LANDGATE

Virginia
Data Center Analysis

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Prepared in Q3 2024

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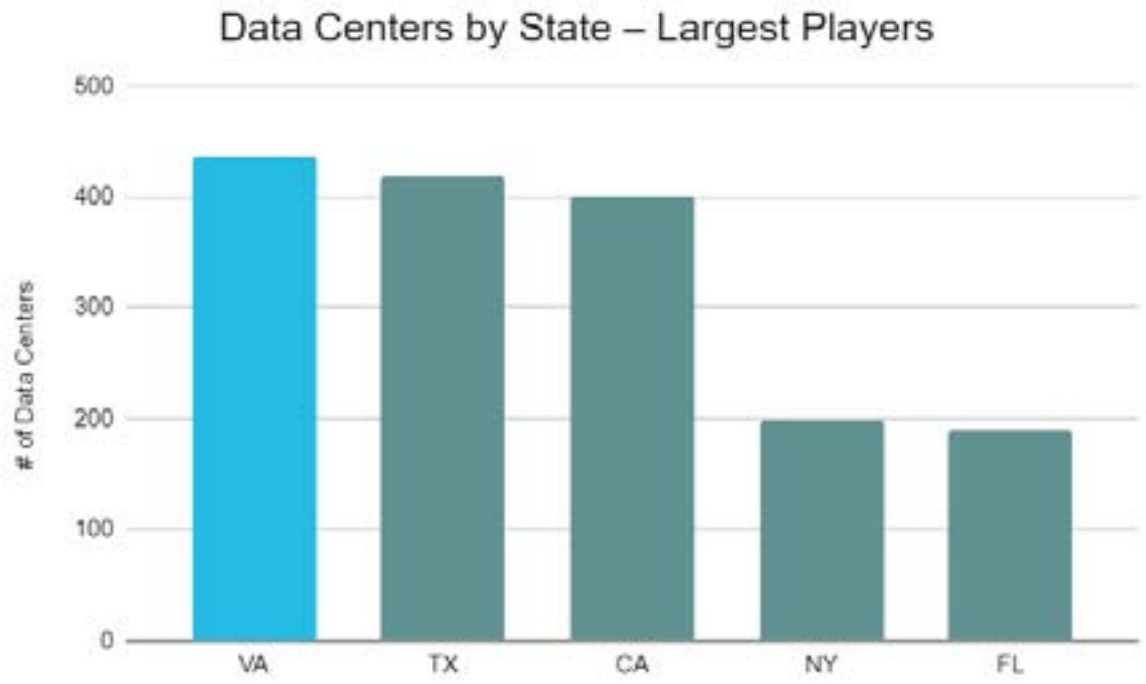
Virginia Data Center

ANALYSIS

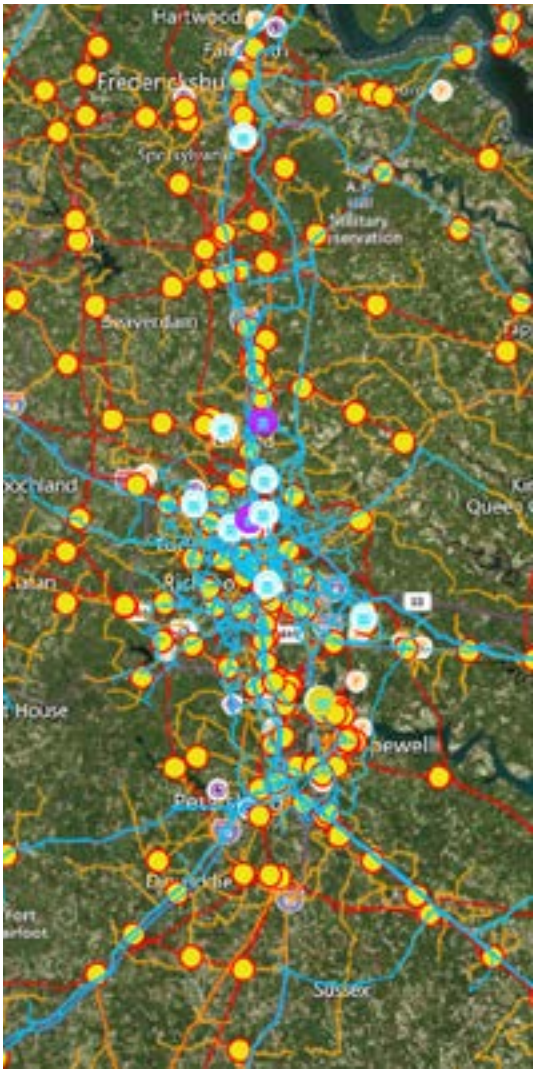
In our current, rapidly evolving digital economy, data centers play a critical role in supporting various industries by providing the infrastructure necessary for data storage, processing, and management. LandGate analyses show that the data center market is set to become a vital pillar in the digital revolution by doubling its power capacity till 2029, growing at a rate of 51.4% over the next ten years.

