



# AWS Data Centers Fact Sheet

## What are Data Centers?

According to Cisco, data centers are “a physical facility that organizations use to house their critical applications and data” and are designed based on “a network of computing and storage resources that enable the delivery of shared applications and data.” Cloud technology has given rise to the modern data centers we see today, which Palo Alto Networks describes as a “virtualized infrastructure that supports applications and workloads across multicloud environments,” including private, public and hybrid cloud environments. Data centers range from 25,000 sq ft to 150,000 sq ft.

As of 2022, there were an estimated 8,000 data centers located around the world. The largest global concentration of data centers is located in the United States, with 2,701 data centers or 33% of the world’s data centers, followed by Germany (487), the UK (456), China (443), and Canada (328). In the U.S., the estimated value of the data center market in 2023 is \$99.97 billion, and global data center spending is expected to hit \$222 billion in 2023. By 2025, data centers are predicted to consume 20% of the world’s power supply. Clearly, data centers are big, big business – on a global scale. They are also big, big problems.

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Data centers are located throughout the U.S., but the single largest concentration is located on the ancestral lands of many Indigenous Nations and Tribes, including the Piscataway, Nacotchtank, Pamunkey, Doeg-Tauxenants, and Manahoac Peoples, in so-called Northern Virginia, with around 275 data centers. These data centers alone handle at least one-third of the entire world’s internet usage. Of these, Amazon’s Amazon Web Services (AWS) operates over 70 data centers alone. In fact, the AWS data centers in Northern Virginia amount to the single largest concentration of corporate data center infrastructure on earth, also known as the AWS US-East cloud region. In addition to its HQ2 in Arlington County, Virginia, and Amazon’s huge infusion of loans into not-all-that-affordable affordable housing in the greater DC region, Amazon’s massive data center expansion is another example of its sprawling empire in Virginia and the greater DMV.

In addition, dozens more data centers are already under construction or in the planning stages in Northern Virginia. Data centers are considered lucrative for local and state officials, as they generate hundreds of millions of dollars in tax revenue. In Loudoun County, for example, where the largest concentration of data centers on earth is located, \$576 million is collected in annual local tax revenue from 115 data centers, or over 30% of Loudoun County’s budget. Prince William County, which is home to the second-largest data center market in Virginia, receives approximately \$79 million every year from the 35 data centers in operation there, and an additional 5.4 million square feet of data centers are currently under development. There are also plans to develop a data center in Frederick County, Maryland.

Over the past 10 years, AWS has spent \$35 billion on cloud computing infrastructure in Northern Virginia to construct even more data centers. The water and energy costs of maintaining data centers is very high. Some of the largest data centers use the same amount of electricity that could power 80,000 households. In 2009, Amazon estimated that a 15 megawatt data center can require up to 360,000 gallons of water a day in order to cool the machine equipment. According to Loudoun Climate Project, Amazon “hosts the greatest global concentration of data centers, which consume enough energy to power nearly five times the number of homes in Loudoun County.” Amazon has since pledged to be more environmentally sustainable, but activists and researchers have criticized many of Amazon’s efforts as nothing more than greenwashing.



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## Harm to Local Communities

“We’ve had good lives here. I don’t want to go nowhere.” - [Charles Moore](#), Haymarket, Prince William County resident

“We’re getting pummeled. Absolutely pummeled.” - [Dale Browne](#), head of the Great Oak Homeowners Association, Prince William County

“It’s affected me financially, emotionally and in every other way I can think of. If I would have known what I was walking into a few years back, I would not have chosen this place.” - [Carlos Yanes](#), Great Oaks, Prince William County resident

“Data centers play a role in gentrification, pushing communities out of their homes when they settle in. Next developers come in because they care about money, making profits, and pushing us out. The County officials also have a hand in this by letting this happen.” - Glenda G, Tenant Organizer, [La ColectiVA](#)

“My community was displaced back in 2021, Columbia Gardens Apartments in Arlington, VA. We are already seeing the negative outcomes of data centers and Amazon in our area. The violence of gentrification is something I don’t wish for anyone. By violence I mean the emotional distress and mental distress we went through and are still going through. The most hurting part is that my kids have to go through this and as a parent you want to protect them but in this structure we have it hard.” - Margarita M, Tenant Organizer, [La ColectiVA](#)

In Prince William County, a three-decades-old noise ordinance currently limits daytime noise in residential areas to 60 decibels (what typical conversation sounds like from about three feet away), and 55 decibels at night. This ordinance, however, exempts air conditioners, which technically covers data center’s cooling systems and exhaust fans.

