

AI DATA CENTERS

What Every Community Needs to Know

A Comprehensive Public Research Report

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IMPORTANT NOTE: This report is produced for public education and community awareness. It is not a legal, financial, or political advisory document. Residents should consult qualified local professionals and engage their elected officials for specific guidance regarding data center projects in their communities.

SECTION 1: WHAT IS AN AI DATA CENTER?

You have probably heard the term 'data center' in the news. Maybe one is being proposed in your county. Maybe a town hall meeting in your area turned into a heated confrontation. This report is designed to give you — the resident, the voter, the neighbor — a clear-eyed, balanced look at what these facilities are, what they bring, and what they cost.

The Basic Definition

A data center is a large industrial facility housing thousands of computer servers, storage systems, and networking equipment. These facilities store and process the data that powers internet services, cloud computing, and increasingly, artificial intelligence. Traditional data centers have existed since the 1990s. However, the facilities now being built — AI-scale hyperscale data centers — are fundamentally different in size, power demand, water consumption, and community impact.

Why AI Changed Everything

The launch of ChatGPT in late 2022 and the explosion of generative AI tools triggered an unprecedented surge in computing demand. Training and running AI models requires massive amounts of processing power, which in turn requires enormous physical infrastructure. As a result:

- **Hyperscaler spending** (Amazon, Google, Microsoft, Meta, Nvidia) is approaching \$400 billion annually.
- Data center construction spending now **exceeds spending on all other commercial buildings combined**.
- The federal government has declared data center construction a **national priority**, issuing executive orders to fast-track permits.
- As of 2026, approximately **\$98 billion in data center projects** have been blocked or delayed due to community opposition.

The Scale of What Is Coming

To understand what communities are facing, consider these verified figures:

Figure	What It Means	Source
\$400B/yr	Annual capital spending by major tech companies on AI infrastructure (2025)	<i>Harvard economist Jason Furman</i>
92% of GDP	Share of U.S. GDP growth in first half of 2025 driven by data center investment	<i>CRE Daily / Harvard</i>
~260 TWh	Projected U.S. data center electricity consumption by 2026 — 4-6% of ALL U.S. electricity	<i>Arxiv / DOE estimates</i>
312-765B liters	Estimated global AI water footprint in 2025 — equivalent to global bottled water consumption	<i>ScienceDirect / IEA</i>
945 TWh	Global data center electricity demand projected by 2030 (from 415 TWh in 2024)	<i>Rutgers University study</i>
268 groups	Local opposition organizations tracked across 37 U.S. states as of April 2026	<i>Coalition for Responsible DC Development</i>

SECTION 2: THE ECONOMIC CASE — WHAT SUPPORTERS PROMISE

Data center proponents — including tech companies, developers, and many local elected officials — make compelling economic arguments. Here is what they claim, alongside an honest assessment of what actually materializes.

What Industry and Developers Promise

- **Construction jobs:** A large data center can employ 500–2,000 workers during the 1–3 year construction phase, with competitive wages in electrical, mechanical, and civil trades.
- **Permanent jobs:** Developers typically promise 50–500+ permanent positions once operational. Some facilities, like the Abilene/Stargate campus, project over 1,000 permanent roles.
- **Property tax revenue:** Data centers are capital-intensive facilities that generate significant taxable property value. Loudoun County, Virginia, for example, expects nearly \$900 million in data center tax revenue for fiscal year 2025 — approaching the county's entire operating budget.
- **Broader economic ripple effects:** Hotels, restaurants, and local businesses benefit from the construction workforce and ongoing vendor relationships.
- **School funding:** In DeKalb, Illinois, Meta's data center pays 60.9% of property taxes to the local school district, funding construction of a new elementary school.
- **STEM partnerships:** Some companies (Meta in DeKalb; Oracle in Abilene) have partnered with local universities on workforce development and STEM education.