Virginia is often referred to as the ‘Data Center Alley’ and has emerged as a major hub, leading data centers within the United States. With Virginia’s abundance of land, robust infrastructure, reliable power supply, and favorable economic conditions, the state continues to grow every year, welcoming high numbers of data centers in the region. LandGate data shows that Virginia hosts over 420 data centers, across colocation, hyperscale, and enterprise projects. With the majority of data centers within Virginia, the state is the leading resource for data storage across the country and represents over 35% of all known hyperscale data center projects worldwide.

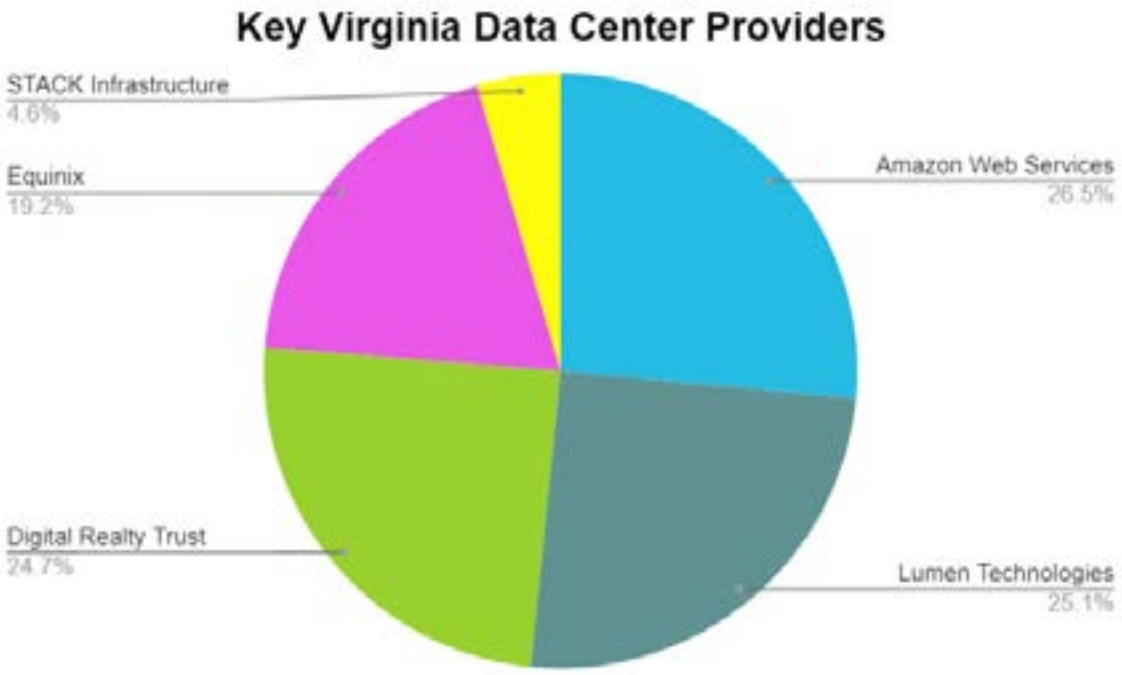


Virginia Data Center
LANDSCAPE

LandGate's extensive profiling capabilities analyze development, economic impact, technological advancements, and off-take capacity across the region and highlights the critical functions of each in supporting growing energy demands. LandGate is the only platform providing a comprehensive state profile on the US data center market including data centers, fiber optic line coverage and off-take capacity. With over 95% of data centers in their exact locations, with the most accurate and up to date data for white space, gross max power, parcel acreage, and power usage effectiveness, LandGate provides the most accurate data across data center resources.



