The Boom in Data Centers Is Changing Virginia, Raising Concerns

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When data centers began to congregate in northern Virginia a little more than a decade ago, they had few friends in the state.

Now, major players in the business are received by the governor, counties woo them for development projects that generate jobs and tax revenue, and the region's largest utility has proposed tailoring the electrical grid to suit the industry's prodigious power needs.

The star treatment shows the transformation of the data center industry into an economic powerhouse in Virginia — and one whose influence has risen with its newfound stature. The experience of Virginia shows what may be in store for other parts of the country as a boom in data center development spreads.

When a bottleneck in the utility system just outside of Washington, DC, threatened to delay new projects, the industry flexed its growing political muscle by lobbying for legislation that expedited approval of a $600 million fix to the problem earlier this year.

And last year, data center operators held private meetings with senior officials from the office of Gov. Glenn Youngkin of Virginia and executives from the utility, Dominion Energy, to persuade them of their need for tremendous loads of electricity.

Shortly after those talks began, Dominion, which provides energy to three-fourths of the state, sharply raised its forecast for data center growth and used those bold new projections to justify an electrical system expansion plan that would allow unprecedented data center growth for decades to come.

The proposal, which is now being reviewed by the state's utility regulator, would benefit both Dominion and data centers. Environmental watchdogs and energy experts, however, have expressed concerns that it will have grievous consequences for the wider public.

To grow the electrical system to such proportions, Dominion has said it may need to build new natural gas plants and delay the retirement of polluting coal stations, steps that would increase its emissions in the coming decades despite a state law that requires it to decarbonize.

Residents and businesses across Virginia, meanwhile, could be left with the plan's enormous costs — which are expected to be in the tens of billions of dollars — even though much of the new infrastructure will benefit data centers. One estimate predicts electricity bills will rise 75% by 2035 as a result.

"There is a great deal of concern that Dominion will be, first and foremost, a power supplier to the data center industry and then, secondarily, all of its other customers," said Ivy Main, the cochair of the Sierra Club's renewable energy committee in Virginia, who likened the data center industry's growing sway in the state to "almost a tail wagging the dog."

A spokesman for Dominion said that much of the power plan's costs would go toward "ongoing grid maintenance and operation, routine reliability enhancements, and our industry-leading investments in offshore wind, solar, battery storage, and carbon-free nuclear — all of which is required by the Virginia Clean Economy Act and supports Virginia's transition to clean energy."

He also disputed the estimated increase in energy prices that it would trigger, which he said clashed with Dominion's own calculations. The company predicts that electricity costs will be about 30% higher in 2035.

A data center under construction last summer in Loudon County, Virginia.
Ted Shaffrey/AP

Data centers are squat, warehouse-like buildings crammed with computer servers, cooling machinery, and expansive connections to the fiber-optic communications cabling that pipe the internet.

Modern life would not be possible without the industry, which houses the systems that host the web and power essential functions such as the computing and storage behind streaming video, digital records, autonomous vehicles, and a universe of other online applications and services.

Big technology companies, including Amazon, Microsoft, and Google, are among the world's largest data center operators, mostly for lucrative cloud computing and storage businesses.

More recently, Wall Street firms like Blackstone, KKR, and Brookfield, have made multibillion-dollar investments in the sector that anticipate robust growth. Some speculate that the arrival of artificial intelligence will spur $1 trillion in new data center development in the coming years.

The nascent industry's core market has been northern Virginia, in part because of the work of a local official named Buddy Rizer, who, in the late 2000s, spotted its growth potential and the economic windfall it could bring. Rizer pitched operators on Loudoun, a county just west of Washington, DC, where he is the executive director of economic development.

"He's called the godfather of the data center industry," Michael Turner, a district supervisor in Loudoun, said. "He saw the potential early on and he cultivated them."

Today, the majority of Virginia's data center market is concentrated in Loudoun. Tax revenue from the industry covers roughly a third of the county's $2 billion annual budget, according to Turner.

Rizer called it "a game changer for our community," funding services like full-day kindergarten and much-needed raises for municipal workers.

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In the summer of 2022, however, Loudoun's comfortable place at the center of the industry was given a jolt — and not the kind that data center operators were looking for.

Dominion alerted some developers that high-voltage electrical-transmission lines leading into the county had reached capacity, creating a pinch point that threatened to delay new data center projects.

