sensors monitor factors like occupancy, vibrations, temperature, humidity, airflow, smoke, air quality, water leaks, and other potential hazards. Sensors also monitor human activities, power consumption, cooling systems flow rate and pressure, equipment performance, and other important information about the data center performance and security. Careful planning and ensuring the right cabling infrastructure for these ancillary functions is essential for any data center, especially those demanding exceptional reliability and availability. For example, smart IoT sensors are typically low-speed, low-power devices that connect wirelessly or via new cost-effective technologies like single-pair Ethernet (SPE) that can deliver up to 52 W of power and transmission speeds of 10 Mb/s to devices over a single copper twisted pair for distances up to 1000 meters (m).

ANSI/TIA-942-C RESPONDS

Based on the evolving digital world and feedback from association members, the TR-42 Engineering Committee, and other industry experts, TIA has updated the ANSI/TIA-942 data center infrastructure standard. The recently released TIA-942-C standard provides new specifications and guidance that address sustainability, higher high rack power densities, edge data center requirements, and advanced cabling infrastructure. The updated standard also clarifies several details to better align with industry best practices, including clarifying the applicability and structure of annexes by renumbering and changing several key annexes from informative to normative. It also clarifies details surrounding security, seismic resistance, fire protection, and remote operations. It improves the TIA-942 rating system (i.e., 1 Basic, 2 Redundant, 3 Concurrently Maintainable, and 4 Fault Tolerant) for more flexible and straightforward implementation. The following are examples of how TIA-942-C keeps pace with the evolving digital world.

SUSTAINABILITY

Sustainability and climate change are now a greater focus throughout the TIA-942-C standard with several new considerations, including site selection risk analysis and mitigation for better adaptability to regional conditions, self-generated power such as onsite renewables, energy reuse, and other initiatives for efficient use of resources. The term “standby power” is now used to refer to any technology used as standby power, including battery energy storage systems (BESS), natural gas, and hydrogen fuel cells.

HIGHER RACK POWER DENSITIES

TIA-942-C addresses higher rack power densities associated with technologies like AI by updating temperature and humidity guidelines to align with the 5th addition of ASHRAE TC 9.9 Thermal Guidelines for Data Processing Environments, including the new H1 class for high-density air-cooled equipment. The standard also adds a new informative annex on liquid immersion cooling, and the term “heat removal” is now used to refer to any technology that cools equipment.

EDGE DATA CENTERS

TIA-942-C addresses edge data centers by incorporating the previously released TIA-942-B-1 addendum into the standard, with more precise guidelines and infrastructure requirements for edge data centers. This includes multiple updates to reflect the current state of technology, including adding thermal guidelines from ASHRAE TC 9.9 Technical Bulletin on Edge Computing. The standard also adds new recommendations for managing micro edge data center environments to harmonize with ASHRAE TC 9.9.

CABLING INFRASTRUCTURE

In response to increasing cabling densities, TIA-942-C now requires a minimum of 800mm-wide cabinets in functional areas that house switches (i.e., MDA, HDA, and IDA). The standard also responds to the need for higher bandwidth in switch-to-switch and switch-to-server links by recommending a minimum of two optical fibers for horizontal and backbone cabling and allowing for any TIA-568.3-compliant optical fiber connectors outside equipment outlets (EOs). The infrastructure requirements are also updated to recognize SPE for horizontal cabling and require a minimum of two category 6A or higher performing cables to support high-throughput wireless access points when using balanced twisted-pair cabling.

GET STARTED ENSURING YOUR DATA CENTER CAN KEEP PACE

As a publicly available standard developed via consensus-based, objective, and industry-driven specifications with transparency and standard nomenclature, the updated TIA-942-C standard allows it to remain a vital global resource for any data center size or type in the evolving digital world—from hyperscale, cloud, and colocation to the enterprise and the edge. Whether upgrading and expanding existing facilities or building from the ground up, the standard is ideal for anyone involved in the data center lifecycle—from design and construction to installation, commissioning, and ongoing operations—to effectively support the latest trends and technologies. It also serves as critical information for data center users to specify service provider requirements for various levels of resiliency and security.

TIA-942-C is now available for purchase at the TIA standards store. For more information about TIA or the TIA-942 Certification Program, visit www.tiaonline.org. And if you are interested in contributing to the future of data centers, please contact datacenterinfo@tiaonline.org.

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TO LEARN MORE ABOUT THE TIA-942-C DATA CENTER INFRASTRUCTURE STANDARD

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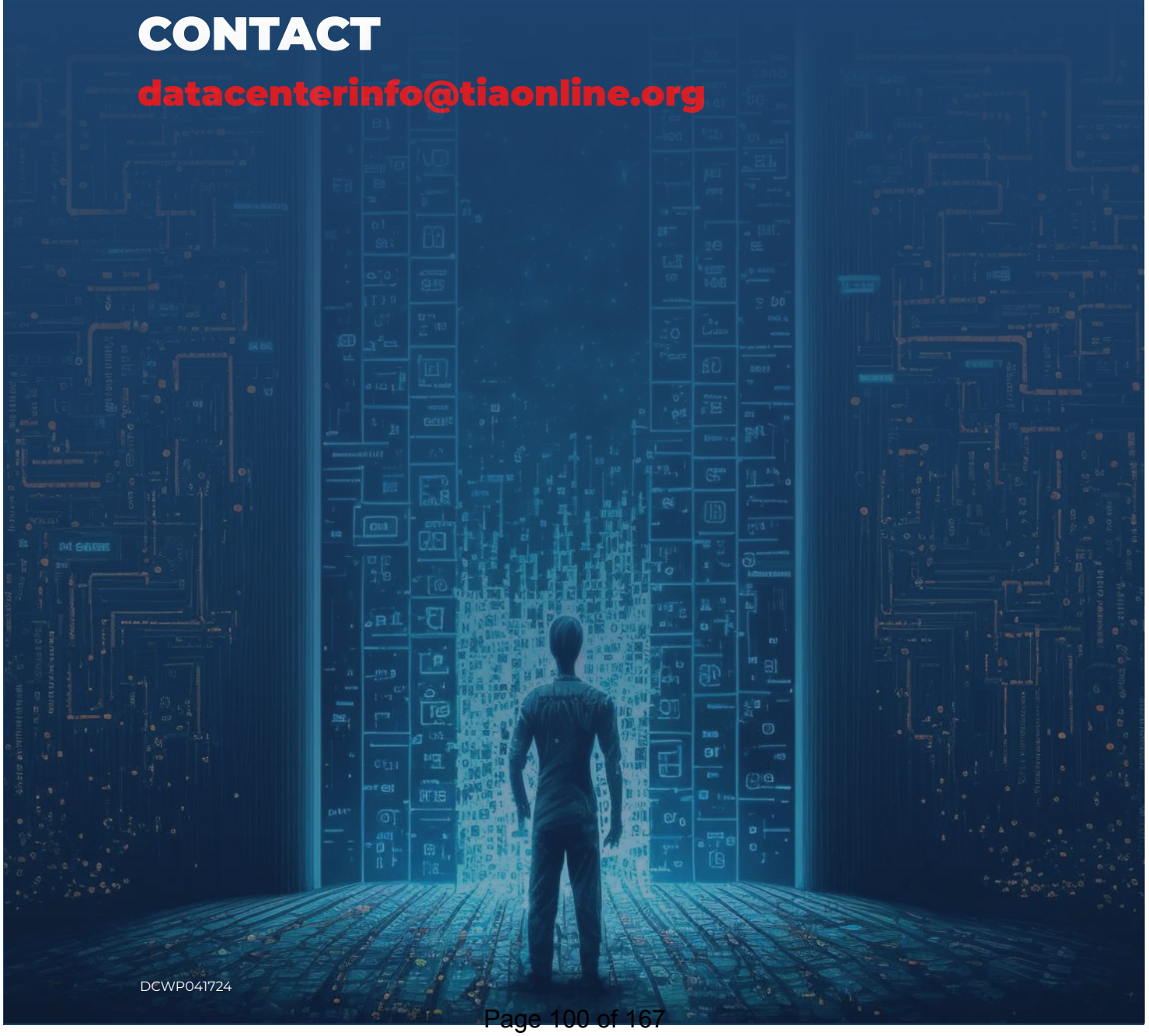
datacenterinfo@tiaonline.org



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Energy + Environment

Virginia Explained: Data center expansion, with all its challenges and benefits

Groups discuss how Virginia's data center developments impact historic spaces, the environment, electricity and local revenue

By: Charlie Paullin - May 28, 2024 5:59 am

Data centers in Ashburn, Virginia (Gerville/Getty Images)

Humanity is almost a quarter of the way through the 21st century and Virginia — home to 70% of the world's data centers — is on the frontlines of the latest emerging technology: artificial intelligence, or AI.

The prevalence of data centers and the rising role of AI don't equate to a dystopian battle between humans and machine control, though (at least at the moment). Rather, these issues are at the center of a debate over localities' authority and revenue benefits, historic preservation, environmental considerations, and electricity demand and utility rate projections, all shaped by ever-increasing internet use.

The state is studying data center development

Northern Virginia, the densely populated suburbs and exurbs located just outside the nation's capital, is home to 70% of the world's data centers, the huge warehouses that store computers' processing equipment, internet network servers and data drives. With people increasingly using web-based programs on an average of 22 internet-connected devices in homes, data centers are seen to be needed more than ever.

While data centers are proposed as potential drivers of economic benefits for localities, a number of Virginians have expressed concerns about the proliferation of the warehouses in the state and their effect on communities where they're located.

"Is it worth losing all your water, and having noise pollution and everything else to get revenue for some of the things you need?" said Mary Damone, 67, who moved to the Orange County area a few years ago, where a 732-acre data center park development has been proposed.

Fairfax County resident Chris Ambrose, 63, who, like Damone, was also at a recent press conference raising concerns over data center development, said the development of thousands of homes in the proposal is bad enough.

"Then you add the data centers to it, and the transmission lines, the impact on the battlefields," Ambrose said. "If they need more revenue, you would think it would be something more measured. The magnitude is just crazy. It's off the charts."

Josh Levi, president of the Data Center Coalition, said the industry looks forward to supporting JLARC and discussing the findings when the study is done.

"Virginia continues to distinguish itself as one of the most dynamic and important markets for the digital infrastructure that enables our innovation economy and meets the growing, collective computing demands of individuals and organizations of all size," Levi said.


LUMOS
NETWORKS
Central Virginia
Meta
BANK OF AMERICA
FLEXENTIAL
INFOTEL
Greater Richmond
MFX
Roanoke Region
BRUSH MOUNTAIN
DATA CENTER
New River Valley
23
Bristo

A map of data centers in Virginia (Courtesy of Virginia Economic Development Partnership)

This past legislative session, lawmakers introduced over a dozen bills to address some of the public's concerns over how data centers could impact water demand, power delivery costs and more, but they were all sent to the Joint Legislative Audit Review Commission, the state's policy research arm, to develop policy proposal recommendations.

"We have a number of research activities planned or underway for this study," said Mark Gribbin, the JLARC project lead for the data center study, at a meeting last week outlining the study's goals.

"Foremost, we'll have a high level of engagement with local communities and data center companies," said Gribbin. "We're also working closely with utilities, local governments and state regulators, especially on questions related to development, water, air and energy,"

In the few months since those legislative deferrals, a battlefield in Orange County has been listed as one of the 11 most endangered sites in the country because of data center development, and Google announced a $1 billion investment to expand their data center campus in Reston.

Both events have re-upped the conversation over how to provide data centers their needed electrons, which could be delivered through an improved transmission system, after a recent regulatory overhaul of how such systems are planned.

"If the generation isn't there to meet a proposed data center's needs, the data center doesn't [need to] locate in Virginia or anywhere else that can't meet its load," said Walton Shepherd, Virginia Policy Director with the Natural Resources Defense Council. "Virginia is not responsible for the running of the internet, the data center operators largely are. The solution we need to solve is a cleaner grid. We have the tools to do so, and that's with or without data centers."

Local, historic concerns

In Orange County, Wilderness Crossing data center received national attention for its proposed development near a Civil War-era battlefield, fueled by concerns after data centers were built near other historic sites in Loudoun and Prince William counties in addition to other parts of the state.

The proposed Wilderness Crossing site near Wilderness Battlefield sprawls across 2,600 acres, 732 of which would accommodate data centers — which can typically have a footprint of over 100,000 square feet each and reach 90 feet tall — and distribution warehouses. The site plan also envisions over 5,000 residential units and 200,000 square feet of mixed commercial use buildings, and a realigning of Route 20.