The Reality Check: What Studies Show

Independent economists and community research organizations present a more nuanced picture:

CLAIM	REALITY	SOURCE
"Hundreds of permanent jobs"	Many facilities run with as few as 15–50 specialized IT staff once operational. A 2026 Facebook community post noted 'only about 15 highly educated individuals in AI to run.'	Community testimony; Brookings Institution
"Boosts local economy long-term"	Brookings (Feb. 2026): Economic benefits decline substantially after	Brookings Institution

CLAIM	REALITY	SOURCE
	construction. Data centers behave more like warehouses than manufacturing plants — limited local supply chain integration.	
"Tax revenue solves local budget problems"	Loudoun County, VA is now concerned about over-reliance on a single revenue source and is reconsidering its tax structure. Tax incentives offered up-front may offset projected revenues.	Lincoln Institute of Land Policy
"Brings skilled jobs to the area"	Highly specialized AI roles often go to workers recruited nationally or internationally, not local hires. Construction trades are local; operations are not.	NCRC / community testimony

KEY FINDING: Data centers excel at generating tax revenue and short-term construction employment. They are poor at creating sustained local employment or building long-term community economic ecosystems. The ratio of investment to permanent local jobs is among the lowest of any major industrial category.

SECTION 3: THE REAL COSTS — ENVIRONMENT, HEALTH & QUALITY OF LIFE

The concerns raised by residents at town halls across America are not hysteria. They are grounded in documented, peer-reviewed evidence from universities, public health institutions, and environmental organizations. Here is what the science actually says.

1. Water: The Silent Drain

AI data centers require massive amounts of water for cooling — typically through evaporative cooling towers similar to large power plants. This is not 'recycled' or 'process' water: it is pulled from municipal supplies and local watersheds and lost to evaporation.

- **Texas alone:** data centers will use 49 billion gallons of water in 2025, rising to 399 billion gallons by 2030, according to the Houston Advanced Research Center and University of Houston.
- **Global AI water footprint:** A 2025 peer-reviewed study (published in *Patterns*, a Cell Press journal) estimated the global AI water footprint at 312.5 to 764.6 billion liters in 2025 — equivalent to the entire world's annual consumption of bottled water.
- **Individual facilities:** A single large data center can consume millions of gallons daily. One facility in the American Southwest was reported to have consumed 30 million gallons before the community noticed.
- In drought-prone or water-stressed communities, these withdrawals can **directly threaten municipal water systems, agricultural irrigation, and local aquifers.**

2. Energy: Who Pays?

AI data centers are among the most energy-intensive facilities ever built. A single hyperscale campus can require as much electricity as a small city.

- **Grid strain:** U.S. data center electricity consumption is projected to reach 260 TWh by 2026 — 4-6% of total national electricity consumption.
- **Your electric bill:** Residential electricity prices jumped 7.1% in 2025 — more than double the general inflation rate — and exceeded 20% in some states, according to federal data reported by Consumer Reports (March 2026). Data center expansion is a significant contributing factor.
- **Fossil fuel dependency:** Despite claims of renewable energy commitment, many data centers rely on natural gas plants for day-to-day operations, and diesel backup generators for emergencies. Some facilities house on-site gas generation turbines.
- **Carbon footprint:** The carbon footprint of AI systems alone could be between 32.6 and 79.7 million tons of CO₂ in 2025 — comparable to the annual emissions of the entire city of New York, per peer-reviewed research.

3. Air Quality and Public Health

This is the area where peer-reviewed science is most alarming, and where communities are most often blindsided.

- **Backup diesel generators:** These emit nitrogen oxides (NO_x) and fine particulate matter (PM_{2.5}) at rates 200-600 times higher than natural gas plants when operating, according to the University of Alabama at Birmingham.
- **Respiratory disease:** NO_x and PM_{2.5} exposure is directly linked to asthma attacks, chronic bronchitis, and cardiovascular disease — particularly in children and the elderly.
- **Mortality projections:** A 2025 model from the Environmental Health Project estimates that U.S. data centers could contribute to 1,300 premature deaths and over 600,000 asthma cases annually by 2030.
- **Economic health damage:** The Harvard T.H. Chan School of Public Health analyzed the Vantage Data Center in Loudoun County, Virginia, and found tens of millions of dollars in projected annual health damage costs.

- **Environmental injustice:** Studies consistently show data center projects are disproportionately sited near lower-income and minority residential areas, concentrating health burdens on the most vulnerable populations.

4. Noise Pollution

Residents who live near operational data centers consistently report one of the most difficult-to-escape consequences: constant noise.

- Industrial cooling fans and HVAC systems operate **24 hours a day, 7 days a week, 365 days a year.**
- Noise levels can reach **90-100+ decibels** at the source, with low-frequency hum traveling hundreds of feet, penetrating walls and windows.
- Documented effects include **chronic sleep disruption, increased anxiety, stress-related illness, headaches, and vertigo** in nearby residents.
- Reddit communities and town hall testimony across multiple states describe the noise as *'dull, inescapable, and maddening'* — particularly at night when ambient noise drops.

