

2026

Data Centers Decoded

Building better conversations
around data centers in
our communities

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Executive summary

The rate of data center development has skyrocketed as global demand for AI capacity continues on a sharp upwards trajectory. Although that growth will drive widespread socioeconomic change, it has also brought with it a wave of public concern, about AI itself as well as the wider impact on energy, water use, noise pollution, land use and the pace of development.

As with all fast-moving tech and data developments, this next generation of data centers come hand-in-hand with a great deal of misconceptions, too. We're taking a deeper look into some of the facts and fiction behind them, acknowledging what communities could view as genuinely worrying, and separating it from what is currently misunderstood and where further clarification will be helpful.

The central aim is to constructively reframe the conversation so that data centers are understood as a net positive for the communities in which they are built and the opportunities created as a result.

At Salute, we believe it is important to have open and constructive dialogue on these issues. We put people first, and what we always maintain is that we live in the communities in which we operate. We have a genuine stake in seeing data centers treated as true community assets, not infrastructure developments imposed on the people who live there.



01

Community impact and land use

Community impact and land use

Community concern:

Data center construction projects take valuable land and give nothing back to local communities.

The reality:

Sites are purchased fairly on the open market, and the projects return real, sustained value to the communities that host them.

There are two sides to the coin we need to address here: land acquisition and the net benefit to the community.

Looking at land acquisition, the site a data center is built on is always purchased fairly on the open market. A private operator has no power to force a sale, and sellers are paid fair market value. Site selection is determined by the impact on surrounding communities and capital cost. Data centers often look like large industrial warehouses that replace local farmland or open green spaces that can feel invasive to nearby homeowners. A good operator therefore looks for the location that places the least burden on local people while remaining financially viable, factoring in access to power generation and transmission.

On the community benefit and perceived notion that data centers give nothing back, the evidence points in a different direction. A CNN article from August 2026 stated that around **“30 data centers shoulder an estimated 57% of property taxes in Quincy, Washington, funding the city’s public building spree.”** Another data center in rural North Dakota grew the local community’s tax revenue from \$400,000 to \$3.5 million in seven months. Data centers can generate significant construction and supply chain activity and become substantial contributors to the local tax base.

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Nationally, the scale of the sector is easy to underestimate. The US data processing and hosting sector contributed roughly **\$529 billion to GDP in 2024** - about 2.8 times the **\$186 billion** from the entire US motor-vehicle and parts manufacturing sector - while employing a smaller, higher-paid workforce (BEA/BLS, 2024). Analysis of official federal data by Harvard economist Jason Furman found that investment in data centers and information-processing equipment and software drove the large majority of US Gross Domestic Product (GDP) growth in the first half of 2025.

And that's despite the category making up only around 4% of GDP.

GDP Contribution (2024)

Data processing & hosting

 **\$529B**

Motor-vehicle & parts manufacturing

 **\$186B**

2.8x as much GDP contribution

That national picture is felt locally, too: beyond permanent roles, a single project generates substantial construction-phase activity and work for local businesses and suppliers, alongside a lasting contribution to the local tax base.

In Virginia, the state's own Joint Legislative Audit and Review Commission found data centers supported close to **74,000 jobs a year**, including construction and knock-on effects – and that they also added \$9.1 billion to the state's overall GDP.

Permanent headcount at a single building is smaller than at a comparable manufacturing plant, but the industry is increasingly built around large campuses of four to ten facilities, where combined employment becomes significant. This is especially the case in smaller rural communities, where these are often above-average-paying jobs. Set against a similar-sized distribution or manufacturing operation, a data center also places far less strain on local roads and public services and carries a far higher ratio of tax generated to community cost, given the multi-billion-dollar scale of investment involved.

The clearest measure of return is the local budget. A large project can lift a county or municipality's general fund (its core operating budget) substantially, with the uplift shared across each taxing entity, from school, police and hospital districts to the county and city.

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For smaller rural communities, the effect can be transformative across public services, infrastructure and education. At Salute in particular, the community return runs much deeper. Our training model is built on employing veterans and people from non-traditional backgrounds - those who would not otherwise have access to the opportunities this industry can offer.

The overall benefit to the community is measured not just in terms of capital expenditure and GDP, but in the career pathways it creates for people who might otherwise be overlooked, giving them skilled, well-paid roles through Salute's training model.



In Ellendale, North Dakota, Applied Digital's expansion is expected to create around 80 permanent roles in a town of approximately 1,000 people, which is equivalent to roughly one job for every 12 residents.

Many of its technical roles pay between **\$50,000** and **\$100,000** a year, substantially above the area's historic per-capita income of around **\$24,000**.