"If this development goes forward as approved, there will be intense pressure on the existing road network," said Bob Lookabill, president of the Friends of the Wilderness Battlefield, at the press conference announcing concerns over the Wilderness Crossing proposal.

The development would also obstruct the views of Virginia's hillside, take up forested land, sit on abandoned gold mines and draw on water from the Rapidan River, which experienced drought-like conditions last year. Concerns about data centers' impact on local waterways have been echoed around the state.

A press conference about the Wilderness Crossing data center proposal. (Charlie Paullin/Virginia Mercury)

The area's water is served by the Rapidan Service Authority. According to its recently approved water permit, obtained by the Virginia Mercury, the Department of Environmental Quality rejected an initial request finalized after the Wilderness Crossing rezoning that sought to pull more water for projected demand increase.

"What if there is a drought?" said Tim Cywinksi, communications director for the Virginia chapter of the Sierra Club, while speaking about another data center proposal in Caroline County during a webinar. "Are we going to continue to supply what becomes a diminishing resource to an industry that's powering AI? Or are we going to give it to families to make sure they need it? … This is why protective policy is so important."

Other data center proposals appear to show that the developments would encroach on historic sites statewide, such as Manassas National Battlefield Park, Culpeper National Cemetery, Brandy Station, Sweet Run State Park and Savage Station Battlefield.

Two historic Black graveyards belonging to the Gaskins family in the Brentsville area of Prince William County are alleged to have been damaged from the construction of a data center and a nearby power substation.

"Without comprehensive action from our elected leaders, countless historic sites [and] national parks may continue to fall victim to this unchecked and unregulated data center growth," said Kyle Hart, mid-atlantic field representative at the National Park Conservation Service during the May 1 press conference.

The pressure to these sites has already been largely seen in Loudoun and Prince William counties, which have been dubbed Data Center Alley, and recently approved a Digital Gateway rezoning in their respective jurisdictions.

"We have to have a better way [to] think it through and it needs to be transparent," said Chris Miller, president of the Piedmont Environmental Council, a conservation organization focused on preserving central Virginia's countryside. The group won a lawsuit against Orange County that forced the release of previously withheld information on the Wilderness Crossing proposal. "I think everyone wants a continued investment in the economy and [to be] prosperous, but you want it done in a way that doesn't destroy the underlying quality of life."

Data center developments have been continually proposed throughout Virginia and are welcomed by some communities. A 1,200-acre data center site was recently approved in Hanover County. The Delta Lab, an energy innovation initiative focused on Southwest Virginia, has studied locating one in that region that could use water from mines for cooling.

Del. Mark Sickles, D-Fairfax County, said at the recent JLARC meeting, two vacant buildings along the beltway in his district are being converted into an Amazon Web Services data center, without controversy.

"It was a perfect place for it, actually," Sickles said. "We need to find more perfect places in Virginia that are close to power, and can be shielded from the public. It's going to be a challenge for everybody because I don't think we want to give up on this industry."

$1 billion investment

Just days before the concern over Wilderness Crossing became public, Gov. Glenn Youngkin announced that Google, one of the biggest companies in the world, would expand its data center campuses from two facilities to three.

"We're super excited about it," said Ruth Porat, president, chief financial officer and chief investment officer of both Google and its parent company Alphabet, of the expansion. "The investments we've made today are not only important investments in infrastructure, but they've also added 3,500 jobs in Virginia, and they supported a billion dollars of economic activity."

Google completed the first phase of construction on the first two data centers in 2019 with a $1.2 billion investment in the state.

The third center's creation will usher in an AI Opportunity Fund seeded with $75 million from the company's philanthropic arm, Google.org. The fund will help people around the county earn online training certifications. The program joins a separate Grow with Google program, already underway, that teamed with Northern Virginia Community College to offer a new free cyber security career certificate.

"Since 2019, this innovative public-private partnership has increased opportunities for students to join the technology workforce," said Anne M. Kress, president of NOVA, in a statement. Kress added that the partnership "helps close the skills gap and greatly expands the region's talent pool."

A driving force for the online certifications through the opportunity fund, would be leveraging AI. The governor leaned into the "accelerator" allegory during the announcement, highlighting AI's ability to hasten the pace for certifications to be awarded.

"What's been so exciting is that this parallel path, this moment of accelerator and brakes, is enabling confidence as we move forward to move forward with an expedited pace," Youngkin said. "That is where breakthroughs can occur."

Data centers in Virginia have provided $2.2 billion in wages for citizens, and 25% of revenue to Loudoun County have gone into "essential services" like schools, social services and other public programs, Youngkin added.

Impact on power demand

Increased internet usage, including AI, requires data centers to use more electricity. Computing for AI is measured by an entirely new computing graphic processing unit, or GPU.

"Historically, a single data center typically had a demand of 30 megawatts or greater," Dominion Energy Virginia President Bob Blue said in the utility's first quarter earnings call. "However, we're now receiving individual requests for demand of 60 megawatts to 90 megawatts or greater, and it hasn't stopped there."

Larger data center campuses with multiple buildings can "require total capacity ranging from 300 megawatts to as many as several gigawatts," Blue added.

The utility has connected 94 data centers to date and expects to connect another 15 this year, Blue also told investors. Power Engineering reported on a Securities Exchange Commision annual filing that in 2023 and 2022, 24% and 21% of electricity sales from Dominion were to data centers, respectively.

"The concentration of data centers primarily in Loudoun County, Virginia represents a unique challenge and requires significant investments in electric transmission facilities to meet the growing demand," the SEC filing states.

While the data center computers have become more efficient through a power usage effectiveness score — a rate that determines how efficiently energy is processed for the web-based service to reach internet users — a study from McKinsey & Company found that data center power demand is expected to more than double across the country from from 17 GW to 35 GW. Some of that power could come from Dominion's 176-turbine offshore wind project, expected to generate 2.6 GW of electricity, or enough to power 660,000 homes.

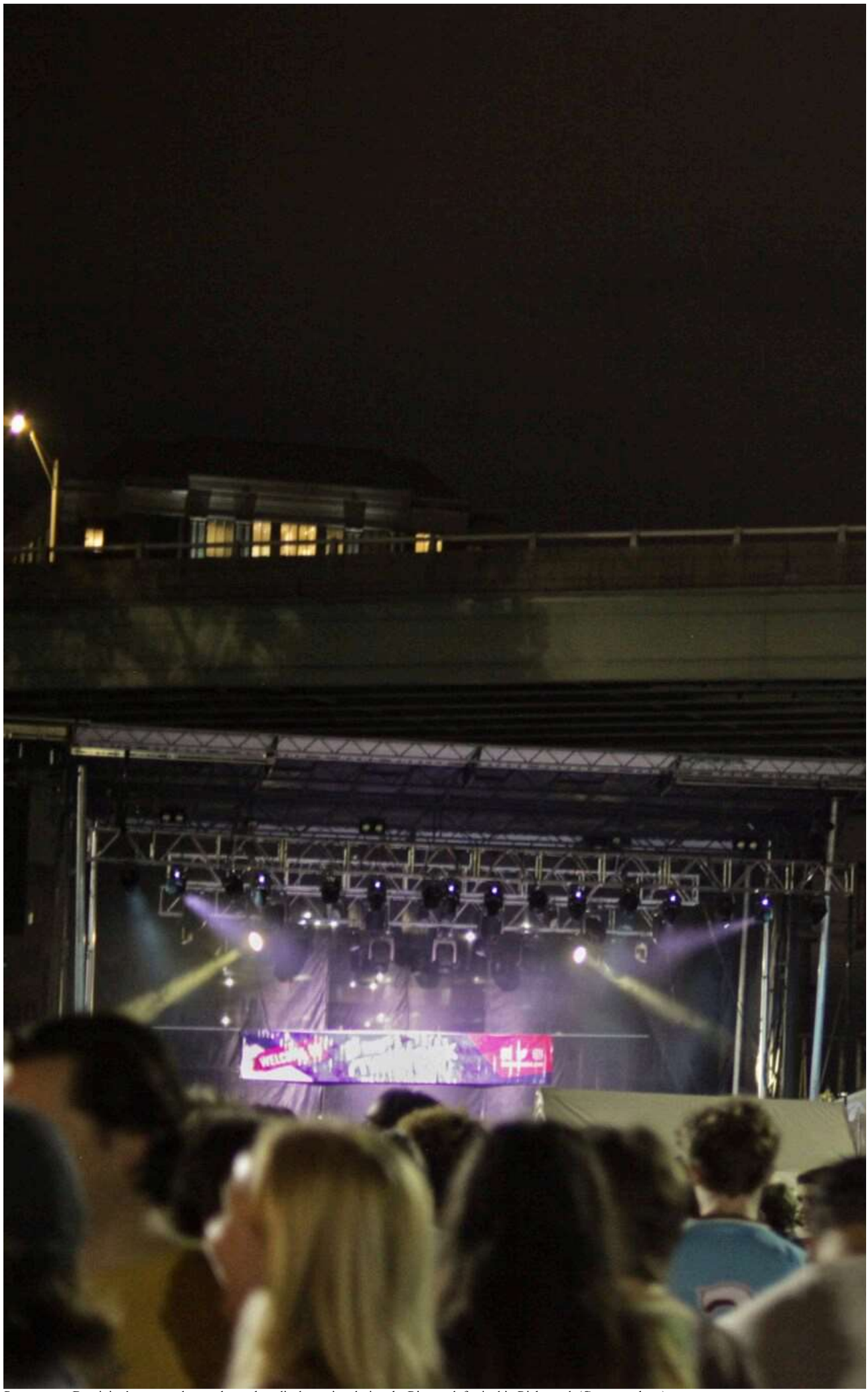
"The point is that they're packing more and more into less space," Miller said. "How are we going to meet that load?"

Dominion projects its load growth, which includes data centers and vehicle electrification, to increase from 17 gigawatts in 2023 to 33 gigawatt in 2048, though environmental groups are skeptical of growth proposals being modeled accurately.

Northern Virginia Electric Cooperative expects to increase its peak electric load by more than 12% per year over the next 15 years, "driven almost exclusively by data centers."

"NOVEC works one-on-one with each new data center, as each new high-load customer presents unique issues to NOVEC and its distribution facilities," said Jim East, communications manager at electric cooperative. "Part of this includes meeting the special energy supply and construction schedule needs, while always maintaining the high degree of reliability and affordability for all remaining customers."

To meet the demand for data centers, Dominion has included renewable energy technology in its long-term, non-binding integrated resource plan, but is also proposing a natural gas plant, which environmental groups continue to oppose, including protests at a Richmond outdoor festival the utility sponsored.



Protestors to Dominion’s proposed natural gas plant display a sign during the Riverrock festival in Richmond. (Courtesy photo)

Teresa Hall, a spokeswoman for Appalachian Power Company, Virginia’s second largest utility that serves Southwest Virginia, noted that “annual power generation over the last 20 years has stayed relatively flat until now.” The uptick, she said, is thanks to data centers.

“With data centers/increased internet use and AI, the landscape is changing quickly,” Hall said, adding that data centers present a unique challenge because they “require a lot of power – commonly 300 MW or more, which is enough to power all of the homes in a medium-size city.”

The company is facing the challenge head-on, Hall said.

“To date, we’ve been able to accommodate almost any size customer that has expressed an interest in our service territory. As we go forward, we know we will need additional cooperation.”

Virginia’s leaders have increasingly expressed the need for new technologies such as small modular reactors, tinier versions of traditional nuclear plants that could power a small city like Roanoke with a population of 100,000. Proponents say SMRs could provide baseload, around-the-clock power when renewable technology can’t produce it. The SMRs are intended to provide between 300 to 500 megawatts of power, but none have been turned on in the United States since NuScale pulled the plug on its effort to build one in Idaho due to cost concerns.

Shepherd, with the NRDC, said that if SMRs are built, “they’re so far off. I don’t think those are going to implicate the data center’s decision on where and when it builds in a place where it is able to get power.”

Another part of the dialogue focuses on technologies like battery storage and a recently announced 1920 rule from the Federal Energy Regulatory Commission, or FERC, to increase planning for transmission lines across state lines. FERC’s new guidance includes transmission lines that may need to be upgraded from a traditional 110 kilovolt to up to 500 kilovolt capacity, in order to supply data centers.