5. Land Use, Light Pollution, and Neighborhood Character

- **Scale:** Hyperscale campuses can occupy thousands of acres, permanently converting farmland, rural land, and green spaces into industrial facilities.
- **24-hour light pollution:** Security lighting, equipment indicators, and facility lighting operate continuously, impacting adjacent residential neighborhoods and agricultural land.
- **Aesthetic and property values:** 'Warehouse-sized' industrial buildings alter the character of rural, residential, and historic areas, with documented effects on nearby property values.
- **Traffic during construction:** Large-scale construction phases bring sustained heavy vehicle traffic on local roads not designed for that load.

SECTION 4: BALANCED SUMMARY — PROS AND CONS AT A GLANCE

The following table synthesizes the key tradeoffs that communities must evaluate when a data center is proposed in their area.

✓ BENEFITS (PROS)	✗ RISKS / COSTS (CONS)
Significant property tax revenue for local governments and schools	Residential electricity bills rise; grid strain can cause outages

✓ BENEFITS (PROS)	✗ RISKS / COSTS (CONS)
Hundreds to thousands of construction jobs (12-36 months)	Permanent local jobs are few (often 15-50 staff); most construction jobs leave
Some permanent technical and operations employment	Massive daily water withdrawals threatening municipal and agricultural supplies
Potential STEM education partnerships with local universities	Diesel backup generators produce 200-600x more NOx than natural gas plants
Drives broader digital infrastructure (faster internet, cloud services)	Projected 1,300 premature deaths and 600,000+ asthma cases annually by 2030
Signals regional competitiveness in the digital economy	24/7 industrial noise causing sleep disruption, anxiety, and stress illness
AI innovation may produce long-term productivity and medical benefits	Carbon footprint equivalent to New York City's annual emissions (2025)
Some companies invest in community grants and nonprofits	Tax incentives reduce actual net revenue; communities often overpay in concessions
Newer facilities increasingly use renewable energy sources	Land permanently converted; rural/agricultural character altered
Advanced liquid cooling technologies reduce water consumption vs. older systems	Environmental burdens disproportionately fall on lower-income communities

SECTION 5: CASE STUDY — ABILENE, TEXAS AND PROJECT STARGATE

West Texas provides a ground-level look at what a massive AI infrastructure project actually means for a mid-sized American city. For residents of communities where similar projects are proposed, Abilene offers the most instructive current example.

The Project

Abilene, Texas — the seat of Taylor County, population approximately 125,000 — is now home to what is considered one of the largest active construction projects in the United States. The 'Stargate' initiative is a multi-year, multi-hundred-billion-dollar effort to build out America's AI computing infrastructure, with Abilene as a flagship site.

ELEMENT	DETAIL
Project Name	Project Stargate — flagship AI infrastructure initiative
Lead Organizations	OpenAI (AI program), Oracle (cluster operations), Microsoft, Nvidia, Crusoe (facility development), Lancium (grid infrastructure)
Location	Lancium Campus, Abilene / Taylor County, West Texas
Power Capacity	1.2 gigawatts (GW) — ERCOT grid connection, supplemented by on-site GE Vernova natural gas turbines
Cooling Technology	Direct-to-chip liquid cooling (higher efficiency than traditional air/water tower cooling)
Scale	Dozens of buildings; approved for 1.2GW — equivalent to the power demand of a mid-sized American city
Economic Promises	Thousands of construction jobs; 1,000+ permanent roles; billions in local investment for Taylor County
Energy Source	ERCOT grid (Texas renewables including wind), backed by on-site natural gas generation for reliability
National Status	Considered one of the largest active construction projects in the United States as of 2026

Legitimate Resident Concerns for Abilene Area Families

For residents and families living in and around Abilene, the following concerns are grounded in documented evidence and deserve serious investigation:

Drinking Water

- Abilene draws water from Lake Ft. Phantom Hill, Lake Abilene, and Hubbard Creek Reservoir — all in a historically drought-prone region of West Texas.
- A 1.2GW campus using conventional cooling could consume tens of millions of gallons of water per day. Lancium uses liquid cooling which is more efficient, but water demand data for this specific facility has not been independently published.
- **Recommendation:** Residents should formally request water consumption disclosures from Taylor County and the City of Abilene utility board, and verify whether the facility

has secured any priority water rights that could affect municipal supply during drought conditions.