Virginia (JLARC): ~74,000 jobs/year supported and +\$9.1bn to state GDP

The US data processing and hosting sector contributed ~\$529bn to GDP in 2024 – about 2.8x the entire motor-vehicle manufacturing sector (~\$186bn) (BEA)



The community return is substantial and designed to be long-lasting, combining construction and supply chain activity with years of tax revenue, stronger local services and new career opportunities that did not previously exist.

02

Water usage

Water usage

Community concern:

Data centers drain community water supplies and harm the environment.

The reality:

Not all data centers are water-intensive, with forward-thinking operators relying on closed-loop systems and other innovations to drastically cut their operational reliance on water.

Some legacy data centers mainly used evaporative cooling systems because they were built in areas where water was treated as an abundant, low-cost resource and therefore wasn't a constraint. Although this wasn't universally true, as some older facilities were built in water-stressed regions, such as Arizona.

Technology has evolved so modern data centers can be built to use far less water by relying on closed-loop liquid-cooling systems, which recirculate water much like a sealed car radiator. In many AI data centers, much of the water consumed on site instead supports routine needs such as restrooms, kitchens and facility cleaning, much like a standard office building.



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The reality:

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Research from [The University of Oxford](#) states a data center's water use isn't fixed but instead is determined by how the site is cooled and how its power is generated.

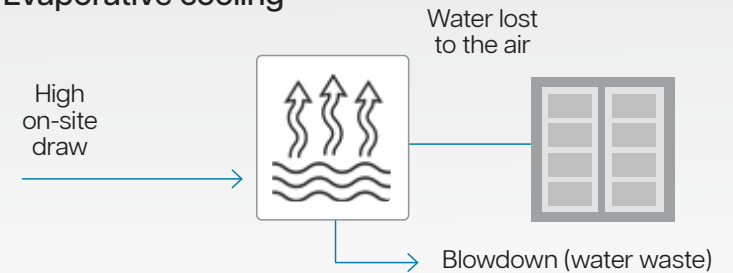
Traditional cooling works by spraying or evaporating water to carry heat away from the servers, and that water is lost as it evaporates unless the system is specifically designed as a closed loop.

Closed-loop and direct-to-chip liquid cooling are built to avoid that loss, which in turn can reduce on-site water use, though the actual savings vary by facility design, cooling method and how heat is rejected. The largest source of a data center's water use is usually not on-site cooling but the electricity produced via steam generation at traditional power plants.

That's why efficient design, cleaner power, proximity and infrastructure matter more than cooling alone. To put the scale in perspective, a comparable closed-loop campus can operate on a small fraction of the water a legacy site would.

Looking at Vantage's Wisconsin campus, for example, projected peak use is around **22,000 gallons** a day, compared with approximately **5 million gallons** a day for a similar-scale evaporative site. This represents a **99%** reduction in water consumption between the two cooling systems.

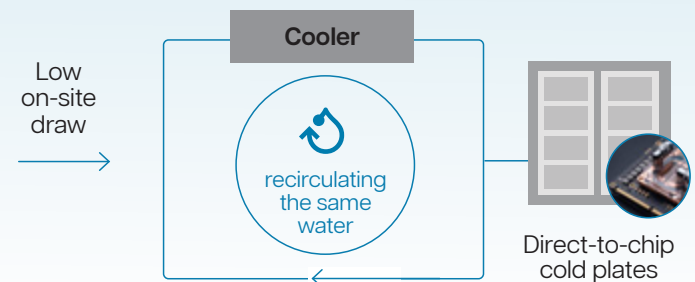
Legacy facility Evaporative cooling



About 5 million gallons a day for a similar-scale evaporative site

VS

Modern facility Closed-loop & direct-to-chip cooling



22,000 gallons a day (roughly the daily use of 65 average homes)