“Transmission developers can now plan projects that address a multitude of needs that are anticipated to develop over a long-term horizon more efficiently and cost-effectively for customers,” stated Ben Fowke, president and CEO of American Electric Power, the parent company of Appalachian Power Company, in U.S. Senate committee testimony this week.

The regional rule will also help areas pull on generation sources that may be located in other areas of the PJM Interconnection regional grid that Virginia is a member of.

“Every resource backs up every other, but only if you have the transmission required,” said Gamlich.

Figure 4.1.2.1: 2023 Company Load Forecast

Year	DOM LSE Summer Peak Forecast (NCP) (MW)	DOM LSE Energy Forecast (GWh)
2023	17,730	95,423
2024	18,010	98,589
2025	18,157	99,262
2026	18,828	104,669
2027	19,173	107,384
2028	19,597	110,829
2029	20,021	114,070
2030	20,650	118,579
2031	21,346	123,503
2032	22,153	129,998
2033	23,019	135,928
2034	23,963	143,154
2035	24,972	151,046
2036	26,111	159,909
2037	27,220	168,151
2038	28,483	177,740
2039	29,629	186,513
2040	30,541	194,620
2041	31,361	199,934
2042	31,953	204,088
2043	32,230	206,250
2044	32,594	209,102
2045	32,821	210,586
2046	33,141	212,733
2047	33,509	214,902
2048	33,786	217,747

A chart showing the load growth for Dominion. (Courtesy of Dominion’s Integrated Resource Plan)

In 2023, Virginia’s legislature passed a bill to truncate a State Corporation Commission review of a transmission line proposal from PJM Interconnection. The line is needed to deliver power for data center development in Virginia and the $670 million project cost is recovered from ratepayers in Virginia.

There’s also an opportunity to strengthen existing transmission lines through grid enhancing technologies, or GETs, and separate ways to utilize a demand side management and energy efficiency programs to reduce the amount of strain on the grid. It can also help get around the 26 gigawatts of electricity stuck in a queue awaiting approval from PJM, 23% of which is from Virginia, said Kim Jemaine, director at Advanced Energy United.

“In the states where they have been adopted at a medium level, GETs have unlocked 30% additional capacity from existing infrastructure and have allowed twice as many new energy projects to be integrated,” said Kim Jemaine, director at Advanced Energy United. Jermaine said GETs “can be installed with little to no downtime and at a fraction of the cost of new infrastructure.

Utilities have said they can’t rely on energy efficiency efforts, like homeowners using smart thermostats to control consumption, because the end use may not keep up with those behaviors. But that dismissal is a “red herring,” Shepherd said. Measuring the load reductions delivered through energy efficiency programs and making actionable plans based on those measurements is not impossible, Shepherd added.

“I think folks need to chill out and recognize the regular nature of grid planning. It’s just a matter of rolling up our sleeves a little further to make sure it’s done correctly.”

Perhaps ironically, as manufacturing and society in general electrifies more, AI might be able to help with those demand side management programs, as noted by the U.S. Department of Energy.

“AI has the potential to significantly improve all these areas of grid management,” the report stated, and can be a tool that models for capacity and transmission studies, compliance and review for federal permitting, forecasting renewable energy production and creating applications to enhance resilience.

Levi, with the Data Center Coalition, said the “industry is committed to leaning in as an engaged partner at this pivotal time. Collectively, we can meet the moment and ensure a clean, reliable, affordable, and resilient electric system that supports the digitization of our economy, widespread vehicle and building electrification, the onshoring of advanced manufacturing, growth in controlled environment agriculture, and other 21st-century economic drivers.”

Local Revenue

But the money.

The local revenue generated by data centers supports Loudoun and Prince William counties — the latter of which could add $54 million in revenue, with $19 million going toward schools and $21 million offsetting a real estate tax increase — as a result of increasing its data center tax from $2.15 to $3.70 per $100 assessed value.

Henrico County created a $60 million affordable housing fund with revenue from data centers in order to waive water and sewer connection fees and building permit fees.

“We’re doing something different,” Board Chairman Tyrone Nelson said, according to Richmond BizSense. “We may be the only locality in the commonwealth, maybe in the country, dedicating a single revenue source to address a crisis like this in our community.”

Even property owners that sell their land for development of a data center can reap benefits. But, as evidenced by a Prince William County lawsuit, the spoils don’t always go to the seller if a legal challenge over the rezoning holds up their profits as the property value and tax increase remains.

The report on Project Oasis proposal in Southwest Virginia said development of a 250,000 square foot “hyperscale” data center with 36 MW of demand could generate an estimated $464 million in capital investment and 40 indirect jobs.

Another report by the Virginia Economic Development Partnership found that 35 data centers, which are cited as the largest industry in the state, invested $23 billion into the economy while getting almost $1 billion in tax relief in exchange for its economic inputs. The report found a 14% average annual return on incentive for the years 2022 through 2027.

“JLARC estimated [in 2019] that 90 percent of the data center investment made by the companies that benefit from the DCRSUT exemption would not have occurred in Virginia without the exemption,” the report stated.

Table 1: Summary of Reported Jobs, Investment, and Tax Benefit

	FY 2022	
Data Center Operators Reporting Tax Benefit	30	
Existing Jobs	4,639	
Added Jobs	1,350	
Total Jobs	**5,989**	
Land/Building Acquisition	$1,025,192,717	$1,667
Site Improvements	$63,514,221	$507
Real Property / Building Improvements	$1,686,311,955	$4,409
Taxable Tangible Property	$1,403,449,709	$629
Exempt Equipment or Software	$9,422,882,997	$15,594
Other Investment	$211,364,223	$371
Total Investment	**$13,812,715,822**	**$23,180**
Reported Tax Benefit	**$673,479,918**	**$903**

A breakdown of investment and tax breaks. (Courtesy of Virginia Economic Development Partnership).

Although localities may be raking in local revenue benefits, those tax incentives for data centers cancel out cash that could be padding state coffers, which similarly could go toward education and other services.

“There’s different layers to look at,” said Jackson Miller, director of state power sector policy, also at the NRDC. “We just think that if you’re going to give away that revenue, which is taxpayer public money, then it needs to be conditioned with requirements to maximize energy efficiency, with requirements to maximize and ensure that that facility is bearing its costs and paying for it on the grid so ratepayers don’t get a double- whammy.”

Along with a bill to study if data centers or ratepayers foot the bill for transmission upgrades, a separate bill sent to JLARC this session came from Del. Rip Sullivan, D-Fairfax, and Sen. Suhas Subramanyam, D-Loudoun, that would’ve required data centers to achieve a certain computing efficiency score, known as a PUE, in order to receive state tax breaks.

The data center companies have climate improving commitments, but local permitting pushback to renewable energy sources, including solar, present challenges.

The centers should “ be required to be 100% renewable before they turn the lights on if they’re serious about their publicly stated comments,” said Hart, with the National Park Conservation Service.

The data center industry’s benefits to Virginia’s economy include the creation of 12,140 direct jobs, including engineers, building control specialists, security, server technicians, logistics professionals, construction management, health and safety specialists, and food services. The future benefits — and challenges — of data center development in the state remain to be seen.

Establishment of Technology Zones

A technology zone can be a valuable tool for the encouragement of new and expanding technology businesses in a locality. Virginia's cities, counties, and towns have the ability to establish, by ordinance, one or more technology zones to attract growth in targeted industries.

Establishment of a technology zone allows localities to create special incentives for qualified businesses locating or expanding operations in a zone. These incentives may include; a reduction of user and permit fees, local tax incentives, special zoning treatment, exemption from local ordinances or other incentives adopted by ordinance.

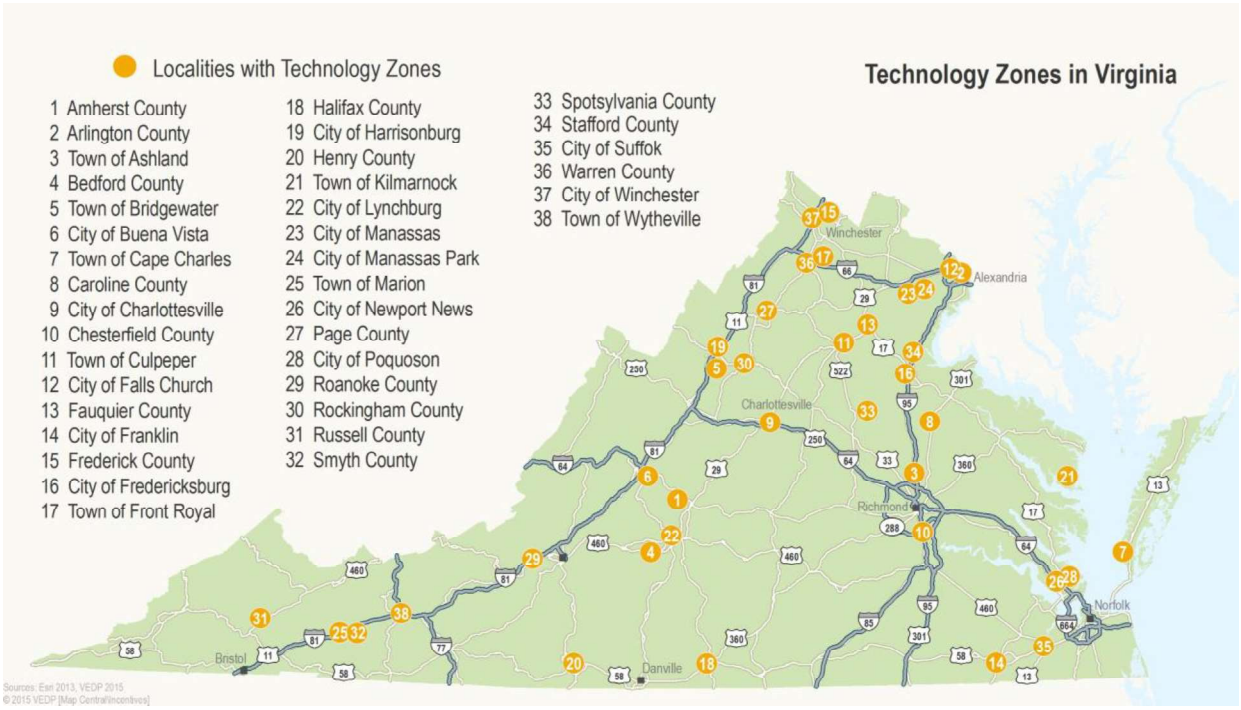
Once a local technology zone has been established, incentives may be provided for up to ten years. Each locality designs and administers its own program. The establishment of a technology zone shall not preclude the area from also being designated as an enterprise zone.

Localities that have established technology zones include the counties of **Amherst, Arlington, Bedford, Caroline, Chesterfield, Culpeper, Fauquier, Frederick, Halifax, Henry, Page, Roanoke, Rockingham, Russell, Smyth, Spotsylvania, Stafford and Warren**; the cities of **Buena Vista, Charlottesville, Falls Church, Franklin, Fredericksburg, Harrisonburg, Lynchburg, Manassas, Manassas Park, Newport News, Poquoson, Suffolk and Winchester**; and the towns of **Ashland** in Hanover County, **Bridgewater** in Rockingham County; **Cape Charles** in Northampton County, **Front Royal** in Warren County, **Kilmarnock** in Lancaster County, **Marion** in Smyth County and **Wytheville** in Wythe County.

If your locality has established a technology zone and it does not appear in the list above, please contact us so that you may be included in our marketing literature. You may contact Michelle Mende at (804) 545-5785 or at mmende@yesvirginia.org. We would like a copy of the ordinance establishing the zone for our records, as well as an aerial or map showing the technology zone boundaries.

Virginia Code provisions governing Technology Zones can be found in section 58.1-3850.

July 2014



TECHNOLOGY ZONE INCENTIVES
AMHERST COUNTY, VIRGINIA

Business Type: Businesses that produce a technology based product or service and businesses that employ a significant amount of technology in their operations, as determined by the Economic Development Authority.

Business Qualification: Businesses must be "basic" in that more than 50% of their receipts must come from outside the county.

Existing businesses must invest at least $250,000 in new, taxable real estate, machinery-equipment, and/or business personal property.

New businesses must invest at least $500,000 in new, taxable real estate, machinery-equipment, and/or business personal property.

Area: Entire county.

Incentives:

Financial incentives for qualifying businesses are in an amount not-to-exceed 5% of the new taxable real estate, machinery-equipment, and/or business personal property investment. Incentives can be awarded in the forms of public land value write-down, waiver of local fees, and/or reimbursement of local real estate, machinery-equipment, and business personal property taxes. The entire award can be made in the first year of a project or scheduled over a period not to exceed 10 years.