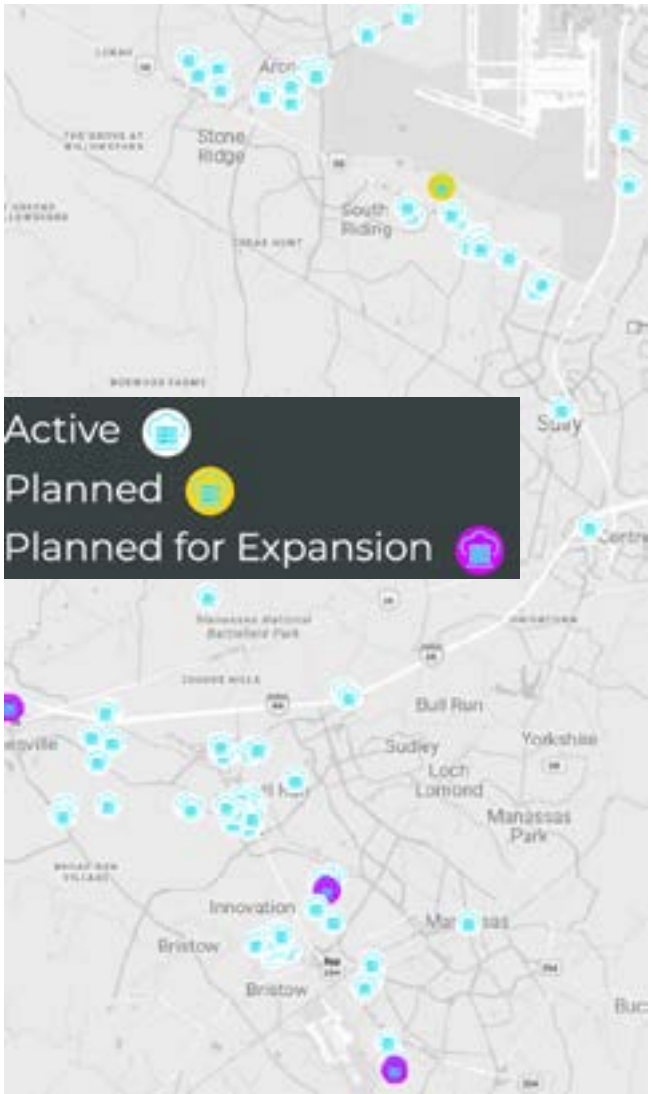
According to LandGate's data, **Virginia hosts over 420 data centers** including colocation, hyperscale, cloud, and enterprise data centers. With major players in the area being Amazon Web Services (AWS), Lumen Technologies, Digital Realty Trust, Equinix, and STACK Infrastructure, the state has an increasing number of hyperscale projects. Most data centers in Virginia average at a whitespace of 96,00 meter square. Considering this large size, hyperscale projects seem to be the most popular in the state, with colocation projects not far behind in numbers.



Over the last few years, Virginia has seen a steady increase in data center projects. With an influx of new project developers and existing market players expanding on their constructed projects, Virginia holds various incentives to create large scale data center projects in the area, attracting continuous investment in the area. For example, Amazon Web Services is set to invest north of $35 billion in Virginia Data centers by the end of the next decade. Relatively newer market players such as PowerHouse

and Corsale have announced projects holding over 338MW and 306MW of power respectively. Major market players such as Equinix and STACK Infrastructure have announced plans to expand their already existing data centers in Northern Virginia.

As of now, LandGate is the leading provider of planned and expanding data centers with over 7 planned projects and 10 planned for expansion data centers in the state.



