



Why Data Centers are Concerning for Rural Communities in Virginia

AI uses a lot of resources that can have dire impacts on everyday people's lives. These massive facilities can be as large as 13 football fields and can run all day and night, putting a lot of pressure on local land, water, and power and causing massive amounts of pollution. Many times, they are put in neighborhoods that are majority Black or low-income, that already have highways, warehouses, and power plants built nearby. Residents often have little say, even when these projects directly affect their daily lives, causing these neighborhoods to face environmental, economic, or health challenges.

Approximately 67% of planned data centers nationwide are located in rural communities. Nationwide, rural community members are expressing concern about data centers at a larger rate than residents in urban and suburban areas, according to research at the University of Illinois and Purdue University. Residents and local officials have raised concerns about the speed of the developments, the loss of farmland, and the increased demand on water, electricity, and noise. This is concerning in rural areas because data centers are expanding faster, exposing gaps in current laws or avoiding accountability through permitting. Many communities in Virginia have by-right approval, which can cut everyday people out of decisions for data center approvals. These structures can be challenged at the local and state levels.



What are the Environmental and Climate Issues in Rural Virginia?

Energy Use

25% of Virginia's energy consumption is linked to data centers. As these facilities are growing and expanding, areas like Loudoun County are no longer the only places where they are placing data centers, and new tech companies are building more in other regions. These costs will eventually get shifted to communities across Virginia as a large amount of energy generation and transmission will need to be built. At the rate of data center growth in Virginia, it will be difficult to supply enough energy to keep pace with the growing demand. If data center energy demand remains unchecked, energy prices are likely to increase for all customers, especially rural communities, which often have a higher inability to heat or cool their homes adequately and are more vulnerable to heat waves and extreme weather. Additionally, with limited access to affordable cooling and heating, along with higher transportation costs for fuel, rural residents will carry the brunt of the costs. Instead of data centers, which rely on fossil fuels, rural areas could be sites for more renewable energy projects.

Air Quality

Virginia has already approved 8,910 backup diesel generators for AI data centers across the state. The air pollution from these generators has severe impacts on human health. For example, a data center that was stopped in rural Pittsylvania County would have emitted over 326 tons of PM2.5 per year, which is a level of exposure linked to increased rates of heart attack, pneumonia, cancer, and stroke. In rural areas, the addition of data centers is very concerning because current agricultural activities already emit concentrated pollution. In 2024, the agricultural industry contributed around 10% of US greenhouse emissions, which have direct environmental and climate impacts. In response to public concern, Virginia passed new AI data center emissions laws that require data centers to have air permits with stricter pollution controls. However, even though the pollution limits are stricter, more data centers are being built in Virginia, and electricity demand will rise. There is a risk that these generators will run more frequently, continuing to pollute the air, producing toxins like carbon monoxide, nitrogen oxides, and particulate matter 2.5 in the air, all of which have severe health impacts for local rural communities.

Noise Pollution

Noise pollution is a major concern, with 82% of Virginia survey respondents expressing anxiety over its impact on local communities. Residents in rural Virginia are also criticizing the noise that is being emitted from data centers. In addition to construction, data center infrastructure, like backup diesel generators and cooling systems, generates constant background noise and, in some cases, vibration that disrupts residents' sleep and quality of life. The 24/7 noise from data centers adds more constant noise pollution into relatively quiet rural areas that are usually only impacted by industrial machinery and seasonal agricultural noise, which can negatively affect the quality of life for residents and local wildlife and biodiversity.



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Economic Impacts

The long-term economic benefits of data centers are frequently overstated, with only 22% of Virginia survey respondents believing these facilities bring positive impacts to local economies. Residents are concerned about local agricultural industries, since land traditionally used for agricultural activities is now being targeted by tech companies for hyperscale data centers. There is a critical need to protect farmland from data center expansion to prevent negative economic impacts on the agricultural industry. Additionally, current tax incentives have created a regulatory "race to the bottom" that encourages data center projects to go into areas with the least amount of environmental and economic restrictions for data center build-out. Local governments are participating by not only giving tax incentives but also approving data centers without proper public participation and signing non-disclosure agreements.

Quality of Life

Currently, there are no clear standards to ensure that community benefits are proportional to the scale of these developments. The arrival of these massive industrial projects severely impacts local transportation systems, which are already lacking in some areas, and threatens to permanently change the character and way of life in rural areas.

Water Use

The risk from data center water use is alarming, as their water consumption can cause drops in water levels that directly impact rural communities. Rural households in Virginia have a mix of public water systems and private water supplies, like groundwater wells, for drinking water, and this water comes from shared aquifers, lakes, and rivers. In 2023, data centers in Virginia consumed over 2.1 billion gallons of water. In Virginia, water use, return flows, and indirect water use from energy production are very rarely disclosed. The Department of Environmental Quality regulates these large water withdrawals. However, in water use reports, the withdrawal levels are combined with all large water users rather than broken down by individual data centers and facilities. This makes it difficult for communities to know how data centers are using their water. At a local level, even if rural residents wanted to have more oversight, rural areas generally do not have the governing capacity to monitor these large companies and hold them accountable for their water use. This reliance on water in areas with already over-burdened water resources threatens to worsen public health risks and agricultural activities in rural communities, especially since Virginia is in a historic statewide drought.

What can you do?

- **Share this information with your friends and family**
- **Use the NAACP Stop Dirty Data Tracker to share projects near you**
- **Read the NAACP's Frontline Framework to ensure your advocacy aligns with hundreds of other groups**
- **Read the NAACP's Data Center playbook for next steps**
- **Push for local community-centered ordinances and legislation that allow your community to have a say in decisions and more transparency**