September 2013

TECHNOLOGY ZONE INCENTIVES
ARLINGTON, VIRGINIA

Business Type:

- Aerospace or aviation applications
- Interactive or simulated real-time use
- Instruction in the use or development of customized computer technology
- Gathering data from the internet or computerized data bases, or integrating such data
- Emergency communications, emergency service delivery and tracking
- Security training, security data collection, storage, and/or analysis
- Building energy management and control systems
- Production of multi-media products
- Computerized data mapping systems
- Online financial services

Note: The use of a computer, telecommunications service, web page, or internet site on business is insufficient to qualify as a technology business.

Business Qualification:

Downtown (Rosslyn-Ballston or Jefferson Davis corridors):
Businesses must have 100 or more employees to qualify.
Shirlington and Columbia Pike:
No business employment size thresholds to qualify.

Area:

Rosslyn-Ballston and Jefferson Davis corridors along the metro lines; Shirlington and Columbia Pike. Please contact Arlington Economic Development for specific boundaries.

Incentives:

Downtown technology zones (Rosslyn-Ballston Corridor and Jefferson Davis Corridor): Gross receipts tax rates will drop from $.35 or $.36 on each one hundred dollars ($100.00) of its previous year's gross receipts to
1) 100 and 499 employees will pay $0.18
2) 500 and 999 employees will pay $0.14
3) more than 1,000 employees will pay $0.10

Shirlington and Columbia Pike the rate is a flat .18 since these areas do not require an employment threshold.

Businesses must apply within 18 months of locating in Arlington and must renew the status each year.

September 2013

TECHNOLOGY ZONE INCENTIVES

ASHLAND, VIRGINIA

Business Type:

A business, which derives its gross receipts from the design, development, manufacture or other creation, for lease, sale or license of technology based products, processes or related services. Technology based products, processes or related services are defined as engaging in the activity of automation, biotechnology, biomedical research, electronics, computer hardware, computer software, defense, energy, environmental, manufacturing equipment, advanced materials, medical applications, pharmaceuticals, photonics, electronic based subassemblies and components, testing and measurements, telecommunications, systems integration, multimedia, e-commerce, internet services, transportation, architecture and engineering or similar activities. In no case shall the use of computers or telecommunications services by a business in its internal operations qualify the business as a technology business unless the business can demonstrate that over 50% of its gross receipts are derived from broadband internet sales.

Business Qualification:

Existing businesses must increase the number of full-time employees in the technology zone by at least two (2) net new, full-time employees over the base year. The business must also demonstrate a new net capitalized investment of at least $100,000.00.

New businesses must create a minimum of five (5) full-time jobs and make a capital investment of at least $500,000.00.

Existing and New Businesses:

- The added capital investment shall be established by the value of personal property, machinery & tools, and/or real estate and/or improvements to such, either owned or leased for the operation of the qualified technology

business. Such assets owned or leased by a business firm which are moved into a technology zone from another location within the town shall not be included in the determination of the added capital investment.

- Wages paid to the minimum threshold number of full-time employees needed to qualify must be equal to twice the federal minimum qualifying wage rate. For example, in 2009 the federal minimum wage according to the Virginia Employment Commission is $7.25. Therefore, the current threshold would be a minimum of $14.50.
- The added full-time employment and investment thresholds must be met once to become a qualifying technology business and these thresholds maintained through year 5 in order to receive incentives each year.

Area: Designated zone areas.

Incentives:

Existing Businesses

Rebate of the business personal property tax, machinery & tools tax, BPOL tax and Real Property tax equaling 100 % of the amounts due for years 1, 2 and 3, and 50% of the amounts due for years 4 and 5.

New Businesses

Receive all of the benefits of existing businesses enumerated above, as well as rebated fees for development plan approved including site plan, zoning, and subdivision fees for two years which will be considered the development stage of the business.

TECHNOLOGY ZONE INCENTIVES

BEDFORD COUNTY, VIRGINIA

Business Type: A qualified technology business is one engaged in the activities of research, development, or manufacture of commodities used in biotechnology, computer hardware or software, electronics, telecommunications, systems integration, testing and measurements, e-commerce, factory automation, internet services, subassemblies and components, medical and pharmaceutical products, photonics, advanced materials, architecture and engineering, defense, energy, and transportation.

Business Qualification:

Tier No. 1 - $500,000 capital investment and 25 jobs
- Category A – payroll in excess of $15/hr
- Category B - payroll lower than above

Tier No. 2 - $50,000 capital investment and 5 jobs
- Category A – payroll in excess of $15/hr
- Category B – payroll less than above

Tier No. 3 - $25,000 capital investment and 3 jobs

Note: The EDA has flexibility to lower threshold job levels when the offset is of benefit to the county.

Area: 200 acres in the New London Business & Technology Park.

Incentives:

Technology zone incentives may be offered as a one-time up front contribution towards the development costs associated with a project, or may be provided as a reimbursement or rebate, depending upon the nature and scope of the development. A qualified technology company may be eligible to receive one or all of the following:

1. Rebate of a portion of machinery and tools tax or business furniture and fixtures personal property tax (whichever is applicable) according to the tier and category appropriate. The tax rebate shall be graduated over a period of time not to exceed 6 years.

2. A discount, based upon the level of employment and investment generated by the business, of up to 100% of the following:
   a. Purchase price of the land within the technology zone, where applicable;
   b. Cost of water connection fees;
   c. Cost of sanitary sewer connection fees.

3. A discount on fees associated with new construction, including but not limited to building permit, plan review, and land disturbance fees, of up to 100% based upon and in accordance with the scope of the project.

4. A site preparation and/or infrastructure improvement grant, based upon the nature and scope of the project.

All business firms shall be eligible for building permit fees rebate and public service authority fee rebate.

TECHNOLOGY ZONE INCENTIVES

BRIDGEWATER, VIRGINIA

Business Type: Qualified “technology” businesses.

Business Qualification: Business use of “technological significance.”

Area: Designated zone areas.

Incentives:

Reduction or elimination of some or all of the off-street parking requirements imposed by the town code.

Allowance of commercial uses despite their not being listed as permitted by the town code.

Adjustment of dimensional requirements for lots (such as depth, front yards, side yards and rear yards) and size requirements for buildings (such as building height or maximum lot coverage).

Elimination of any processes required for the consolidation of lots or the relocation of lot boundaries.

September 2013

TECHNOLOGY ZONE INCENTIVES

BUENA VISTA, VIRGINIA

Business Type:

Design, development, manufacture or other creation, for lease, sale or license of technology based products, processes or related services. Technology based products, processes or related services are defined as engaging in the activity of automation, biotechnology, biomedical research, electronics, computer hardware, computer software, defense, energy, environmental, manufacturing equipment, advanced materials, medical applications, pharmaceuticals, photonics, electronic based subassemblies and components, testing and measurements, telecommunications, systems integration, multimedia, e-commerce, internet services, transportation, architecture and engineering or similar activities.

Business Qualifications:

Downtown Technology Zone:

- The existing business must increase the average number of fulltime employees in the technology zone by at least three (3) net new, full-time employees over the base year. The business must also demonstrate a new net capitalized investment of at least $15,000.
- The new business must create a minimum average of three (3) full-time jobs and make a capital investment of at least $20,000.

Industrial Districts Technology Zone:

- The existing business must increase the average number of fulltime employees in the technology zone by ten (10) percent over the base year. The business must also demonstrate a new net capitalized investment of at least $150,000.
- The new business must create a minimum of twenty-five (25) full-time jobs and make a capital investment of at least $150,000.

November 2013

TECHNOLOGY ZONE INCENTIVES

BUENA VISTA, VIRGINIA

1. For both technology zones, the added capital investment shall be established by the value of personal property, machinery & tools, and/or real estate owned for the operation of the qualified technology business. Such assets owned by a business firm which are moved into a technology zone from another location within the city shall not be included in the determination of the added capital investment.

2. Wages paid to the minimum threshold number of full-time employees needed to qualify must be equal to twice the federal minimum qualifying wage rate.

3. To retain qualifying status, a business firm must maintain the minimum qualifying employment and investment levels for each year for which incentives are requested.

4. The added full-time employment and investment thresholds must be met once to become a qualifying technology business and these thresholds maintained through year 5 in order to receive incentives each year.

Area: The Downtown Zone includes designated areas in downtown. The Industrial Zone includes all areas currently zoned Industrial.

November 2013

TECHNOLOGY ZONE INCENTIVES

BUENA VISTA, VIRGINIA

Incentives:

- Existing businesses, upon certification as a qualified technology business, shall:
  - receive a rebate of a percentage of the utility tax on local telephone usage, electric usage and cable television.
  - be exempted from a percentage of the business, machinery & tools, professional, and other occupational license taxes and fees. They shall also have a percentage of business personal property rebated.
  - The amount of each type of tax rebate or exemption above shall be a percentage of that tax paid or due by the qualified technology business each year. The percentage rebated or exempted each year after the base year shall be determined by the following schedule:

Year 1	50%
Year 2	50%
Year 3	50%
Year 4	50%
Year 5	50%

- Existing businesses in the Industrial Districts Technology Zone also qualify for capital investment grants. These grants will be based solely on the net increase in capital investment made within the technology zone. The five-year capital investment grant will be calculated on the qualifying increase, net of any dispositions, in business personal property, real estate, and machinery and tool taxes paid by a qualified technology business. The grant will be equal to eighty (80) percent of fractional net increase in year one, sixty (60) percent in year two, forty (40) percent in year three, twenty (20) percent in year four, and twenty (20) percent in year five.

- New businesses upon certification as a qualified technology business shall receive all of the benefits of existing businesses enumerated above, as well as the following for five (5) years:
  - rebated sewer and water connection fees.
  - rebated fees for development plan approved including site plan, zoning, subdivision, sign and building permit fees.

November 2013

TECHNOLOGY ZONE INCENTIVES

CAPE CHARLES, VIRGINIA

Business Type: Qualified non-manufacturing applied technology or technology manufacturing businesses.

Business Qualification: Manufacturing:

- Create and maintain a minimum of 5 new full time jobs which are each compensated at one and one half times the wage rate of the currently-defined federal minimum wage.
- Make a new verified capital investment of no less than $250,000.00 in a building, building improvements, and/or in machinery and tools.

Non-Manufacturing:

- Create and maintain a minimum of 3 new full time jobs which are each compensated at one and one half times the wage rate of the currently-defined federal minimum wage.
- Make a new verified capital investment of no less than $100,000.00 in a building, building improvements, and/or in machinery and tools.

Area: Within the town limits.

TECHNOLOGY ZONE INCENTIVES

CAPE CHARLES, VIRGINIA

Incentives:

Manufacturing:

- A grant equal to 25% of the new or increased machinery and tools tax paid to the Town with a verified capital investment of $250,000 that shall increase proportionately up to 100% with a capital investment of $1,000,000 or more.

- A grant of up to 100% of the amount of the net increase in Real Estate Tax paid to the Town.

- A grant of up to 100% of the amount of BPOL Tax paid to the Town.

- For a Qualified Technology Manufacturing Business that maintains at least 25 full time jobs, a grant of up to 50% of the Facility and Connection fees paid to the Town.

- A grant of up to 100% of the Building Permit fee paid to the Town.

Non-Manufacturing:

- A grant equal to 25% of the new or increased machinery and tools tax paid to the Town with a verified capital investment of $100,000.00 that shall increase proportionately up to 100% with a capital investment of $1,000,000.00 or more.

- A grant of up to 100% of the amount of the net increase in real estate tax paid to the Town.

- A grant of up to 100% of the amount of BPOL tax paid to the Town.

- For a Qualified Non-manufacturing Applied Technology Business that maintains at least 15 full time jobs, a grant of up to 50% of the Facility and Connection fees paid to the Town.

- A grant of up to 100% of the Building Permit fee paid to the Town.

July 2014

TECHNOLOGY ZONE INCENTIVES

CAROLINE COUNTY, VIRGINIA

Business Type: A qualified technology business is one whose primary purpose is the design research, development or production of technology services, software or products.

Business Qualification:

- Provide a Capital Investment of at least $1 million in the Base Year or Year One or a combination of the two;
- Add and retain at least five new positions that are filled with Full-time Employees;
- Maintain in the County the minimum qualifying number of Full-Time Employees and Fixed Assets from the Capital Investment of $1 million through and including Year Ten.