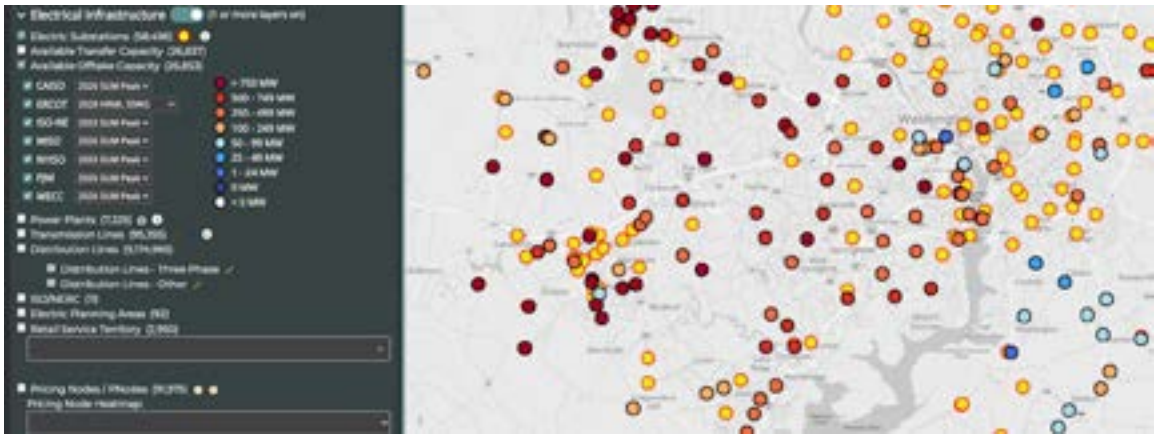
According to LandGate's data center analysis, planned and planned expansion data center hotspots are in Richmond and Northern Virginia. LandGate stands out as a resource by providing its users with the most up-to-date, exclusive data for planned and expanding data centers. Find planned data centers on LandGate's platform.

Location Quality + Offtake Capacity

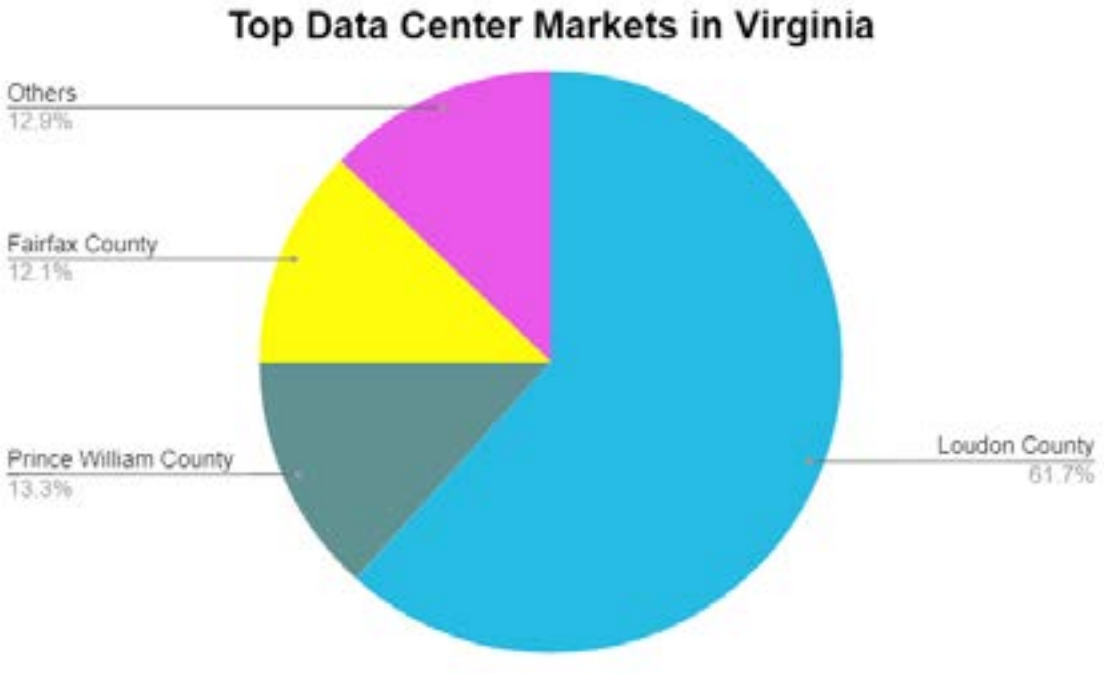
OVERVIEW

There are a multitude of factors that developers consider while setting up a data center. LandGate generates property reports and market analyses to identify the locations that are prime for data centers and attract the most business. Additionally, LandGate is the only resource that provides offtake capacity overview, allowing its understanding of the data center market to stand out from other resources.