Air Quality

- The facility uses on-site GE Vernova natural gas turbines for backup reliability. Natural gas turbines produce NOx emissions, though at far lower rates than diesel generators.
- During grid emergencies (which have historically occurred in Texas under ERCOT), on-site generation may run for extended periods.
- **Recommendation:** Residents should request Texas Commission on Environmental Quality (TCEQ) air quality permit filings for the Lancium/Stargate campus and confirm the emissions rating under both normal and emergency operating conditions.

Noise and Quality of Life

- The facility operates 24/7 with industrial-scale cooling and power generation infrastructure. Residents within 1-2 miles of the campus boundary should be alert to low-frequency hum, vibration, and lighting impacts.
- **Recommendation:** Request independent noise baseline and ongoing noise monitoring as a condition of any expansion permits. Engage Taylor County Commissioners Court if concerns arise.

Electricity Costs

- The 1.2GW draw is serviced through ERCOT. Texas has a deregulated electricity market, and the direct contract structure between Lancium/Stargate and grid operators differs from regulated state markets. However, the sheer scale of demand can affect wholesale prices and transmission infrastructure costs that ultimately flow to all ratepayers.
- **Recommendation:** Monitor Oncor (the transmission provider in that region) rate cases and ERCOT capacity reports. Engage the Public Utility Commission of Texas if electricity bills spike.

SECTION 6: YOU ARE NOT ALONE — NATIONAL COMMUNITY RESISTANCE

Across the United States, communities are pushing back. This is not fringe opposition — it is a broad, bipartisan, and increasingly organized national movement.

By the Numbers

- **268 local opposition groups** across 37 states have been formally identified as of April 2026, representing approximately 360,000 organized followers, according to the Coalition for Responsible Data Center Development.
- **125% increase** in data center opposition between March and June 2025, according to Data Center Watch.

- **\$98 billion** in data center projects blocked or delayed by community action as of early 2026.
- **More than 200 bills** were introduced in state legislatures in 2025 alone to regulate data centers, with 40+ enacted into law.

Legislative and Regulatory Victories

- **Maine:** In April 2026, the legislature passed a moratorium on new data center construction through November 1, 2027, pending Governor Mills' approval — the first state-level construction ban.
- **Virginia:** Amended state laws to give local governments more authority over siting, including special-use permits and noise/environmental protections.
- **California, Ohio, Utah:** Enacted laws going beyond the federal government's voluntary Ratepayer Protection Pledge, requiring developers to cover infrastructure costs.
- **Minnesota:** Established separate water permitting requirements for data centers.
- **27 states** are advancing legislation requiring developers to cover energy costs and report usage.
- **Federal:** Senator Bernie Sanders and Rep. Alexandria Ocasio-Cortez proposed a national moratorium. The White House issued a Ratepayer Protection Pledge (March 4, 2026), with major developers committing to cover the full cost of new electricity generation — though with no legal enforcement mechanism.

Real Community Victories

- **Prince William County, Virginia:** Court rulings in 2025 voided approvals for a proposed 37-building campus near Manassas National Battlefield Park. One developer exited the project.
- **Festus, Missouri:** Community opposition escalated into local elections and lawsuits, successfully delaying a proposed facility.
- **Fayetteville, Georgia:** Residents pushed officials to deny a hyperscale proposal, and the city subsequently rewrote zoning rules to restrict future developments.
- **Anchorage, Alaska:** Passed an ordinance in March 2026 requiring conditional use review for every data center proposal.
- **Baltimore County, Maryland:** Placed a moratorium on data center development in February 2026.

IMPORTANT WARNING: Developers are increasingly targeting unincorporated county land specifically to bypass city council approvals, rezoning votes, and municipal land-use reviews. As of May 2026, this strategy is being actively tracked by industry analysts as a deliberate response to urban opposition. Rural and unincorporated residents may have significantly less regulatory protection than their city-limit counterparts.

SECTION 7: WHAT EVERY COMMUNITY MEMBER CAN DO

Whether you support, oppose, or simply want a fair deal from an AI data center being proposed in your community, you have rights and you have leverage — but only if you exercise them early and in organized fashion. Here is a practical action guide.