Area: Entire county.

Incentives:

Incentives are based on the level of investment and the determination of the Board of Supervisors after project review.

- Real Estate and BPOL Tax Rebates
  - Year 1 100%
  - Years 2-10 75%
- Machinery and Tools Tax Rebate
  - Years 1-5 100%
  - Years 6-10 75%

Additional incentives are available to qualified technology businesses that locate their corporate headquarters within the technology zone.

September 2013

TECHNOLOGY ZONE INCENTIVES

CHARLOTTESVILLE, VIRGINIA

Business Type:

- Engaged in design, development, creation, for lease, sale or license of computer software, hardware, systems or of biotechnology, pharmaceutical or medical technologies, immunology and analytical biochemistry services, telecommunications or electronics
- Internet service providers
- Receivers, principals or prime contractors of identifiable federal appropriations for research and development defined in Federal Acquisition Regulations, in the areas of computer and electronic systems, computer software, applied sciences, economic, social and physical sciences.
- Is NOT operating under a certificate of public convenience issued by Virginia Corporation Commission, or engaged in the provision of a "utility service" as defined by City Code.

Area: Within the corporate limits of Charlottesville

Incentives:

- For qualified technology businesses whose gross receipts in a year are $50,000 or less, the business license fee is reduced 100%.

- For qualified technology businesses whose gross receipts in a year are more than $50,000, the business license tax is reduced 50%.

October 2013

TECHNOLOGY ZONE INCENTIVES
CHESTERFIELD COUNTY, VIRGINIA

Business Type: Companies locating or expanding in a zone or subzone.

Business Qualification: Varies by incentive (see incentive section).

Area: Jefferson Davis and Hull Street Road areas.

Incentives:

- BPOL
  - Companies new to zone or subzone: 100% exemption
  - Companies relocating to zone or subzone: Partial exemption

- Machinery & Tools
  - New companies classified as manufacturers: Five-year, 100% rebate
  - Existing companies with a qualifying plant expansion: Minimum investment of $50,000 or an increase of 15% in assessed value from previous year, whichever is greater

- Business Tangible Personal Property
  - New and existing companies locating in or relocating in a subzone: One-time rebate up to a maximum of $100,000 with investment of at least $3 million

- Utilities
  - A one-time fee credit towards the capital recovery cost equivalent to a 5/8 inch meter

- Real Estate
  - 5-year, 100% tax credit for improvements to commercial, industrial or mixed-use buildings 15 years or older resulting in an increase of the real property assessed value of at least 15%

March 2014

TECHNOLOGY ZONE INCENTIVES

CULPEPER COUNTY, VIRGINIA

Business Type: Research, development, manufacturing, advanced technological services or other technology related products and services companies

Business Qualification: Based on four economic impact factors:
(1) number of new full-time jobs created (part time jobs will be adjusted using a full time equivalency of 40 hours per week);
(2) median annual gross wage of all employees of the qualified business (part time wages will be adjusted based on a 40 hour FTE);
(3) amount of private money spent on real estate improvements, the purchase of business personal property and the purchase of inventory; and
(4) the square footage size of the building or buildings.

Area: Lover's Lane Technology Zone, McDevitt Drive Technology Zone, Brandy Station Technology Zone, Elkwood Technology Zone, Bragg's Corner Technology Zone

Incentives:

- Grants for up to three consecutive years
- Grant amount based upon a percentage of real estate, business personal property and machinery and tool taxes paid by the business.
- Reimbursements up to 100% of the cost for building permits and site plan review permits.
- Incentives are based on the level of investment and the determination of the Board of Supervisors after project review.

September 2013

TECHNOLOGY ZONE INCENTIVES

FALLS CHURCH, VIRGINIA

Business Type: Research, development, manufacturing, or rendering of advanced technology product or services.

Business Qualification: 50% of gross receipts from research, development, manufacturing, or rendering of advanced technology products or services.

Area: City boundaries

Incentives:

- Three-year exemption from business, professional and occupational license tax.

September 2013

TECHNOLOGY ZONE INCENTIVES

FAUQUIER COUNTY, VIRGINIA

Business Type: A business must have as its primary purpose the design, research, development, utilization or production of technology services, software or products.

Business Qualification: Existing Businesses must add a minimum of three (3) full-time positions whose salaries are at least 10% above the average County wage level as listed by the Virginia Employment Commission for the prior calendar year following approval of eligibility for incentives. In addition, the company must increase capital investment by at least $250,000.

New Businesses must add a minimum of ten (10) full-time positions whose salaries are at least 10% above the average County wage level as listed by the Virginia Employment Commission for the prior calendar year following approval of eligibility for incentives. In addition, the company must increase capital investment by at least $500,000.

Area: Designated areas.

Incentives:

- Up to a full rebate on County Tangible Business Personal Property Tax, not to exceed a three (3) year period.
- Up to a full rebate of the Machinery & Tools Tax.
- Up to a full rebate of Business & aProfessional Occupation Tax (BPOL) not to exceed a three (3) year period.
- Up to a full rebate of the fees associated with new construction including, but not limited to, building permits, plans review and land disturbance fees.

October 2013

TECHNOLOGY ZONE INCENTIVES

FRANKLIN, VIRGINIA

Business Type: Computer-related businesses, electrical equipment manufacturers, telecommunications, or computer-controlled manufacturing

Business Qualification: 20 new jobs and $250,000 investment

Area: Pretlow Industrial Park and the 16.76 acre parcel located at Armory Drive & College Drive.

Incentives:

- Utility tax rebate for telephone and electric bills

Year 1	100%
Year 2	80%
Year 3	60%
Year 4	40%
Year 5	20%

- Building code fees waived (fees include plan review, new construction, plumbing permit, electrical permit and mechanical permit)
- Water and sewer connection fees waived
- 10% discount on electric rate for 10 years

October 2013

TECHNOLOGY ZONE INCENTIVES

FREDERICK COUNTY, VIRGINIA

Business Type: A qualifying business must derive its gross receipts from research and development and/or production of any product, device, or service that is related to the pharmaceutical/biotechnological industry.

Business Qualification: To qualify, the new or existing company must have a minimum of three employees and an investment of at least $10,000. Investment may be established by the value of personal property; real estate owned; or the value of a lease or real property for the operation of the pharmaceutical/biotechnological business.

Area: The county's urban development area.

Incentives:

- Five-year exemption from business, professional and occupational license taxes

Year 1	100%
Year 2	80%
Year 3	60%
Year 4	40%
Year 5	20%

- Five-year rebate of utility taxes for telephone, electricity, and cable

Year 1	100%
Year 2	80%
Year 3	60%
Year 4	40%
Year 5	20%

- A five-year rebate of 20% for water and sewer availability charges, building code fees, zoning ordinance fees, and subdivision ordinance fees.

March 2012

TECHNOLOGY ZONE INCENTIVES

FREDERICKSBURG, VIRGINIA

Business Type:

A "technology business" includes, but is not limited to, research, development, manufacture, or associated training of: applied, economic and social, physical, electronic and computer sciences; biotechnology, chemicals, computer hardware, computer security, computer software, data warehousing, electronics and circuits, energy, environmental, homeland security, information systems, Internet service, Internet software and data applications, manufacturing equipment, advanced materials, medical, finance related companies, multi-media production, pharmaceuticals, photonics, subassemblies and components, test and measurement, telecommunications or transportation.

Business Qualification:

- An existing technology business that expands to create at least five new jobs or makes a new capital investment of at least $125,000.00.
- A new technology business that creates at least ten new jobs or makes a capital investment of at least $250,000.00.

Area:

Route 3 Corridor, Route 1 Corridor, the Downtown/Princess Anne Street Corridor, Central Park Corporate Center and Central Park–Silver Street.

Incentives:

- Reduction of the annual business license tax as follows:

Years 1-3	up to 100%
Years 4 & 5	up to 50%

- Performance grants on tax revenue generation as follows:

Business Machinery and Tools Tax

Years 1-3	up to 100%
Years 4 & 5	up to 50%

Other Business Personal Property Taxes

Years 1 & 2	up to 30%
Years 3 & 4	up to 50%
Year 5	up to 70%

September 2013

TECHNOLOGY ZONE INCENTIVES

FRONT ROYAL/WARREN COUNTY, VIRGINIA

Business Type: Computer or telecommunications-related businesses

Business Qualification: Minimum of 2 new jobs paying at least 2 times the minimum wage, plus benefits at 10% of wages and a minimum investment of $10,000.

Area: Approximately125 acres in downtown Front Royal, 125 acres in Happy Creek Technology Park, and Royal Phoenix (Avtex Redevelopment Site).

Incentives:

- Ten-year exemption from business, professional, and occupational license tax
  - Years 1-5 100%
  - Year 6 80%
  - Year 7 60%
  - Year 8 40%
  - Years 9-10 20%
- Waiver of permit fees up to $500; one time EDA grant.
-
- No Zone benefits are eligible until the business submits a completed Zone application and is approved by the Economic Development Authority.

September 2013

TECHNOLOGY ZONE INCENTIVES

HALIFAX COUNTY, VIRGINIA

Business Type: Qualified technology businesses.

Business Qualification: New businesses must create a minimum of 5 new jobs and $250,000 in new investment (real, tangible, or machinery and tools) or the equivalent through a 5-year lease or more with the IDA.

Existing businesses must create a minimum of 5 new jobs, and increase the taxable value of related tangible property by at least 25%.

Area: Riverstone Technology Park.

Incentives:

- Exemption from paying the business, professional and occupational licensure tax for up to five years and a charge of the minimum rate following that period
- Rebate of utility taxes for five years
- Partial rebate of building permit fees
- Waiver of Water/Sewer Initiation fees Reduced lease costs
- Technology Opportunity Fund – For qualified jobs, a payment of $250 per new job for five years may be available. Only jobs filled by Halifax County citizens are eligible. Jobs must be full time, new jobs and pay at minimum 185% of the federal minimum wage.

October 2013

TECHNOLOGY ZONE INCENTIVES

HARRISONBURG, VIRGINIA

Business Type:

Bioinformatics, health informatics, nanoinformatics, data management, telecommunications, information technology (software, sales, services), data warehousing, desktop support, technical writing, web development, design engineering, software engineering (products and services), e-commerce, internet service provider, wireless technologies, and virtual technologies.

Business Qualification:

- Early stage or semi-mature development status
- An experienced, devoted managerial staff
- A potential and desire to maintain steady growth

Area:

Downtown Zone: The northern boundary is East Elizabeth Street; the western boundary is North Liberty Street to West Market Street, west on West Market Street to the railroad tracks, south on the railroad tracks to West Water Street, west on West Water Street to Old South High Street, south on Old South High Street to West Bruce Street; the southern border is Bruce Street; and the eastern border is South Federal Street.

Harrisonburg Technology Park Zone: Within the boundaries of the Harrisonburg Technology Park.

Incentives:

- ❖ Three-year business, professional and occupational license tax/fee exemption
- ❖ Water and sewer connection fee exemption
- ❖ Partial exemption for certain rehabilitations, renovations or replacements of structures no less than 25 years of age
- ❖ Help tenants secure tax credits through federal and state assistance programs

September 2013

TECHNOLOGY ZONE INCENTIVES

HENRY COUNTY, VIRGINIA

Business Type: Qualified businesses which locate, expand, or modernize within the zone boundaries.

Business Qualification: Businesses investing at least $250,000 and creating a minimum of 10 new jobs paying at least one and one-half times the minimum wage in the zone.

Area: Within the county boundary.

Incentives:

- Real estate IDA grants of 100% for the first tax year and 50% per year for years two through five.
- Machinery and tools IDA grants of 100% for the first tax year and 50% per year for years two through five.
- Furniture, fixtures and equipment IDA grant of 100% for the first tax year. For furniture, fixtures and equipment excluding computer equipment the grant will be 50% for years two through five. Computer equipment refunds shall be 50% per year of the calculated taxes using the assessed values of the computer equipment.
- Waiver of water and sewer availability and connection fees.
- Waiver of building permit fees.
- Partial exemption of substantially rehabilitated real estate, pursuant to *§ 58.1-3221, Code of Virginia*, of 100% for the first tax year and 50% for years two through five.

