



## AI INFRASTRUCTURE CASE STUDY

# UNITED STATES — COMMUNITY COSTS AND FRAGMENTED OVERSIGHT



Northern Virginia is home to the world's densest concentration of data centres, with over 300 facilities across four counties. But the pattern of costs it embodies - borne by residents, ecosystems, and communities with limited say - is rapidly becoming a national phenomenon.

The cost burden for residential ratepayers in Northern Virginia is rising and well-documented. Recent analysis found that residential customers will bear approximately 55% of the \$7.6 billion in new transmission infrastructure planned primarily to serve data centres. Independent projections suggest electricity prices in the region could rise by 25–70% by 2030 if growth remains unconstrained. Regulators approved a new rate class in 2025 requiring large-load customers to pay minimum demand charges - a structural reform that acknowledges, but does not resolve, the cost-shifting problem.

Environmental and public health concerns are equally serious. Data centres across Virginia collectively consumed over 2 billion gallons of water in 2023 — a 63% increase since 2019 — with Loudoun County alone accounting for 900 million gallons, straining supplies in a region already classified as abnormally dry. Research has found that diesel backup generators, permitted to run legally for up to 500 hours per year, generate particulate matter and nitrogen oxide emissions with disproportionate exposure falling on lower-income and renter-majority communities.

These dynamics are not unique to Virginia. For example, in rural Box Elder County, Utah, a proposed hyperscale data centre - the “Stratos Project” - would span approximately 40,000 acres, powered entirely by natural gas with no renewable energy commitments. Approval was fast-tracked through a zoning mechanism originally created for military development, allowing the process to move from an initial meeting with the state governor in January 2026 to county commission approval just five months later.

A critical structural governance gap drives these cumulative impacts: data centres are permitted at municipal level while their environmental and social impacts operate at regional - and increasingly national - scale. State-level oversight mechanisms remain inadequate, fragmented, and poorly enforced. Some states are taking actions to address community concerns, including steps to study new proposed development projects and their potential impacts. The gap between projected and realised community benefit is increasingly debated and represents a significant challenge to the political and regulatory legitimacy of continued unrestricted expansion.

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- [Health implications of the rapid rise of data centers in Virginia: an exploratory assessment](#)
  - [One Utah County's Fight Over A \\$100 Billion Data Center — And What It Means For All Of Us](#)