

The Data-Center Debate Is Divorced From the Facts

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As the build-out of AI data centers has accelerated, the public has tended to focus on every possible downside of these industrial projects. Some wariness—about the developments and the companies behind them—is sensible. As with almost any new industrial development, and depending on where they are built and how they are powered and cooled, data centers pose risks of excessive carbon-dioxide emissions and noise pollution.

But the panic about the harms of these projects has well outpaced the evidence. In my years researching and reporting on AI and the environment, with support from a grant from Coefficient Giving (formerly Open Philanthropy), I’ve noticed that misconceptions abound. This panic, moreover, is leading communities to forgo massive amounts of tax revenue—largely because of threats that are inflated, confused, and sometimes nonexistent. The trade-offs are real.

In June, a Massachusetts city near where I grew up [blocked](#) a data center, in large part out of concern over the amount of water the development would use and pollute. Data centers do need a lot of water to cool their equipment, and—as with most industrial building projects—constructing these developments can introduce chemical additives into the local wastewater. But there are no confirmed cases of this data-center pollution harming people, and this city specifically has abundant fresh water.

[Elias Wachtel: The data-center panic is overblown](#)

Most of the fear about water seems to be the product of misunderstood details from news reports, spread like a game of telephone. *The New York Times* published a [story](#) last year about a Georgia couple whose water taps at home went dry after Meta broke ground on a \$750 million data center nearby. The couple suggested that Meta’s construction created a buildup of sediment in the water, which caused water-pressure problems and damaged their well (many homes in the area use well water). Whether the construction actually caused these problems remains unclear, but the story is often read as evidence of the harms of data centers. Yet sediment buildup in groundwater is a standard construction risk, and most places don’t ban large buildings over it. Almost all stories about the harms of data centers cite such construction-related problems.

As for the concern that data centers add toxic “forever chemicals,” known as PFAS, to local water sources, this seems to involve some confusion over how centers use water to cool the machinery. Some systems use fluorinated fluids classified as PFAS to help cool servers and prevent fires, but these are designed as closed loops that stay contained in equipment. There’s always the threat of a leak, but contaminating local waterways is a risk of any major industrial project.

One known exception in which a data center was linked to a water-pollution problem was in Oregon, where Amazon data centers used groundwater that was already contaminated from decades of local agriculture and food processing. Because much of the water used to cool equipment ends up evaporating during the process, the wastewater that left the data center had a higher concentration of nitrates, which exacerbated the contamination problem in the local groundwater. Amazon [agreed to settle](#) the matter for \$20.5 million without admitting guilt. The company accurately noted that the area had been suffering from polluted water for decades, even if the data center made it worse.

The data-center debate includes plenty of dauntingly large numbers without context, such as that they consume millions of gallons of water a day. This is a significant amount, but also comparable to the water use of other industries. The data center with the highest known water consumption, Google’s development in Council Bluffs, Iowa, consumes about 1.3 billion gallons a year. That sounds massive, but so is the

amount of water used to irrigate Iowa's corn crops. If Google had bought a cornfield four to six times as large as the data center's plot, or about eight square miles (roughly 0.04 percent of the total area Iowa uses for corn), the company would consume the same amount of water irrigating it. All American data centers together will consume about 1 percent of the water that America uses to irrigate corn. This is not nothing, but hardly horrifying in context.

Another misconception is that data centers consistently raise local electricity prices. There is no clear positive relationship or broad pattern between data centers and household electricity prices, but people are happy to spread misleading claims on the subject. A common statistic that critics bandy about is that electricity costs near data centers have skyrocketed by as much as 267 percent in five years. Senator Elizabeth Warren [cited](#) this number in an op-ed earlier this year. But the figure comes from a Bloomberg [analysis](#) of wholesale electricity prices at specific nodes on the grid, not the prices that households pay. Although wholesale prices influence residential prices over time, residential prices are largely insulated from wholesale spikes and drops, and American-household bills have not risen anywhere near 267 percent during the data-center build-out. When price hikes have been linked to data centers, the amount [looks more like](#) 10 percent.

Perhaps the most pernicious misunderstanding of the facts involves the claim that data centers don't pay taxes. Early reports about the sales-tax exemptions on machinery and equipment that data centers enjoy in most states have somehow morphed into a sweeping assumption that data centers are actually depriving states and municipalities of tax revenues. The reality is that data centers are a reliable and lucrative source of tax revenue wherever they are built. Real-estate and personal-property taxes ensure that the tax burden on these developments is high, regardless of sales taxes.

For example, Loudoun County, Virginia, which has the largest concentration of data centers in the country, collects \$1.3 billion a year in county taxes from these centers—about \$2,800 per resident. This represents nearly half of all local tax funding for county government and public schools, despite Virginia's waiver of sales taxes on related machinery and equipment. [Local opposition](#) to new data centers has come to Loudoun too, but residents are unlikely to forgo hundreds of millions of dollars a year to shut down the data centers in operation.

[Matteo Wong: The truth about AI's water use](#)

Another common concern is that data centers will "take up all the land" because these facilities consume a lot of space. Yet my own [rough estimate](#) puts the combined footprint of all data-center buildings in America at about 25 square miles by 2028—a little over half the size of Disney World and spread across the country. These projects also buy land around the buildings and for future expansion, but the combined landholdings of all new and existing data centers would cover about 1,400 square miles, a little more than three times the land used to grow Christmas trees in the United States.

For a sense of scale, again consider Loudoun County. Data centers take up 3 percent of Loudoun's land, even as they generate nearly 40 percent of the county's general-fund revenue. Despite concerns that these centers depress local land values, a 2025 [study](#) of home sales in Northern Virginia, including Loudoun, found that homes closer to data centers sold for higher prices, perhaps because the infrastructure that's valuable for data centers is also valuable for homeowners.

Then there are the conspiracy theories, such as the idea that data centers emit harmful, inaudible low-frequency sounds, known as infrasounds. Such claims sometimes misrepresent the studies they cite. No infrasounds at the levels the data centers emit have been found to be harmful. This is not to say that data centers don't cause some noise pollution, but the idea that imperceptible infrasounds have some mystical ability to make people unwell is not borne out by the evidence.

As for the underlying anxieties about AI that may be motivating the data-center backlash, slowing down the construction of data centers is [not the same](#) as slowing down the capabilities of AI. Yet banning data centers has become shorthand for political candidates who wish to seem tough on AI, when this is a distraction: The wiser and tougher move is to heavily regulate the industry.

No data center is a harmless boon for locals, but the real question is whether their downsides outweigh their benefits. Given the status-quo bias at play—whereby change seems inherently costlier than keeping things the same—I’ve discovered a simple trick to make the trade-off clear. I now ask people, “Would we spend as much tax revenue as the data center will bring in to avoid its downsides?” For example, would the residents of Loudoun County each pay \$2,800 a year to reduce some of the county’s air pollution and water use, lower electricity bills by [about \\$6 a month](#), and make about 3 percent of the county’s land available for something else? Since this is the actual question before communities, I find that spelling it out is handy. In Loudon, and in other jurisdictions around the country, many voters seem, on balance, to prefer the data centers.