September 2013

TECHNOLOGY ZONE INCENTIVES

KILMARNOCK, VIRGINIA

Business Type:

- Businesses whose gross receipts are derived from computer hardware, software or telecommunications manufacture, sales, application, licensing or services, and, for which the computers or telecommunications are used to provide sales, leases, licensing or services directly to a manufacturer, distributor, retailer, customer or user.
- Businesses whose gross receipts are derived from engaging in the research, development, distribution or sales of new products, technologies or equipment.
- Businesses whose gross receipts are derived from the use of technology transferred from a state or private university, government or government contractor for the manufacture or processing of goods.
- Businesses engaged in medical or biomedical research, product development, distribution, sales, practice or service.

Business Qualification:

Existing business: Adds at least five new employees and makes an additional capital investment of at least $50,000.00 within one year.

New business: Pays an average annual wage to all new employees within the technology zone that meets or exceeds 115 percent of the average annual wage of the commonwealth or the county, whichever is the lesser.

Area:

Technology Park and surrounding area.

September 2013

TECHNOLOGY ZONE INCENTIVES

KILMARNOCK, VIRGINIA

Incentives:

- Exemption of business, professional, and occupational license tax
- Zoning permit fee exemption
- Water and sewer connection fee exemption
- Vehicle license tax exemption
- Subdivision permit fee exemption

New:		Existing:	
Years 1-2	100%	Year 1	100%
Years 3-4	80%	Year 2	80%
Years 5-6	60%	Year 3	60%
Years 7-8	40%	Year 4	40%
Years 9-10	20%	Year 5	20%

September 2013

TECHNOLOGY ZONE INCENTIVES

LYNCHBURG, VIRGINIA

Business Type:

A business which derives its gross receipts from the design, development, manufacture or other creation, for lease, sale or license of technology based products, processes or related services. Technology based products, processes or related services are defined as engaging in the activity of automation, biotechnology, biomedical research, electronics, computer hardware, computer software, defense, energy, environmental, manufacturing equipment, advanced materials, medical applications, pharmaceuticals, photonics, electronic based subassemblies and components, testing and measurements, telecommunications, systems integration, multimedia, e-commerce, internet services, transportation, architecture and engineering or similar activities. An electronic equipment facility that is primarily occupied, or intended to be occupied, by electronic and computer equipment that provides electronic data switching, transmission, or telecommunication functions between computers, both inside and outside the facility shall not qualify as a technology business. The use of computers, telecommunications services, or a web page or internet site shall not, in itself, be sufficient to qualify as a qualified technology business.

Business Qualification:

- Makes a minimum net new capital investment of $100,000
- (Within one year of the new capital investment, hires 5 net new full-time employees.
    - A full-time employee is a person who is listed on the qualified technology business's payroll within the technology zone and is required to report to work in the technology zone.
    - A full-time employee's wages must be equal to or greater than twice the federal minimum wage rate.
- A full-time employee must be provided with health benefits.

TECHNOLOGY ZONE INCENTIVES

LYNCHBURG, VIRGINIA

Area: Entire city.

Incentives:

- A five-year reimbursement of business license taxes as follows: during the first (1st) calendar year, a seventy-five percent (75%) reimbursement; for the second (2nd) calendar year a fifty percent (50%) reimbursement; and for the third (3rd), fourth (4th) and fifth (5th) calendar years a twenty-five percent (25%) reimbursement. Five-year reimbursement of the machinery and tools tax (100% for the first 3 years and 50% for the remaining 2 years)

- A five-year reimbursement of machinery and tools taxes for the value of net new machinery and tools investment as follows: during the first (1st) calendar year, a seventy-five percent (75%) reimbursement; for the second (2nd) calendar year a fifty percent (50%) reimbursement; and for the third (3rd), fourth (4th) and fifth (5th) calendar years a twenty-five percent (25%) reimbursement.

TECHNOLOGY ZONE INCENTIVES
MANASSAS, VIRGINIA

Business Type: A company that has 50 percent or more of its gross receipts derived from research, development and/or related services

Business Qualification: New businesses must commit to a performance agreement based upon a minimum investment, jobs, sales revenues, or other significant criteria. The qualified technology business must make a minimum investment and/or create and sustain a minimum number of full-time or equivalent jobs over a period of years outlined in the performance agreement.

Existing businesses must commit to a performance agreement based upon a minimum expansion that may include jobs, a physical expansion or other significant criteria to be eligible.

Area: Within city boundaries.

Incentives:

Up to a five year tax exemption from business, professional and occupational license taxes and fees.

November 2013

TECHNOLOGY ZONE INCENTIVES

MANASSAS PARK, VIRGINIA

Business Type: A company that has fifty percent (50%) or more of its gross receipts derived from research, development, manufacturing or rendering of advanced technological products or services and that expands or locates in a technology zone. In no case shall the use of computers or telecommunication services by a company or identifiable subdivision of a company in its administrative operations qualify such company or subdivision as a technology business.

Business Qualification:

- The subject real estate must be zoned to the appropriate incentive zoning district.
- The expansion or establishment of the qualifying technology business must be completed prior to the business becoming fully eligible for the incentives.

Area: Conner Center and City Center Redevelopment Districts.

Incentives:

❖ Eighty percent (80%) of the additional or new gross receipts shall be eligible for exemption from the BPOL tax. Each eligible business will receive a declining BPOL tax exemption for an incentive period(s) that will be determined using a point system, as follows:

One point will be awarded for each performance measure achieved by the eligible business. The number of points awarded will correspond to the number of years in the incentive period. A business shall not be awarded more than ten (10) points.

Example: A new technology business has located in a technology zone. It hires 10 new employees, expands an existing structure by 10,000 square feet, increases the assessed value of the real estate by $100,000, and is awarded 4 points for performance measures. Assuming all eligibility requirements had been met, the length of the incentive periods for a real estate property tax exemption and a BPOL tax exemption would each be 4 years.

For the first year of an incentive period, the amount exempt from BPOL tax shall be the amount eligible for tax exemption (see above).

Example: The new technology business had $50,000 in new gross receipts and increased the assessed value of the real estate by $100,000. In year 1 the amount of new gross receipts exempt from BPOL tax would be $40,000 (80% of $50,000) and the amount of new assessed value exempt from real estate property tax $80,000 (80% of $100,000).

For subsequent years, if any, in an incentive period, the amount exempt from real estate property tax and/or BPOL tax shall be incrementally reduced by a pro rata amount each year, said amount to be determined by dividing the amount exempt in the first year by the number of years in the incentive period.

Example: If the incentive period is 4 years in length and the new gross receipts exempt from BPOL tax in the first year is $40,000, the amount exempt in each subsequent year would be reduced by $10,000 ($40,000 ÷ 4), so that in year 2 the amount exempt would be $30,000; in year 3 the amount exempt would be $20,000; and in year 4 the amount exempt would be $10,000.

TECHNOLOGY ZONE INCENTIVES

MARION, VIRGINIA

Business Type:

Qualified Manufacturing Technology Business: A business engaged in the activity or activities that constitute technology-driven production, including but not limited to the manufacture of advance materials, automation and robotics, biotechnology, computer hardware and software, the manufacture or assembly of hi-tech defense products, electronic subassemblies and components, the manufacture of energy and environmental products, medical instruments, pharmaceuticals, testing and measurement devices, the manufacture or assembly of telecommunication devices, energy saving or environmental transportation products, and products which result in systems integration. This definition also includes any value-added manufacturing industry which uses advance technology in a production processes, or any similar activity or activities, which is deemed appropriate for a technology zone as defined in another jurisdiction of the commonwealth, and found as such by the town council, or by the administrator or his/her designee.

Qualified Non-manufacturing Technology Business: A business engaged in computer-related activities, telecommunications, electrical equipment manufacturing, or the rendering of advanced technology products or services. The use of computers or telecommunications by a business in its internal operations shall not qualify a business, as it is the product or service that is important.

Business Qualification:

For qualified manufacturing technology business:

a. The business must create and maintain a minimum of 25 new full-time employment positions for at least a one-year period.
b. Each new employee of the business must be compensated at the weekly or monthly wage rate that is at least twice the currently-defined federal minimum wage.
c. The business must make a new verified minimum capital investment on the property in the zone in either real estate or improvements, or of machinery and tools, of $1,000,000.00.

September 2013

TECHNOLOGY ZONE INCENTIVES

MARION, VIRGINIA

For qualified non-manufacturing technology business:

a. The business must create and maintain a minimum of three full-time employment positions for at least one year.
b. Each new employee must be compensated at a weekly or monthly wage rate that is at least twice the currently defined federal minimum wage.
c. The business must make a new verified capital investment on the property in either real estate or improvements, or of machinery and tools, of $25,000.00. Investment may be established by the value of the personal property used, the value of the lease or the real property acquired for the operation of the business.

Area:

Technology Zone – the entire area of the town designated by the town as a technology zone pursuant to 58.1-3850 of the Code of Virginia.

Incentives:

Economic stimulus grant incentives may be afforded to qualified manufacturing technology businesses and qualified non manufacturing technology businesses which meet the required eligibility requirements, together with other reasonable standards which may be determined by the administrator, his/her designee, or the town council for the town.

For qualified manufacturing technology businesses and qualified non-manufacturing technology businesses, the grant shall be no more than 100 percent of the amount of the new and increased machinery and tools taxes paid to the town, and no more than 100 percent of the net increase in real estate taxes paid to the town. Either of both of these incentives may be offered for a period of no more than five years, beginning with the tax year of the required initial investment.

September 2013

TECHNOLOGY ZONE INCENTIVES

NEWPORT NEWS CITY, VIRGINIA

Business Type:

1) Provide engineering, professional or business services to the non-carbon-based energy development industry or to the shipbuilding industry;
2) Design or development or technology-based products, processes or services for lease, sale or license;
3) Other technological research and development.

Business Qualification:

1) Perform a qualifying activity, which it has not previously performed in the city;
2) Create at least 25 new positions engaged in the qualifying activity, paying an average annual salary of at least 150% of the prevailing wage for the city;
3) Not transfer positions from an existing location in Hampton Roads to the Newport News location performing the qualifying activity.

Area: Designated area.

Incentives:

- Business license tax abatement of 50% for a period of 10 years.

September 2013

TECHNOLOGY ZONE INCENTIVES

PAGE COUNTY, VIRGINIA

Business Type: Technology businesses as determined by the Board of Supervisors.

Business Qualification: Eligible businesses must be located within the boundaries of the zone and conform to all applicable zoning.

Area: Page County Airport.

Incentives:

The qualified technology business shall be allowed to prepay all tangible personal property taxes due on tangible personal property located in the zone for up to a ten-year period based on the tax rate in effect at the time of the approval of the tax incentive for the qualified technology business. In the event that Page County increases its tax rate on tangible personal property during such ten-year period, the qualified technology business shall not be liable for any additional taxes, and any excess taxes which would normally be owed due to the increased tax rate shall be forgiven.

Additional incentives may be offered as determined by the Board of Supervisors.

September 2013

TECHNOLOGY ZONE INCENTIVES

POQUOSON, VIRGINIA

Business Type: A "technology business" includes, but is not limited to, companies that design or develop computer hardware or software, produce multimedia products, develop technology related to healthcare, security or national defense or design or develop alternate energy technology.

Business Qualification: Must have a minimum of five employees, make a minimum capital investment of $500,000 and have a 5,000-square-foot owner occupied facility.

Area: Village commercial, research and development and general commercial zoning districts as well as portions of the B-1 office and professional zoning district and the B-2 business and commercial zoning districts.

Incentives:

A 30 percent reduction of the business license, real estate and business tangible taxes for three years.

TECHNOLOGY ZONE INCENTIVES

ROANOKE COUNTY, VIRGINIA

Business Type: Qualified technology businesses

Business Qualification: Invest a minimum of $100,000 and have an average wage equal to one and a half times the existing median wage rate for the Roanoke Region.

Area: Roanoke County Centre for Research & Technology

Incentives:

- Up to 100% discount of purchase price of land within the zone
- Up to 100% discount of water and sewer connection fees
- Up to 100% discount of the cost of building permit, plan review, and land disturbance fees
- Site preparation and/or infrastructure improvement grants and/or a one-time local job-training grant for up to $500 per employee
- Local BPOL tax exemptions

September 2013

TECHNOLOGY ZONE INCENTIVES

ROCKINGHAM COUNTY, VIRGINIA

Business Type: Qualified technology businesses investing in technological advancements to machinery and tools within the zone.