Turner said the industry was "shocked" and "appalled."

"They've never been told no on electricity," he said.

Just months later, help arrived from an unlikely source.

Matt Fariss, a state legislator representing a rural district near the Appalachian border — far from the cluster of data centers in the north — drafted a bill that would require the State Corporation Commission, Virginia's utility regulator, to hasten its approval of a $600 million transmission project that would help solve the issue.

In an interview with Business Insider in November, Fariss said the idea for the bill, known as HB 2482, wasn't his, but that of a Richmond attorney, Meade Spotts. Spotts is a registered lobbyist whose clients include Amazon Web Services, the cloud-computing arm of Amazon, which has grown into Virginia's largest data center operator.

"He was the one that brought it to me to begin with," Fariss said of Spotts's involvement in the bill.

Spotts didn't respond to a request for comment.

Fariss said that others connected to the data center industry voiced support to him regarding the bill at around the same time, including Myles Louria, a lobbyist for the Data Center Coalition, an industry group organized in 2019 to represent the interests of its largest players. Louria also did not respond to calls and emails seeking comment.

Josh Levi, the president of the Data Center Coalition, wrote in an email that the "DCC was not involved in lobbying for the bill."

An AWS spokesman said the company supported "policies that streamline the permitting process and provide more clarity into long-term transmission planning," but did not comment on whether the company was involved in pushing for the bill.

Fariss was assisted by another legislator, Kathy Byron, whose largest corporate donor during her 26-year political career was Dominion. Together, they introduced the bill in the state Legislature in January 2023. A month later, it was passed.

Byron, who now works for the Youngkin administration, did not respond to calls and emails seeking comment.

In the months leading up to the bill's introduction, Byron and Fariss each received campaign fund contributions, according to Virginia's Department of Elections, from parties that would potentially benefit as a result of the bill's passage. Dominion gave $50,000 to a political action committee linked to Bryon and $10,000 to Fariss's reelection campaign. Amazon gave $1,000 to Fariss and $5,000 to Byron's PAC.

> “"This is the maturation of a new industry."”

Fariss said the legislation expediting the transmission project appealed to his desire to limit government bureaucracy, but he also suggested he had wanted to curry favor with the lucrative industry.

"I had been courting those data center people, trying to get some data centers in south-side Virginia," Fariss said.

Lobbyists and special interests are allowed to suggest legislation for their own benefit. But the episode, which has not been previously reported, shows how data center interests have begun to pull at well-worn levers of power and influence in the state.

"This is the maturation of a new industry," said Sarah Bryner, the director of research and strategy for OpenSecrets, a government-transparency group. "They come in not knowing what they're doing and pretty quickly establish the same exact types of lobbying networks and lobbying clients and relationships with politicians that all industries have for modern politics."

The Loudoun power crunch reverberated in higher levels of state government, as well.

Beginning in July 2022, high-ranking state officials participated in private meetings with executives from Dominion and the Data Center Coalition to discuss the situation. The video chats included Caren Merrick, Virginia's secretary of commerce and trade, and Jeff Goettman, Youngkin's chief of staff, according to Rizer, the Loudoun economic-development official, who said he was also in attendance.

Gov. Glenn Youngkin of Virginia.
AP Photo/Eugene Hoshiko

Rizer said the gatherings served as both a forum for data center operators to clearly communicate the industry's meteoric outlook and a "lesson for us in government that we can't let the demand get too far out in front of the infrastructure."

By October 2022 — three months later — Dominion had sharply revised its forecast for the industry using a new methodology that projected monumental growth.

The Dominion spokesman acknowledged there was a tie between the private talks and the increased projection.

"Many solutions came out of those discussions," the spokesman said, including "new ways to validate the accuracy" of the company's forecast.

The updated calculation tacked on an additional 8 gigawatts of demand, driven by data centers, to Dominion's previous 15-year forecast, which it had published in a regulatory filing just a month prior. Eight gigawatts is roughly one and a half times the power load of New York City on an average day.

In testimony before the State Corporation Commission in September, Alan Bradshaw, a Dominion executive, said the new forecast anticipated that data centers would consume more than 13 gigawatts of energy by 2038 in its territory, more than four times the power they use today. That would account for nearly half the utility's power load predicted by its expansion proposal, which is known as an integrated resource plan, or IRP.

