



Exploring the Political, Economic, and Environmental Impacts of AI Data Center Growth in the U.S

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Abstract

The growth of data centers in the U.S. in recent years has caused widespread impacts on the U.S. economy and local and national politics. This paper analyzes a range of academic research, news coverage, government reports, and policy analyses to present a timeline of the recent growth of data centers and their impacts. It analyzes both short- and long-term economic impacts at the local, state, and national level. Moreover, this research seeks to better understand the increased electricity demand driven by AI and how it will affect carbon emissions. It examines the carbon emissions from the new power demand in the U.S., focusing largely on the main technology companies (e.g., Google, OpenAI, Anthropic). Furthermore, leading up to the 2026 midterms, this paper inspects the role that AI is playing in politics, especially how congressional candidates are forming their opinions about it in light of recent grassroots opposition movements. It finds that AI is growing at alarming rates in the face of government deregulation. Yet widespread criticism of data centers' environmental impacts is gaining traction that may refute this trend. This paper examines how AI functions in society and poses both as an asset that the United States can dominate for political and economic leverage, and as a societal threat.

Introduction

It seems like AI is an overwhelming force that we hear about every day. The diverse range of apps and platforms in which AI is used — from the workforce, the classroom, and at home — and its accessibility is what makes it so pervasive. But what are the existential threats that AI poses to the American economy, local and state economies, societal health and well-being, and Politics? What some may not realize is that AI is playing a role in most aspects of American daily life, and will continue to pervade society at alarming rates in the face of federal deregulation.

Section 1. Introduction to Data Centers

Section 1.1 What Are Data Centers?

Any company that runs online applications or services needs a place to store its digital data. Data centers are physical locations, often in the form of large warehouses, that contain the computational resources and infrastructure necessary to run the applications that IT systems require (Yañez-Barnuevo). Almost any online action, whether that is emailing someone or playing a video game online, is processed and stored in a data center.

When understanding that any digital activity is made possible through the computational networking of data centers, it is no wonder that they consume 50 times more energy than the standard commercial building (Yañez-Barnuevo). In 2022, data centers worldwide collectively



consumed about 17 gigawatts (GW) of power alone, which is almost triple the power demand for New York City (Yañez-Barnuevo).

Section 1.2 The Different Types of Data Centers

There are also many different types of data centers, including Enterprise, Colocation, Hyperscale, Edge, and Modular/Container ("Five Types"). The most common data centers are colocation data centers, where businesses rent space from a third party to store their servers, and enterprise data centers, which are owned by the single organization that is using them ("Five Types"). In 2018, enterprise data centers accounted for 56% of all data centers ("A Lack of Capital"). But that number is declining with the influx of hyperscale data centers, which typically house thousands of servers, occupying at least 10,000 square feet. In 2025 alone, 224 new hyperscale data centers were added globally (Haranas). The total number of worldwide hyperscale data centers is 1,136, and the United States houses approximately half of them (Yañez-Barnuevo).

Section 2. The Explosion of AI Data Centers

2.1 Data centers 2000 to 2022

Data energy consumption is currently led by the United States, as multi-trillion-dollar companies are investing billions of dollars into hyperscale data centers. Out of the 6,111 data centers worldwide, 88.8% (5,426) of data centers are in the United States (Mahan). The dominance of data center presence in the U.S. is mainly due to the fact that the companies that own these data centers, namely Oracle, Google, Amazon, and Microsoft, are American companies headquartered within the United States.

2.2 The "ChatGPT" Moment

When OpenAI launched ChatGPT in November 2022, access to AI became widespread throughout the world, immediately leading to a massive surge in demand for new data centers to meet the newfound computational demand to process and store every ChatGPT inquiry. The artificial intelligence algorithm that forms ChatGPT's clear and direct responses improves human efficiency in daily life, which is why it is not surprising that many are shifting from using Google to AI systems such as ChatGPT. About 800 million people use ChatGPT weekly as of 2025 (Edmonds).

2.3 The Race to Expand Data Centers

The increase in data centers around the globe, and specifically within the United States, is significant, as there are currently 50 million square feet in planned developments, which is twice the volume of data centers over 5 years ago ("A Lack of Capital"). Half of data centers planned within the US are in new locations without existing data centers and associated infrastructure. Amazon Web Services holds the most data centers and plans to spend \$20 billion

in Pennsylvania and \$11 billion in Georgia for the development of AI data centers (“Amazon Plans”).

Section 3. Economic Impacts of Data Center Growth

3.1 Immediate National Economic Impact

According to Census Bureau data from May, 2026, data center construction annual spending went up 23% from the prior year to \$59.3 billion. The study accounts for 8% of private nonresidential construction spending (“Building More than Data”). According to the Associated General Contractors 2026 Outlook Survey, “57 percent of contractors expect the available dollar value of data center projects in 2026 to exceed 2025 levels” (“Building More than Data”). According to this data, experts suggest that AI data centers will support nearly 9700 construction jobs.

3.2 Immediate State Economic Impact

In a Virginia Joint Legislative Audit and Review Commission (JLARC) Data Center Study, it found that data centers “supported nearly 74,000 jobs annually, including construction and ripple effects, and generated \$9.1 billion in annual economic contribution to Virginia’s GDP...[accounting] for up to approximately 30 percent of local tax revenue” (“Building More than Data”). It is important to note that Virginia’s increase in GDP accounts for almost 20% of the total national GDP from AI data centers as of May, 2026. Yet, this is because Virginia has favorable tax incentives and has historically housed the development of internet infrastructure. Regardless, while most states aren’t producing nearly as much in GDP as Virginia, most states don’t have the attractive atmosphere for data center construction that Virginia does.