ACTION	HOW TO DO IT
Get Informed Early	Public notices for rezoning and special-use permits are often published only in local newspapers or government websites. Subscribe to county planning department notices. Join local community groups on social media.
Attend Planning & Zoning Meetings	These are the critical decision points. Show up, sign in, and speak during public comment periods. Bring specific questions about water, air quality permits, noise limits, and tax incentive terms.
Request Public Records	File public records (FOIA) requests with your city or county for: the developer's permit applications, environmental impact assessments, air quality permits, water usage agreements, and any tax incentive negotiations.
Demand an Independent Impact Study	Insist that your governing body commission an independent (not developer-funded) economic and environmental impact study before any approvals are granted.
Negotiate Community Benefits Agreements	If the project proceeds, push for legally binding commitments: noise monitoring and limits, water usage caps, local hiring quotas, infrastructure cost coverage, and community investment funds.
Connect With Other Communities	The Coalition for Responsible Data Center Development tracks 268 opposition groups across 37 states. Connecting with communities that have won fights gives you templates, tactics, and legal precedents.
Engage Your State Legislators	27 states are actively advancing data center legislation. Contact your state representative and senator — especially regarding ratepayer protections, water reporting requirements, and zoning authority.
Know the Rural Loophole	If the proposed site is on unincorporated county land, you may need to engage county commissioners rather than a city council.

ACTION	HOW TO DO IT
	Rural residents have fewer automatic protections and must be more proactive.
Monitor Electricity Rate Cases	When your utility files for a rate increase, the reason may be data center infrastructure. File comments with your state public utility commission opposing ratepayer-funded subsidies for large tech infrastructure.
Document Everything	Keep records of noise levels (use a free decibel meter app), air quality (Purple Air sensor networks provide community data), water pressure changes, and property value assessments. Documentation is essential if legal action becomes necessary.

Key Questions to Demand Answers To

At every town hall, planning meeting, or public hearing, demand written answers to these questions from both the developer and your elected officials:

- **Water:** How many gallons per day will this facility consume? From which water source? What happens to that allocation during a drought emergency?
- **Power:** What is the projected increase to residential electricity rates? Who pays for grid infrastructure upgrades — the developer or ratepayers?
- **Air:** What air quality permits have been filed? What are the NOx and PM2.5 emission limits? Will there be independent air quality monitoring?
- **Noise:** What are the decibel limits at the property boundary and at the nearest residence? Who enforces violations?
- **Jobs:** How many permanent, full-time jobs will be created? What is the minimum wage? Will there be local hiring preferences?
- **Taxes:** What tax incentives are being offered? What is the net tax benefit after incentives? When does that period end?
- **Accountability:** What happens if the developer fails to meet commitments? Are there clawback provisions in the tax incentive agreement?

SECTION 8: CONCLUSION — INFORMED COMMUNITIES MAKE BETTER DECISIONS

AI data centers are not going away. The global demand for computing infrastructure is real, and these facilities will be built somewhere. The question every community faces is not 'should AI exist?' but rather: 'What are the true terms under which we accept this infrastructure into our lives and our land, and who bears the costs?'

The historical record of the past three years is clear: communities that engaged early, organized effectively, demanded independent data, and insisted on legally binding community benefits agreements got better outcomes. Communities that remained passive, trusted developer promises alone, or were surprised by projects already approved behind closed doors did not.

The \$98 billion in delayed projects is not a sign that communities are obstructionist. It is a sign that communities are awake. The question of where AI infrastructure is built, who pays for it, and who bears its costs is one of the defining civic questions of this decade.

BOTTOM LINE: The economic benefits are real but often overstated. The environmental and health costs are real and often understated. The communities that fare best are those that show up informed, organized, and with specific, written demands before the first permit is stamped.

Resources for Further Research

- **Environmental Health Project:** environmentalhealthproject.org — health impact data on data centers
- **Brookings Institution:** brookings.edu — 'Turning the Data Center Boom into Long-Term Local Prosperity' (Feb. 2026)
- **Lincoln Institute of Land Policy:** lincolninst.edu — 'Data Drain: The Land and Water Impacts of the AI Boom' (Feb. 2026)
- **Smart Growth America:** smartgrowthamerica.org — 'Data Centers Are Here and More Are Coming. Our Zoning Is Not Ready.' (2026)
- **World Resources Institute:** wri.org — '7 Ways Data Centers Affect US Communities' (Feb. 2026)
- **Harvard T.H. Chan School of Public Health:** hsph.harvard.edu — Air pollution and health economic risk analysis (Apr. 2026)
- **National Consumer Research Center:** nrcr.org — 'The Local Costs of the AI Boom' (Feb. 2026)
- **MultiState Policy Watch:** multistate.us — Real-time tracker of state data center legislation
- **Coalition for Responsible Data Center Development:** Tracks 268 opposition groups across 37 states — searchable by region

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