Government watchdogs say they are concerned about the closed-door meetings and the sweeping changes they could bring to the state's infrastructure.

"Who gets to be heard in those conversations? Who gets to be in those rooms?" Bryner from OpenSecrets said. "People who have more money, business interests. And that doesn't feel fair."

And some energy experts have questioned the accuracy of Dominion's calculations.

More than half of its forecast is corroborated by contracts called "substation engineering letters of agreement," said Bradshaw, the Dominion executive.

The agreements provide a description of the infrastructure and dollars necessary to deliver power to a data center customer. But they are nonbinding, and the parties that order them don't always follow through on the projects being considered, energy experts and data center operators said. If the boom in data centers fades, for instance, or if operators choose to grow in other areas of the country, the expensive upgrades to Dominion's system could go unused, heaping unnecessary costs on ratepayers.

It is unusual for a major utility to use such a speculative indicator of interest to help it make inferences of future system growth, said James Wilson, an economist and energy consultant who testified about the power plan on behalf of an environmental group in recent hearings that were part of the state's review.

They could "go away, or shrink, or be very delayed," Wilson said. "I can't think of an IRP that has something like this in it."

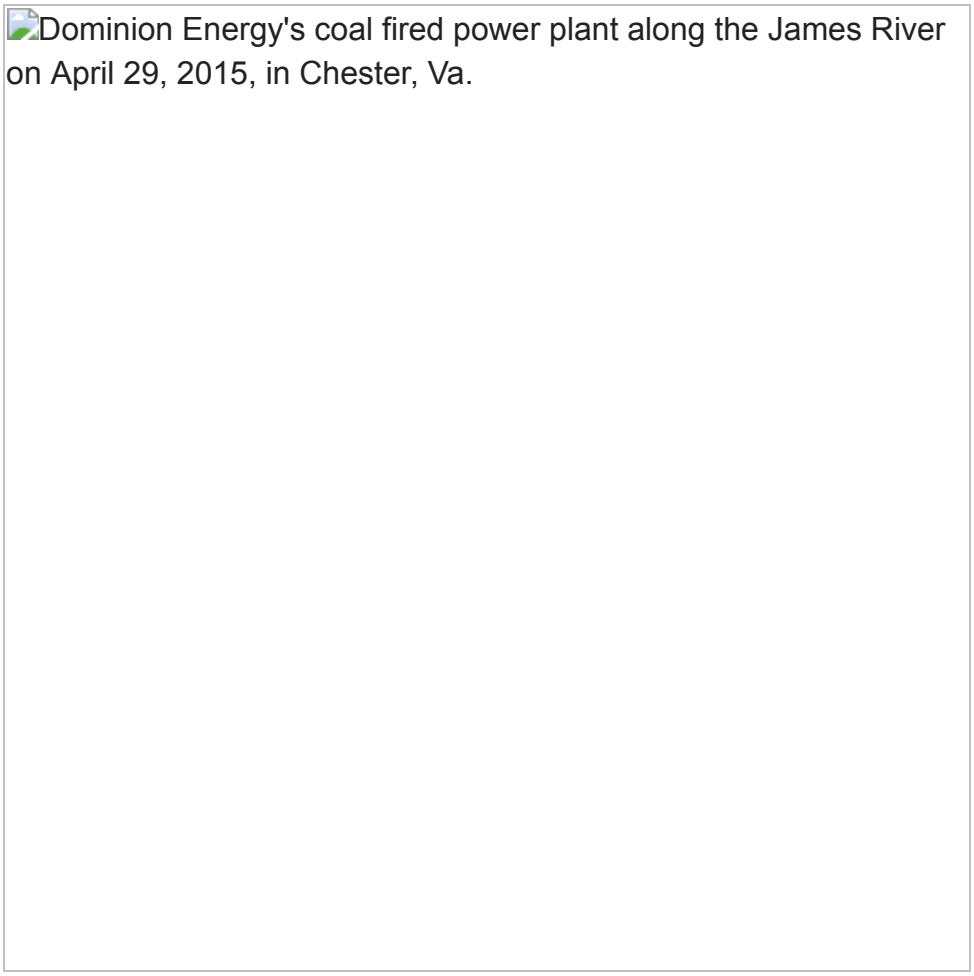
Dennis Wamsted, an energy analyst at the Institute for Energy Economics and Financial Analysis, described Dominion's data center outlook as "just a steady upward trend with no pause."