Business Qualification: South Fork Zone:

- In the 24 months in which the qualifying investment is made, invest a minimum of $50 million in new capital investment in machinery and tools.
- Remit the full payment of all property taxes owed by such applicant and due to Rockingham County, including the taxes due on the new capital investment.
- Provide detailed information to allow verification of the application for the grant, including reconciling this information with the annual personal property assessment filing with the Commissioner of the Revenue for all machinery & tools inventory at the plant.

Bridgewater Aviation Zone:

- In the five years in which the qualifying investment is made, invest a minimum of $250,000 in machinery, tools, and tangible personal property (other than aircraft) related to aviation, invest a minimum $150,000 in real property improvements consisting of hangars and support shops for aviation-related technologies.
- Pay a minimum of $20,000 in personal property tax on aircraft for each of the five years in which the qualifying investment is made.
- Remit the full payment of all property taxes owed by such applicant and due to Rockingham County, including the taxes due on the new capital investment.
- Provide detailed information, as required by the County, to allow verification of the application for the grant, including reconciling this information with the annual personal property assessment filing with the Commissioner of the Revenue.

Digital Print Zone:

- In the 24 months in which the qualifying investments are made, invest and install digital print technology equipment that is taxable as machinery and tools by the County with a total book value of $15,000,000 or greater. Said investments shall expand the operations at the plant located in the zone, and shall not include equipment that merely repairs or replaces existing equipment of similar technology.
- Remit by the due date full payment of all property taxes owed by such applicant and due to Rockingham County for all property and equipment located in the County, including taxes due as a result of the new capital investment.
- Provide detailed information, as required by the County, to allow verification of the application for the grant, including reconciling this information with the annual personal property assessment filing with the Commissioner of the Revenue for all machinery & tools inventory at the plant.

Mt. Crawford Zone:

- In the 24 months in which the qualifying investments are made, invest and install equipment that is taxable as machinery and tools by the County with a total book value of $20,000,000 or greater. Said investments shall expand the operations at the plant located in the Zone, and shall not include equipment that merely repairs or replaces existing equipment of similar technology. In addition, the applicant shall certify to the County that it will, during the investment period, employ at least 30 additional persons full-time, at an average annual compensation of $40,000 per year plus benefits, at the plant in the Zone related to this investment.
- Remit by the due date full payment of all property taxes owed by such applicant and due to Rockingham County for all property and equipment located in the

County, including taxes due as a result of the new capital investment.

-
- Provide detailed information, as required by the County, to allow verification of the application for the grant, including reconciling this information with the annual personal property assessment filing with the Commissioner of the Revenue for all machinery & tools inventory at the plant.

Area: Designated zone areas.

Incentives:

South Fork Zone:

The amount of the annual Economic Development Grant shall be computed by multiplying the Annual Grant Percentage times the tax paid by the qualified zone business for additional, new capital investments in machinery & tools in the Zone for the years after qualification as set forth in the following table:

Tax Year after Qualification	Annual Grant Percentage
1	56%
2	50%
3	43%
4	33%
5	20%

Bridgewater Aviation Zone:

The amount of the annual Economic Development Grant shall be computed by multiplying the amount of personal property tax paid for aircraft owned by the applicant or subsidiary thereof and located in Rockingham County by 84.3%.

TECHNOLOGY ZONE INCENTIVES

ROCKINGHAM COUNTY, VIRGINIA

Digital Print Zone:

The amount of the annual Economic Development Grant for the Digital Print Technology Zone shall be computed by multiplying the Annual Grant Percentage times the tax paid by the qualified zone business for additional, new capital investments in machinery & tools in the Zone for the years after qualification as set forth in the following table:

Tax Year After Qualification	Annual Grant Percentage
1	11%
2	25%
3	42.9%
4	66.7%
5	60%
6	50%
7	33%

Mt. Crawford Zone:

The amount of the annual Economic Development Grant for the Mt. Crawford Technology Zone shall be computed by multiplying the Annual Grant Percentage times the tax paid by the qualified zone business for additional, new capital investments in machinery & tools in the Zone for the years after qualification as set forth in the following table:

Tax Year After Qualification	Annual Grant Percentage
1	11%
2	25%
3	43%
4	33%
5	20%
6	25%

TECHNOLOGY ZONE INCENTIVES

RUSSELL COUNTY, VIRGINIA

Business Type: Business/Technology Park (non industrial) type business.

Business Qualification: Minimum of 100 new full-time jobs. Jobs must be established during first 6 months of operation.

Area: Russell Regional Business Technology Park

Incentives:

Incentives will be available during the first five (5) years of operation.

- Machinery & Tools taxes will be reimbursed at the following rate:

Years 0 – 1	90%
Years 2 – 3	80%
Years 4 – 5	70%

- Real Estate Taxes will be reimbursed at 50% of the taxable rate.

October 2013

TECHNOLOGY ZONE INCENTIVES

SMYTH COUNTY, VIRGINIA

Business Type: Technology-related businesses engaged in the manufacture of advanced materials, automation and robotics, biotechnology, computer hardware and software, defense products, electronic subassemblies and components, energy and environmental–related activities, medical instruments, pharmaceuticals, testing and measurement devices, telecommunications, transportation products, and systems integration. Also, the definition includes any value-added manufacturing industry that uses advanced technology in production processes or any activity or activities deemed technologically-based by the administrator or Board of Supervisors.

Business Qualification: Businesses must create at least 25 new jobs paying at least twice the minimum wage within a one-year period. Minimum capital investment in real estate, personal property, or machinery and tools of $1,000,000.

Area: Industrial Road property in and near the Town of Marion. A total area of 119 acres.

Incentives:

- Five-year economic stimulus grant based on the amount of new capital investment in machinery and equipment and real estate improvements. Grant is based on 100 percent of new machinery and tools taxes paid, and 100 percent of the net increase in real estate taxes paid.

- Additional discretionary cash grants determined on a case-by-case basis, including local match dollars for the Governor's Opportunity Fund.

September 2013

TECHNOLOGY ZONE INCENTIVES

SPOTSYLVANIA COUNTY, VIRGINIA

Business Type:

A business whose primary purpose is the research, development, or manufacture and/or design for lease, sale or license of Technology Products, Processes or Related Services.

Business Qualification:

Existing businesses must meet one of the following criteria:

- Provide additional capital investment of at least $100,000 over the base year; or
- Increase the average number of full-time employees by the greater of:
  - 10% over the base year; or
  - An average increase over the base year of at least 3 new, full-time employees

New businesses must meet one of the following criteria:

- Provide capital investment of at least $150,000; or
- Employ at least 5 new, full-time employees

New and existing businesses must meet the following conditions:

- Wages paid to full-time employees must be equal to or greater than 20% above the county's average annual salary as determined by DED.

- Must meet and maintain the minimum qualifying employment and investment levels through Year 5.

Qualified technology businesses that have completed one five-year incentive period and seeking technology zone incentives for a second five-year period will be treated as an existing business for qualification purposes.

Area: Primary Settlement District
Jackson Gateway Corridor
Lake Anna Corridor

Incentives:

- Rebate on the Business, Professional and Occupational License Tax

Year 1	100%
Year 2	100%
Year 3	50%
Year 4	50%
Year 5	50%

- Rebate on the Machinery and Tools Tax

Year 1	100%
Year 2	100%
Year 3	50%
Year 4	50%
Year 5	50%

- Qualified technology businesses shall be placed in the county's established Fast Track Development Review, Permitting and Inspections program.

Note: For existing businesses, rebates shall only be applicable to taxes assessed on the portion of gross receipts or acquired machinery and tools directly attributable to the expansion of the business.

March 2012

TECHNOLOGY ZONE INCENTIVES

STAFFORD COUNTY, VIRGINIA

Business Type: Includes, but is not limited to, research, development, manufacture, or associated training of: biotechnology, chemicals, computer hardware, computer security, computer software, data centers, energy, environmental, homeland security, manufacturing equipment, advanced materials, medical, finance related companies, pharmaceuticals, photonics, subassemblies and components, test and measurement, telecommunications, or transportation.

Business Qualification: Existing businesses must add a minimum of ten (10) full-time employees whose combined average salary is at least 100% of the average annual wage countywide based on the most recent quarterly data as prepared by the VEC. In addition, the firm must increase capital investment by at least $500,000.

New businesses must create a minimum of twenty (20) full-time job positions whose combined average salary is at least 100% of the average annual wage countywide based on the most recent quarterly data as prepared by the VEC. In addition, the firm must increase capital investment by at least $1,000,000.

Area: Designated area is the Urban Services Area.

Incentives:

- A waiver of certain fees associated with new construction, including, but not limited to building permit, plan review and land disturbance fees, based upon the level of employment and capital investment generated by the business
- M&T Tax abolished by Board.
- Tangible Personal Property tax rebate:

Years 1 – 2	70%
Years 3 – 4	50%
Year 5	30%

- Up to a full rebate of any business-based taxes.

September 2013

TECHNOLOGY ZONE INCENTIVES

SUFFOLK, VIRGINIA

Business Type: Must be a technology business per one of the following NAICS classifications: 334, 5112, 517, 518, 51913, 5415, 5417, or 8112.

Business Qualification: Existing businesses must expand by a minimum of 2,500 sq. ft. or 10% of existing space, whichever is greater, and must have a minimum of five (5) employees based out of the Suffolk location.

New businesses must occupy a minimum of 2,500 sq. ft. of commercial space and must have a minimum of five (5) employees based out of the Suffolk location.

Area: Northern Suffolk Urban/Suburban Development District or Central Urban/Suburban Development District.

Incentives:

- A one year 50% return on paid business license tax, not to exceed $30,000.
- A one year 50% return on paid personal property tax, not to exceed $20,000.

October 2013

TECHNOLOGY ZONE INCENTIVES

WINCHESTER, VIRGINIA

Business Type: A business which derives its gross receipts from computer hardware, software or telecommunications sales, leases, licensing or services, and, for which the computers or telecommunication is used to provide sales, leases, licensing or services directly to the customer.

Business Qualification: To qualify, the company must have a minimum of 3 employees and an investment of at least $10,000. The investment may be established by the value of personal property; real estate owned; or the value of a lease of real property for the operation of the technology business.

Area: 125 acres in downtown Winchester

Incentives:

- Five-year exemption of business, professional, and occupational license tax
  - Year 1 100%
  - Year 2 80%
  - Year 3 60%
  - Year 4 40%
  - Year 5 20%
- Five-year rebate of utility taxes for telephone, electricity, and cable
  - Year 1 100%
  - Year 2 80%
  - Year 3 60%
  - Year 4 40%
  - Year 5 20%
- Water and sewer connection fee rebate
- Building code fee rebate
- Zoning ordinance fee rebate
- Subdivision ordinance fee rebate

March 2012

TECHNOLOGY ZONE INCENTIVES

WYTHEVILLE, VIRGINIA

Business Type:

- Design, development or other creation, for lease, sale or license, of computer software or hardware, computer network protocols, information systems, Internet software, Internet database applications;
- Provision of Internet services (i.e., services, including an Internet Web-hosting service, enabling users to access content, information, electronic mail and the Internet as part of a package of services sold to customer), and business-to-business exchanges;
- Design, development or other creation, for lease, sale or license, of biotechnology, or pharmaceutical or medical technologies or products, including, without limitation: drug development, clinical trials services, data management and reporting and regulatory services;
- Design, development or other creation or provision, for lease, sale or license, of immunology and analytical biochemistry services, including, without limitation: mass spectrometry and HPLC, or liquid chromatography, equipment, services and supplies;
- Design, development or other creation of electronics, for lease, sale or license, of telecommunications equipment or technology, such as digital switching systems, Internet protocol telephony gateway, network telephone solutions;
- Design, development or other creation of electronics, for lease, sale or license including, without limitation: flexible and printed circuits, custom integrated circuits, electronic assemblies, medical electronics displays;
- Receipt, as the principal or prime contractor, of identifiable federal appropriations for research and development services, as such services are defined in §31.205-18(a) of the Federal Acquisition Regulations, in the areas of: (i) computer and electronic systems, (ii) computer software, (iii) applied sciences, (iv) economic and social sciences, and (v) electronic and physical sciences;
- Any other business or industry as may be further defined from time to time by the Town of Wytheville;

September 2013

TECHNOLOGY ZONE INCENTIVES

WYTHEVILLE, VIRGINIA

Business Qualification:

- The business must constitute a "technology business" as set forth in Section 2-241 of the Town Code;
- The business must not be operating under a certificate of public convenience issued by the Virginia State Corporation Commission;
- The business must not be engaged in the provision of a "utility service" as that term is defined within Section 14-31 of the Town Code;
- At the time of application, any qualified business must certify that it expects to be engaged in such business throughout the entire or remaining portion of the tax year for which an incentive is sought; and,
- The business must have submitted an application for qualification to the Town Treasurer, on or before March 1 of the tax year for which a reduction of taxes is sought under this section.