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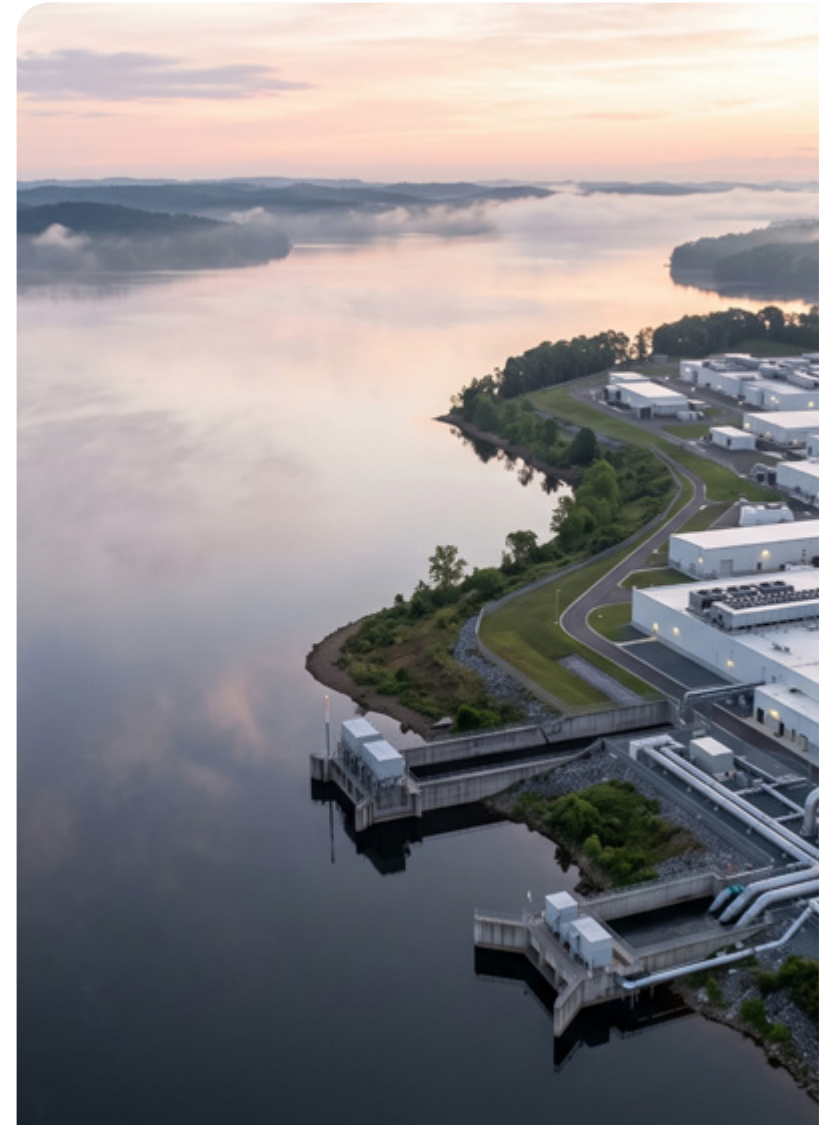


Data center operators must also assess water impact site by site against regional water pressures, as some facilities sit in water-abundant areas and others are situated in places that are more drought-prone.

Closed-loop cooling systems can significantly reduce treated water use compared with conventional evaporative cooling (Environmental and Energy Study Institute, June 2025).

Adoption is also accelerating: 25–30% of new data centers reportedly use advanced closed-loop cooling systems in 2026, compared with less than 5% just a few years ago (Infra For America, 2026).

There is no one-size-fits-all answer, but judging how modern AI facilities are currently built, the water story is far removed from the legacy reputation associated with water usage.



03

Energy bills and the grid

Energy bills and the grid

Community concern:

Data centers push up household energy bills and strain grid reliability.

The reality:

Data centers do represent a growing share of energy demand, but they are not the main reason behind rising bills and should not be treated as such.

The truth is, the main cost drivers predate the AI boom.

Research from The Washington DC-based [Bipartisan Policy Center](#) reports transmission and distribution costs have nearly doubled since 2014, according to EIA data, while generation costs have stayed relatively flat or even declined. Grid-delivery investment, which has lead to increasingly aging infrastructure, is clearly the main driver of bill increases.



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In March 2026, the White House officially introduced a [Ratepayer Protection Pledge](#), under which participating AI data center developers commit to ‘paying their own way’ for the generation and transmission their projects require, so new demand does not fall on existing billpayers.

There is also growing evidence that large commercial users can form part of the solution, rather than contribute to the problem. Given that a new data center is a significant, long-term source of revenue for a utility, it can help fund the grid modernization that benefits every customer on the network.

A December 2025 study commissioned by Amazon and conducted by E3 found that its data centers are projected to generate around **\$33,500 per MW** in surplus value. This is value utilities can put toward the benefit of other customers. Rather than shifting costs onto existing billpayers, well-structured projects can help carry the cost of the upgrades the grid already needs.



Energy bills are shaped by a combination of generation, transmission and distribution costs, fuel prices, regulation and the investment needed to modernize aging grids. Responsible operators are increasingly required to fund the infrastructure their projects rely on, rather than pass those costs to existing billpayers.

04

Noise pollution and air quality

Noise pollution and air quality

Community concern:

Data centers are noisy and pollute the air with always-on diesel generators.

In terms of noise pollution, there are two factors to address: the low-level hum that cooling systems produce and the emergency use of back-up diesel generators.

The reality:

Modern facilities reduce noise through sound walls, acoustic enclosures, fan attenuation, building setbacks and vegetation buffers.



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Community concern:

Data centers are noisy and pollute the air with always-on diesel generators.