"They have contracts in hand for the next five years and what they've done is extrapolated out past that for continued growth in the future," Wamsted said. "That kind of projection is not correct no matter what you are projecting."

The Dominion spokesman said that its forecasts had "proven more accurate" than competing methodologies.

Dominion has an incentive to build.

In addition to the billions of dollars in revenue it collects from generating and delivering electricity to customers, the utility, like many others in the US, reaps a return on the cost of infrastructure it delivers. That structure provides a motive to pursue major power projects not only out of public need but also for its bottom line, some experts say.



A Dominion Energy power plant in Chester, Va.
Steve Helber/AP

"It makes shareholders happy and that makes executives happy," Wamsted said. "Except maybe for the consumers — you and me and everybody else in Virginia — that have to pay for those facilities, which may or may not be necessary."

While Dominion's plan includes the development of renewables, including wind, solar, and battery storage, the company's IRP indicates that fossil fuels are also necessary for reliable and affordable electricity. At the time of the IRP's release in May, Youngkin applauded the plan's "all-of-the-above approach."

The plan's reliance on carbon-belching infrastructure runs contrary to the Virginia Clean Economy Act, a state law adopted in 2020 that requires the utility to eliminate its emissions by 2045.

Some of the scenarios presented by Dominion "have us increasing our emissions," Bill Shobe, a professor of public policy at the University of Virginia who studies environmental economics, said, adding: "This is just essentially thumbing its nose at the Virginia Clean Economy Act."

In December, an examiner at the State Corporation Commission said she didn't believe the plan was "reasonable and in the public interest" because of its reliance on the "addition of new natural gas generation units." The commission has not yet issued a ruling on the IRP.

Dominion's plan also appears to contradict the ambitious sustainability targets of major tech firms. None, however — including Amazon, Google, and Microsoft, whose cloud businesses are likely to be among the largest beneficiaries of the power expansion — have spoken out publicly against the proposal.

In recent letters to the State Corporation Commission that address Dominion's IRP, lawyers for Amazon and Microsoft stressed only their need for affordable and reliable power.

"My concern is why the world's biggest companies are not speaking up and instead just sort of giving words to the commitment and not actions," Connor Kish, the director of the Sierra Club's Virginia chapter, said.

Despite the growing concerns about the data center industry's rapid growth, the business has its boosters.

Louisa, a county near Richmond, recently adjusted the zoning in six areas to permit data center development and in August, Amazon announced it would build $11 billion of new data centers there.

Duane Adams, the chair of Louisa's board of supervisors, said residents often implore him to "keep Louisa rural." He said that he, too, would like the bucolic county to remain "farms and forest land and pastures and all that sort of thing."

The rising costs of government services have convinced him, however, that the area should embrace data centers.

"We either raise taxes on our residents or we increase the tax base through good, smart, responsible economic development," Adams said. "I think that's what we've managed to do here."

Farther north, Prince William County is going ahead with a massive data center development in what is also a largely rural area. The more than 20-million-square foot data center project, Digital Gateway, was approved in a narrow vote on December 13. Digital Gateway will be almost three times the size of Central Park and is expected to eventually draw about 3 gigawatts of electricity from the grid.

The $40 billion project, one of the largest ever undertaken, will be developed by QTS, a data center company owned by Blackstone, and Compass, which was acquired by Brookfield earlier this year.

The approval hearing was contentious, stretching for almost 30 hours. Residents and environmental groups lined up to offer public comments in opposition – even the county's own planning department recommended against the proposal.

Ann Wheeler, the chair of Prince William's board of supervisors, who lost her bid for reelection earlier this year to a primary challenger, in part because of her support for the project, told Business Insider that she had few regrets.

Wheeler said she was ultimately persuaded by the hundreds of millions of dollars of tax revenue that are expected to pour into the county's coffers from the development, which she said was necessary to keep pace with other neighboring areas like Loudoun that have cashed in on data centers.

"We have to compete with them on the same level for attracting people, teachers, funding the school system, paying our firefighters," Wheeler said.

"I don't think that the Digital Gateway is the end of civilization for Prince William County, I just don't," she added. "I think it's really the beginning."