Area: Within corporate limits.

Incentives:

- ❖ 100% reduction of license fee for technology businesses with gross receipts of $50,000 or less.

- ❖ 50% reduction of any taxes owed for technology businesses with gross receipts of more than $50,000.

September 2013

Sec. 86-330. - Technology overlay district (TOD)—Statement of purpose and intent.

The technology overlay district (TOD) is hereby created for the purpose of promoting the development of technology centers in areas of the county where existing or proposed infrastructure could adequately support the proposed uses. By their nature, these uses may require sizable acreage, often operating and designed in a campus like atmosphere, and are developed with a functional separation from dense residential and commercial retail development. The TOD furthers the county's efforts to attract and advance high-tech industrial development while limiting the impacts on the community. The TOD may be designated by the board of supervisors ("BOS") as an overlay of existing zoning districts, regardless of classification.

(Ord. of 4-3-23(2023-6), Att.)

Sec. 86-331. - Establishing a technology overlay district.

(a) *Size and location.* Lands in the TOD shall encompass a minimum of 125 contiguous acres as part of a TOD campus. Properties in the TOD shall be located in close proximity to high voltage power transmission lines of 115kv or more. Additionally, parcels in the TOD shall be located on lands which can be served by adequate infrastructure, including public water and sewer (or other suitable ground water and septic systems), and a road network with acceptable capacity that can serve the TOD's intended uses expressed herein. The total developable acreage in the TOD shall not exceed one percent of the total county acreage or 3,266 acres.

(b) *TOD adoption.* The TOD boundaries and any future amendments shall be created by the BOS and amended by ordinance upon adoption by the BOS based on boundaries established using a map.

(c) *TOD overlay/zoning.* The TOD shall overlay the existing zoning district and impose additional restrictions on the use of the property. The regulations and requirements of the underlying zoning district and the TOD shall both apply, provided however, that when the regulations applicable to the TOD conflict with the regulations of an underlying zoning district, the TOD regulations shall supersede and apply. Uses permitted by-right in the underlying zoning district will not require compliance with TOD standards. If the TOD is silent on a development condition or matter, and the underlying zoning district is not silent on said condition or matter, then the TOD shall govern, if TOD use is invoked.

(Ord. of 4-3-23(2023-6), Att.)

Sec. 86-332. - TOD design standards.

(a) *Principal building facades.*

(1) Principal building facades shall include all building facades substantially visible to adjacent public roads and streets. When a building has more than one principal facade, such principal building facades shall be consistent in terms of design, materials, details, and treatments.

Principal building facades associated with new construction within the TOD shall meet the following standards:

a. Principal building facades shall avoid the use of undifferentiated surfaces by including at least two of the following design elements:
    1. Change in building height;
    2. Building step-backs or recesses;
    3. Fenestration;
    4. Change in building material, pattern, texture, color; or
    5. Use of accent materials.
b. Buildings not visible from adjacent roads or properties due to buffering shall not be required to have differentiated design elements.
c. *Building facade material requirements.*
    1. The following primary and second materials are permitted and to include: a tinted textured masonry block, pre-cast concrete, tilt-up concrete panels with brick finish or stone facing, glass, stucco and external insulation finish system that simulates a stucco appearance, fiber-cement siding, metal panel systems, structural metal siding, wood siding and smooth faced concrete blocks.
    2. Precast concrete must contain other materials embedded within and articulated with design detailing or have application of other building materials to create design interest.
    3. Notwithstanding anything to the contrary herein, the BOS may approve alternative building facades and features, and building facade materials.

(b) *Screening of accessory equipment.*

(1) To minimize visibility from adjacent public roads and adjacent properties, ground level and rooftop accessory equipment shall be screened from public roads and streets abutting residentially zoned or planned properties. This screening may be provided by a principal building or existing vegetation that will remain on or is within a landscaping/buffer easement on an adjacent property. Accessory equipment not screened by a principal building or existing vegetation shall be screened by a visually solid fence, screen wall or panel, parapet wall, or other visually solid screen that shall be constructed of materials compatible with those used in the exterior construction of the principal building. Notwithstanding the requirements of this section, accessory equipment located in a manner found to have no adverse impact on adjacent roads and adjacent properties, as determined by the BOS, shall not be required to be screened.

(2)

Notwithstanding anything to the contrary herein, this section shall not apply to permitted accessory uses, including without limitation electric substations, transmission, and distribution facilities.

(c) *Landscaping.*

(1) A minimum of 20 percent open space shall be maintained for each group of contiguous parcels within the TOD, inclusive of undeveloped land wetlands, steep slopes, stormwater areas, or water left in undisturbed, open condition or developed as a landscaped or buffer area for buildings, streets or parking lots, areas used primarily for resource protection or recreational purposes.

(2) If created, individual parcels within the TOD are required to submit a landscaping plan with a site plan.

(3) Required landscaping is to be maintained in perpetuity.

(d) *Perimeter buffers.*

(1) All buffers shall be inclusive of required setbacks.

(2) All roads and utility rights-of-ways and easements are permitted to cross all TOD buffered areas. Stormwater management features, parking, sidewalks, guard houses, and other accessory permitted uses are prohibited in the buffer areas, except by waiver approved by the BOS.

(3) Buffer yard plantings shall be designed to minimize visual impacts from adjacent public roads and streets and properties. Notwithstanding the requirements of this section, use of natural topography and preservation of existing vegetation, supplemented by new vegetation, if needed, or on the outside of a six-foot-tall solid fence, may be substituted for the above requirements when found by the BOS to provide minimal visual screening from adjacent land uses.

(4) Buffers shall be shown on the TOD campus buffer and landscape plan and on any individual site plans when the buffer area is part of an individual lot or multiple lots for which the site plan was submitted.

(5) *Minimum buffering requirements.*

a. *Adjacent to residential uses.* Minimum buffer area shall be 200 feet.

b. *Adjacent to agricultural uses.* Minimum buffer area for permitted uses shall be 300 feet. (Minimum buffer areas for Utility service, major and minor shall be 250 feet).

c. *Adjacent to commercial and industrial district uses.* Minimum buffer area shall be 100 feet.

d. *Adjacent to primary public roads.* Minimum buffer area shall be 150 feet. Primary public roads include routes 522, 33, 652, 605 and 22.

e.

Adjacent to secondary public roads. Minimum buffer area shall be 100 feet. Secondary public roads are all roads not defined as primary roads.

f. *TOD, internal parcel buffers.* Where multiple parcels within the TOD are included in a development master plan, buffer requirements shall not apply to internal parcel lines. Where internal parcels lines intersect with perimeter parcel lines, the TOD perimeter buffer regulations shall apply.

(e) *Noise.* Specific sound levels in the TOD shall be governed by the provisions in chapter 51 of the Louisa County, Virginia Code of Ordinances. Notwithstanding anything to the contrary in chapter 51, TOD decibel levels shall not exceed the following:

Daytime Level: 65dB.

Nighttime Level: 60dB.

(f) *Minimum lot sizes.* There is no minimum lot size applicable to the TOD.

(g) *Fencing.* Fencing of the property improvements shall be located inside the buffer area.

(h) *Setback requirements.*

(1) *Adjacent to primary public roads.* No buildings shall be permitted closer than 150 feet. Primary public roads include routes 522, 33, 652, 605 and 22. All roads shall be deemed to have a right-of-way of at least 50 feet and setbacks should be measured accordingly from the edge of the right-of-way.

(2) *Adjacent to secondary public roads.* Minimum setback shall be 100 feet. Secondary public roads are all roads not defined as primary roads. All roads shall be deemed to have a right-of-way of at least 50 feet and setbacks should be measured accordingly from the edge of the right-of-way.

(3) *Adjacent to residential uses.* No building, parking, outdoor storage areas for collection of refuse, or loading area shall be permitted closer than 200 feet from any residential or planned residential district, or development zone allowing residential development, or agricultural land.

(4) *Agricultural district uses.* No permitted uses, outdoor storage for collection of refuse, or loading area shall be permitted closer than 300 feet from any agricultural land. Supporting development uses like parking, stormwater management features, sidewalks, guard houses, and other accessory permitted uses are prohibited in the setback, except by waiver approved by the BOS. (Minimum setbacks for utility service, major and minor shall be 250 feet).

(5) *Adjacent to commercial and industrial districts.* No buildings, parking, outdoor storage or loading areas shall be permitted closer than 100 feet from commercial or industrial use districts.

(6)

Setbacks between buildings. Within the TOD where individual lots or building sites are provided, the minimum setback between buildings on adjacent lots or building sites shall be 25 feet, unless a waiver of this requirement is approved by the BOS. Driveways, parking, and covered entrances may be within the aforesaid setback area; however, no such facility may be closer than five feet to any adjoining lot line. Covered walkways connecting buildings, or connecting buildings with parking areas, shall be permitted in such setback areas.

(i) *Building height.*

(1) Eighty feet from the vertical dimension of a structure as measured from the average elevation of the finished grade at the front line of the building to the highest point of the roof of a flat roof, the deck line of a mansard roof, or a gable, hip, or gambrel roof. The height limitations shall not apply to parapets, screening, spires, belfries, cupolas, antennas, communications towers, air cooling ventilation equipment, ventilators, or other appurtenances usually required to be placed on the roof level and not intended for human occupancy nor does it apply to any utility infrastructure facility. Electric transmission, distribution and substation facilities, and towers (water or other) shall be excluded from the maximum height requirements. A special exception permit to exceed the maximum building height regulations provided herein may be granted by the BOS.

(j) *Lighting requirements.*

(1) Fully shielded, dark sky equivalent lighting fixtures shall be used in all areas. Lighting shall not exceed .50 foot-candles as measured from the property line. Lighting that is exempt from these requirements includes temporary lighting and lighting provided for emergency or safety purposes as required by: the building code, electric code, or otherwise within the County Code. Signage related to the authorized uses shall not be illuminated.

(2) Parking lot, access and security lighting shall not exceed a height of 30 feet.

(3) Pedestrian and walkway lighting structures shall not exceed a height of 12 feet.

(4) *Security entrance gates.* A minimum illumination of three foot-candles (30 lux) is required to support safe and secure operation of the gate area.

(Ord. of 4-3-23(2023-6), Att.)

Sec. 86-333. - Permitted uses with the issuance of a conditional use permit.

The following uses are permitted with the issuance of a conditional use permit in the TOD, subject to the requirements and limitation provided under this section:

Technology college, university, or technical school.

Conference or training center.

Data centers.

Technology research and development facility.

Technology capital intensive advanced manufacturing facility.

Utility service, major. Utility scale solar energy generating facilities or power generation battery storage facilities producing two MW or more of electricity which leaves the TOD site boundaries, or where the solar or battery storage facility is the principal, sole use of a parcel within the TOD, shall require a conditional use permit.

Utility service, minor.

(Ord. of 4-3-23(2023-6), Att.; Ord. of 8-5-24(2024-11), Att.)

Editor's note— Ord. of 8-5-24(2024-11), Att., adopted August 5, 2024, amended the title of § 86-333 to read as herein set out. The former § 86-333 title pertained to permitted uses—generally.

Sec. 86-334. - Accessory uses.

(a) *Accessory permitted uses.* The following ancillary uses, which support permitted uses with the issuance of a conditional use permit expressed above under section 86-333, are hereby authorized, only if they are included in the conditional use permit. Accessory permitted uses that are deemed utility facilities subject to the provisions of article I, division VIII of this chapter, and must be in substantial accord with the relevant provisions of the county comprehensive plan or applicable element thereof. Notwithstanding this provision, facilities that are by-right uses shall be deemed substantially in accord with the comprehensive plan.

(1) Water treatment plant, public or privately owned.

(2) Sewage treatment plant, public or privately owned.

(3) Elevated water storage tank or tower.

(4) Telecommunications tower.

(5) Central heating or cooling facility.

(6) Energy generating facility.

(7) Food service facility.

(8) Security building.

(9) General storage and maintenance facility.

(10) Structured parking.

(11) General office.

(12) Other ancillary uses approved by the BOS.

(Ord. of 4-3-23(2023-6), Att.; Ord. of 8-5-24(2024-11), Att.)

Sec. 86-335. - Reserved.