

Dark Clouds: The Risks of Unchecked Data Centers

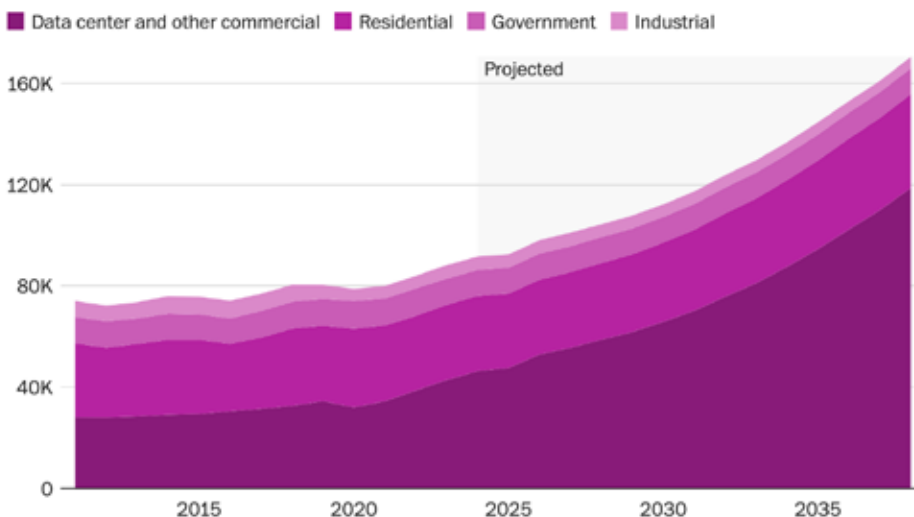
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Have you been on a Zoom call, saved photos, or purchased event tickets online? Much of what we do every day uses computing power “in the cloud.” But don’t picture a beautiful fluffy shape in the sky, the reality is far different. The “cloud” is actually a series of vast, noisy, windowless, computer-filled buildings called data centers. Data centers negatively impact nature and people by devouring tons of energy, heating millions of gallons of water, and polluting our air, waterways, and communities.

Northern Virginia’s “Data Center Alley,” located between Loudoun and Fairfax counties, houses 118 data centers and occupies 10 million square feet. Data Center Alley already handles 70% of the world’s internet traffic with more data center construction slated for Northern Virginia and Maryland. What’s most alarming is that little or nothing is being done to mitigate negative environmental impacts of data centers by our local, state, and federal governments. At Nature Forward, we’re advocating for transparent information about data center energy and water usage and for environmental policies and regulations that will curb data center harms.

Data centers expected to drive stratospheric energy demand in Va.

Dominion Energy customer demand in Virginia, in gigawatt hours



Source: Dominion Energy’s Virginia Electric and Power Company Integrated Resource Plan

Energy Impacts & Greenhouse Gas Emissions

Data centers need enormous amounts of energy. The energy demands of a single data center could power 50,000 homes. Data centers typically draw electricity produced by coal because renewable sources, like solar and wind, cannot keep up with their massive 24/7 energy needs. Data centers’ insatiable demand is keeping coal-powered plants that had been scheduled to go offline in business. They are driving new construction of habitat-disrupting transmission power lines and pushing Virginia and Maryland farther away from achieving their climate goals.

According to the US Department of Energy, data centers currently account for roughly 2% of the nation’s total electricity use. *The Washington Post* estimates that by 2035, the data center industry in Virginia will need four times as much energy, enough to power 8.8 million homes!

Data centers increase greenhouse gas emissions. The 2022 Metropolitan Council of Governments reported that Prince William County, VA, saw a 19% rise in greenhouse gas emissions between 2005 to 2018, a time-period that matches the rapid rate of data center growth in the county.

Data centers also increase air pollution because they depend on diesel generators during power outages, regular maintenance, and times of peak usage. Environmental advocates point out that prolonged use of diesel generators during massive power outages would have drastic and outsized effects on air pollution in communities located near data centers.

To prevent this type of pollution, localities must require data centers to use the newest, cleanest generators available. But our state governments are headed in the opposite direction. In Maryland, the 2024 General Assembly passed legislation (HB574/SB474) that grants data centers unfettered use of diesel generators.

Health Impacts

Data centers' diesel-fuel air pollution presents significant dangers to the health and wellbeing of people. Diesel pollution increases the risk of lung cancer, cardiovascular disease, and worsening respiratory illnesses like asthma. Data centers' increased greenhouse gas emissions exacerbate the negative impacts of climate change including heat island effects, increased flooding, and more.

In July 2024, Fairfax County, VA approved a data center site next to a mobile home community, with polluting diesel generators located just 50 feet from the community property line. This kind of inequitable siting of data centers further endangers communities least able to protect themselves, Data centers frequently clear trees and forests to make way for their massive, noisy buildings, shrinking our already limited wildlife habitat and eliminating the natural noise barrier that can shield communities from the disruptive noise data centers produce around the clock.

Water Impacts

Data centers generate extreme amounts of heat. Evaporative cooling, using water, has been used as a cooling solution by data centers. But that technique drains and depletes local water resources. Numerous studies have documented vast consumption of water that puts ground water and drinking water supplies at risk. For example, an Amazon campus in Louisa County, VA, plans to withdraw 620,000 gallons per day at full build-out. Texas Tech University reports that "the typical data center uses about 3-5 million gallons of water per day. That's the same amount of water consumption as a city of 30,000-50,000 people." You can see why Nature Forward is fighting hard for better environmental regulations on data centers. Join us in that fight!



June data center rally to advocate for better data center regulations.

Solutions

Data centers' impacts on our climate are big, and that is why our push to make them sustainable must be bigger. Help Nature Forward push for more sustainable data centers by:

- Educate your friends, family and local elected leaders on data centers' environmental impact. Watch Nature Forward's Conservation Cafe's on data centers and share them with two family members.
- Sign up for Nature Forward's [Action Alerts](#) to stay informed on Nature Forward's advocacy work to make data centers more sustainable in VA and MD.
- Volunteer with Nature Forward to work with our Conservation Advocates on making data centers more sustainable.



Scan the QR Code to sign up for data center updates.