The reality:

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First, backup diesel generators tend to be for emergencies only, not continuous use.

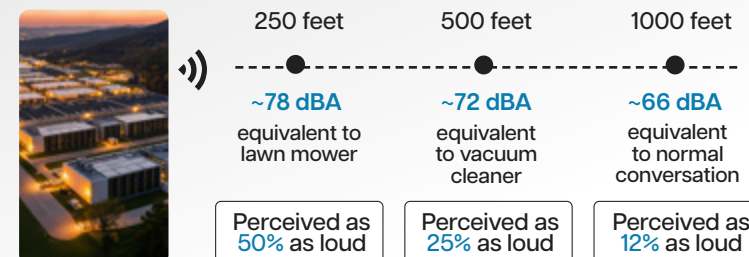
Their non-emergency use is capped by federal law: under the **US Environmental Protection Agency's Clean Air Act rules (the RICE NESHAP standard)**, emergency generators may run no more than 100 hours a year for testing and maintenance. Outside genuine outages, they sit idle for the majority of the year, and modern units must meet strict emissions standards, running on ultra-low-sulfur diesel.



Second, data centers can produce a constant, low-level humming sound, due to the mechanical systems they use.

As servers must be cooled continuously, the fans, chillers and transformers that do it run around the clock, generating a persistent low-frequency sound. Permitted noise levels vary by jurisdiction, land use and time of day, with limits near residential areas often considerably stricter at night.

Noise reduction with distance



Best-in-class developers also go beyond decibel requirements to ensure any noise is not impacting the community.

While this noise cannot always be eliminated entirely, it can be significantly mitigated through measures such as acoustic enclosure design, equipment selection and careful siting relative to local communities. Operators must also comply with local noise limits, which vary by location.

Modern facilities are designed and sited specifically to manage sound and emissions, and they operate inside clear federal and local limits.

05

Unchecked growth and hurried infrastructure

Unchecked growth and hurried infrastructure

Community concern:

Development of new data centers is being rushed through without proper checks and balances.

The reality:

Far from being a free-for-all, a new facility must first clear a dense web of regulations and it's usually at least 36 to 48 months before ground is broken.

Locally, data centers must adhere to entitlement approvals and regulations covering planning and building, fire, water and other utilities, and federally, there are several standards enforced by bodies such as the EPA and OSHA.

Facilities also cannot plug into the grid without conducting significant due diligence checks first. The grid-connection process alone can take between three and seven years in the US, from the initial interconnection request to final approval and energization. Before a major new load can be connected, the data center has to run a formal interconnection study, which assesses how the added demand affects grid stability, voltage and reliability, and identifies the upgrades that will be required. As a rule, developers, not billpayers, are expected to fund the connections and infrastructure their projects depend on, from substations to transmission.



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Far from being a free-for-all, a new facility must first clear a dense web of regulations and it's usually at least 36 to 48 months before ground is broken.

These checks and balances are actually intensifying, and in June 2026, federal regulators directed every US regional grid operator to develop dedicated rules for connecting large loads, like data centers, to demonstrate how they will protect and future-proof grid reliability.

Grid operators in Texas and elsewhere have introduced new processes that assess large projects together, rather than one-by-one, to see the full picture of future demand.

The speed of demand, which has been accelerated by the AI revolution, has stretched systems, like the grid, that were built for a different era.

This is precisely why those systems are now being reinforced, and the response to the industry's rapid growth has been more scrutiny, not less.



The Federal Energy Regulatory Commission (FERC) mandated that each Regional Transmission Organization (RTO) and its transmission-owning members to either justify why current tariffs remain just and reasonable or file tariff changes within 60 days.

The pace of AI demand has stretched systems built for another era, but great effort and investment is going into strengthening those systems to the benefit of the industry and wider communities.

How a large load gets connected

3 - 7 years →

1

Interconnection study

2

Required upgrades

3

Developer-funded infrastructure

4

Grouped/phased approval

Conclusion

Building better conversations and finding common ground

There are a number of concerns behind public unease about new data center developments, and while it wouldn't be fair to dismiss any of them as irrational or irrelevant, they do need careful consideration to distinguish fact from fiction.

We've covered factors across energy, water, noise, land and the sheer pace of growth in the face of rising demand from AI services, which are all valid concerns, all under the shadow of community level apprehension about the impact the next generation of data centers will have on people's lives.

In reality, data center developments create huge opportunities, both in terms of GDP growth at a state and country level, but also in terms of training opportunities and job creation. They are also increasingly treated as critical national infrastructure across the globe, and a strategic priority in the global race for AI capability.

Get in touch

Lucas Workman, VP, Economic Development & Community Affairs
Lucas.Workman@salute.com



Learn more about how Salute is prioritizing a community-first approach to operations

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