Reported in 2017, the Haymarket neighborhood in Prince William County, whose residents are mostly elderly Black American homeowners whose families have been living on those lands since before the Civil War, has been fighting against plans for a 38-acre data center that would require the installation of 100-foot-high towers carrying 230,000-volt power lines through their land.

In Loudoun County, land that is zoned for “light-industrial use” permits a data center to be built “by right,” without needing a vote from the county board.

## Environmental Degradation

One of the biggest problems with data centers are the high resource requirements, such as the use of billions of gallons of water to prevent overheating. The detrimental impact of the data centers on the land, air and water and the communities that live near them are among the many reasons that local residents across Northern Virginia have mounted campaigns in opposition to the massive wave of data centers being proposed and approved in their communities.

In Prince William County, residents and environmental groups have argued that new data centers will produce sodium-enriched wastewater, and sodium from deicers used on roads and parking lots in the winter “would have devastating impacts to the watershed by adding urban runoff to the slice of protected agricultural land known as the ‘Rural Crescent’” and the Occoquan watershed.



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In 2019, a Greenpeace report accused Amazon of abandoning their commitment to 100% renewable energy – for two years prior to 2019, AWS increased operations by 59% without offsetting its growth through renewable energy sources. Amazon has set a goal to achieve 100% renewable energy by 2040, but Amazon has been less than forthcoming about its plans. Moreover, while AWS makes up over a third of the market in cloud platforms for storage, when compared to its competitors (Microsoft and Google), its data centers barely run on 12% renewable energy. Compare this with Microsoft, which is on track to have its facilities running on 70% renewable energy by 2023.

## Surveillance Infrastructure

AWS powers Amazon's surveillance infrastructure, in collusion with the military, intelligence agencies, po(ICE) and the federal government. To learn more about this, please check out our fact sheet on AWS [here](#).

## Billions in Incentives That Would Be Better Spent Elsewhere

Earlier this year, Virginia Governor Glenn Youngkin announced a data center deal with Amazon – the largest capital investment in Virginia's history at \$35 billion dollars. Why is Amazon getting billions of dollars in the people's money, when funding and investments are sorely needed, and long overdue, for affordable housing, schools, access to food and essentials, job training, and so much more? Despite enormous public opposition, including the residential communities most impacted by proximity to the data centers, Governor Youngkin and Virginia public officials continue to cut deals with Amazon, signing off on incentives packages that now total hundreds of millions of dollars of the people's money.

## Lack of Accountability & Transparency

*‘That is just mind-boggling that [Governor Youngkin] does not see that communities are uniting [in opposition to data centers].’ - Elena Schlossberg, [Coalition to Protect Prince William County](#),*

Amazon is keeping the public in the dark about certain aspects of its growth. For example, despite laying off thousands in November 2022 from its Alexa division (which is supposed to have a large presence at HQ2), Amazon still has not clarified if positions slated for HQ2 have been affected by the 18,000 job cuts the company announced in late 2022.

More recently, despite Governor Youngkin's announcement of \$45 million dollars to be invested in new data centers across the state by 2040, the governor's office failed to state the exact locations of the data centers – only that they would be decided at a later date. The governor's office also said that this investment was expected to generate over 1,000 jobs across the state – a figure that pales in comparison to the already promised (but increasingly uncertain) 25,000 jobs promised with the announcement of HQ2.

Moreover, AWS clients such as Agco, Carrier Global, Expedia, Palantir, and even the National Football League have begun looking to cut back on spending on their cloud storage services, in anticipation of an economic recession. But even with AWS coming off of its slowest period of expansion since 2014 (the year Amazon started reporting AWS finances), it still experienced over 20% growth and generated billions of dollars in operating income in the last two



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quarters of 2022 – accounting for most of Amazon’s overall revenue. Amazon’s actions make it clear that profit comes at the expense of local communities harmed by the data centers, and the high costs of extraction and degradation to the environment.

[Learn More](#)

To learn more from local communities directly harmed by AWS data centers (and all corporate data centers in their communities), please follow and support the following coalitions and organizations:

[Loudoun Climate Project](#)

[Piedmont Environmental Council](#)

[The Coalition to Protect Prince William County](#)

[Protect Fauquier](#)

[Sierra Club Virginia Chapter](#)

[Sugarloaf Alliance](#)