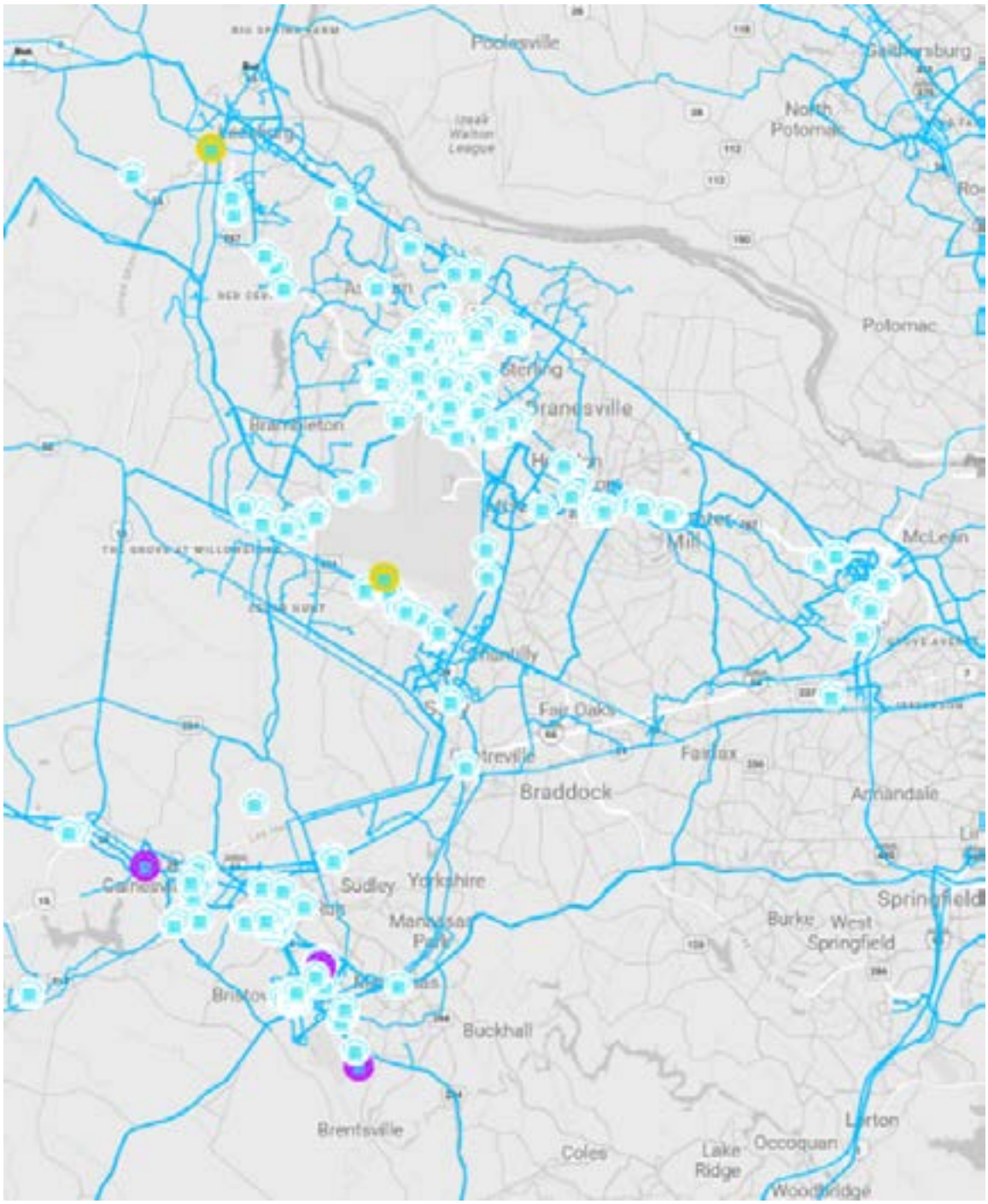
Offtake Capacity refers to the authorized amount of power that can be drawn from an electrical grid for use in data centers or other large industrial projects. This capacity is essential to the efficient operation of data centers and to ensure that company needs are being met. In Virginia, offtake capacity is substantial, with Northern Virginia provisions being highly accurate and designed to support rapid expansion of data center energy demands. According to LandGate's data, despite challenges to offtake capacity, Virginia is forecasted to tackle an estimated double in energy demand by 2035.



Virginia infrastructure is designed to meet demands across high energy loads by major energy providers such as Dominion Energy and Northern Virginia Electric Cooperative (NOVEC). With provisions across major hubs for data centers being met, LandGate analysis shows that Ashburn, Richmond and Gainesville are popular locations for projects.



Moreover, while Virginia has a reliable supply of energy, there are multiple other factors that make a data center's location prime. Close proximity to fiber optic lines, water sources, electrical supply and renewable energy opportunities increase value, functionality, and efficiency of data centers. LandGate's database includes all of the above to show the best locations for data centers and assess whether existing data centers or planned projects are set to run smoothly.



Fiber Optics Network in Virginia

Based on LandGate's site control data for wind, battery storage, and solar energy sources, Virginia is showing promising growth over the next 15-20 years. With an estimated 12% annual increase, the Data Center Alley is expected to exceed 14 gigawatts of power by the end of the next 15 years.

Virginia data centers have access to the best connectivity networks, overall low costs of power, and favorable business environments, allowing it to increase its data center pricing by over 40% in the last year. There is no doubt that data centers within the state have had monumental impacts on the economy by creating a multitude of jobs across construction, information technology, corporate, and education sectors. With impacts extending across environmental sustainability and artificial intelligence, Virginia data centers have gained much deserved traction over the past two decades.

Data center projects create multiple job opportunities from when they start construction to when they become active and offer full-time employment positions. Large, hyperscale projects are known to make monumental impacts on the economy through creating hundreds of full-time positions as well as multiple additional positions through contract and support services. With over 26,000 jobs across operation and construction in North Virginia, the rest of the state is not far behind in numbers across colocation facilities and hyperscale projects.

Project	Status	Description
Google Stonewall Park 	Planned for Expansion	• $1 billion investment to increase total spend in the state to $4.2 billion • 3400 jobs across construction and full time placements
Amazon Web Services Ridgetop 	Planned	• $28 million site • 17.5 acres • 500 direct jobs across construction with a promise of over 1200 jobs until operation.

Technological Trends & Economic GROWTH PROSPECTS

Virginia's data center market has led technological methodologies and is far ahead of other data center markets in incorporating artificial intelligence, machine learning, and edge computing methods within their work spaces to improve overall efficiency and performance. Latency reduction efforts, like reducing data file size for smoother data transmission, have increased with the advancement of technology within data centers, allowing Virginia to remain at the forefront of technological innovation. With Dominion energy connecting over 15 data centers in 2023 and reaching a total of 933 MW, the implementation of AI in latency reduction methods has been crucial to their expansion. For example: Microsoft Azure's data center in Boydton has incorporated AI and machine learning to help predict hardware failures, managing cooling systems and optimizing overall power usage.

Data centers in the Alley have been quick to adopt environmental sustainability methods by taking advantage of available resources in the area. With major market players such as Amazon pledging 100% renewable energy by 2025, and Microsoft announcing to be carbon negative by 2030 in the pursuit of powering their data centers fully with renewable energy, the future of the state is looking bright. Many companies have included initiatives such as advanced cooling techniques such as liquid cooling of HVAC. Some data center companies have gone as far as to reduce 40% of energy consumption. Google has adopted 100% renewable energy as their main energy sources within data centers.

While being the leading data center market in the world, Virginia is quick to offer incentives to companies and landowners looking to develop data centers. The Virginia Economic Development Partnership (VEDP) offers a 6% retail sales tax and use tax exemption on IT equipment and

enabling software. Furthermore, the Mega Data Center Incentive Program proposes extending these exemptions to up to 15 years on qualifying equipment. This program currently runs through 2035 and also includes up to $140 million for site and infrastructure improvements, workforce development, and other project-related costs. In addition, Henrico County will allocate $60 million from data center revenues to its first Affordable Housing Trust Fund to support housing affordability through grants to nonprofit and for-profit entities using profits from data centers in the area. The initiative follows the approval of a new data center campus by the Henrico County Board of Supervisors. This decision reflects Henrico's effort to balance technological growth with community benefits, addressing concerns about affordable housing and environmental impact. These initiatives reflect Virginia's commitment to maintaining its leadership in the data center industry.

With The Data Center Alley leading global markets with over 51 million square feet of gross operating data space, there is no doubt that the area is a promising location for new, expanding, and existing projects. For more information on data center trends, availability, and specifics on off-take capacities, schedule a demo with LandGate's data center team.

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