With the cost of an individual hyper data center costing more than \$1 billion, it is no wonder that it would boost the local economies of the cities it populates. Daniel Yue, assistant professor at Georgia Tech’s Scheller College of Business, has examined how data center openings affect local jobs, wages, business activity, and electricity prices. He conducted a study with Yiyang Zeng and found that when a new data center opens within a county, “Employment rises by about 3.5%, wages by 5%, business establishments by nearly 5%, and household income by about 2%” (“Data Centers Are Booming”). Their findings solidify that AI data centers will positively boost local economies right away, boosting jobs and stimulating local business revenue by bringing more people in.

3.3 Long-term Economic Impact

While the immediate effects of AI on the American economy prove to be significantly positive, economists are still unsure whether or not this trend is sustainable. Recent major transactions surrounding AI include SpaceX “borrowing \$40 billion to buy Nvidia chips” and that “Broadcom Inc. pulled together a group of finance firms aiming to raise \$60 billion to fund AI chips for Anthropic PBC, the Claude maker, and additional companies” (Moreland). It is evident that AI is prompting these massive deals and contracts, further stimulating economic activity across the corporate world’s leaders.

It is also important to note that the construction of these AI data centers are leading to less property taxes for some of the local communities that it inhabits. In Effingham County, Georgia, “OpenAI plans a \$20 billion data center, [and] has pledged to use some of that revenue to cut homeowners' property taxes” (Callanan). Despite this, it is still unclear whether or not these tax cuts will be significant for the local taxpayers, or if they will outweigh the negative impacts of data center construction in general that the community will face.

3.4 Corporate Debt

Companies are currently building up massive amounts of debt to support funding and building of these massive data centers while investing in AI. The major credit rating firm Moody said that “the hyperscalers will collectively spend about \$785 billion this year and nearly \$1 trillion in 2027” (Sherman). By comparison, “Uber raised about \$15 billion” before making a profit. Furthermore, when Google started in 1998...it raised \$35 million,” which inflation would “put an equivalent value today which inflation would “put an equivalent value today of \$66.75 billion” (Sherman). The massive debt that these companies are shouldering to stay ahead of the AI race is resulting in “\$821 billion in leases and expenses that haven’t started yet” (Sherman). The concern is bankruptcy, which wouldn’t matter if companies like Amazon and Google didn’t account for 1,400,000 jobs.

Section 4. Political support and incentives for data center expansion

4.1 Congress

According to recent research, about one in five members of Congress have household investments in Artificial Intelligence. According to one specific study, “At least 106 members of Congress, their spouses, or their dependent children hold stocks or other investments in AI developers,” calculating as of September 17, “the members’ AI investments are worth between \$82.8 million and \$325 million” (Moore). Since many members of Congress have financial holdings in these companies, they are more likely to support legislation that supports their growth.

4.2 The Trump Administration

The Trump administration had been a huge proponent of cutting red tape, or government regulations, on the building of data centers nationwide. According to President Trump, when referring to corporations investing in AI at a White House AI summit in July 2025, “If you regulate them too much, you kill the source of American genius and technological power” (Romaine). The significance of this speech was that President Trump made it while he outlined his administration's approach to the technology, therefore making the advancement of AI a key initiative he plans to support within the United States.

Furthermore, in an article from U.S. News, it reports that Mr. Trump said that “the U.S. should pursue regulation that is ‘sensible’ and ‘smart’ but argued that excessive restrictions

would hurt startups and other companies that drive innovation” (Romaine). This further underscores Trump’s value of AI, primarily because of its positive effects on the US economy.

On top of that, Trump has made reducing regulatory barriers central to his AI policy by carrying out his January 2025 executive order, which called “for removing policies that the administration viewed as obstacles to American AI innovation and said the U.S. should ‘sustain and enhance’ its global AI dominance” (Romaine). The purpose of this executive order is to “facilitate the rapid and efficient buildout of this infrastructure by easing Federal regulatory burdens” and to “develop guidance to help expedite environmental reviews for qualified reuse” (Romaine). Aligning with Trump’s plans to fuel economic growth within the United States, this executive order does just that by instituting less red tape and regulation that have historically been problematic given the initial constraints against project development in the interest of land preservation.

4.3 Government Reimbursement

Critics such as Yasir Atalan, Erik Tiersten-Nyman, and Benjamin Jensen have reported that “Between fiscal year 2019 and FY 2025, federal agencies awarded 2,255 identified AI-related awards, with \$4.1 billion in total obligations” (Atalan). In their recent study, published on September 22, 2026, it cites how “The number of AI-related contracts more than tripled over this period, and annual obligations also increased significantly, reaching \$1.162 billion in FY 2025,” and that this increasing demand is fueled by the Department of Defense (DOD), “which accounts for 83 percent of obligations” (Atalan). Therefore, this influx of money by corporations into the executive branch of government correlates with increased deregulation.

To continue, reporters Sophia Cai and Katie Roof examine in a Politico article other ways in which companies have offered financial incentives to cut governmental red tape within the US. It states that “National Compute, a new company that has pooled computing power from major tech companies, plans to donate \$100 million worth of computing credits to the Trump administration to be used to advance scientific discovery” (Cai and Roof). The article explains that “National Compute is building [a]...National Compute Grid, [which is] a network intended to pool computing capacity from multiple providers and make it available to researchers, companies and government agencies” (Cai and Roof). The effects of this project on the electric grid include pooling “2 gigawatts of computing capacity by 2030, with 750 megawatts allocated to date” (Cai and Roof). Therefore, it is without doubt that the National Compute offered this donation to the Department of Defense in order to expand this project initiative.

Additionally, recent discussions within Congress about legislation concerning these AI data centers provide evidence as to why states are incentivizing companies to create data centers for AI growth. States such as Pennsylvania, Utah, and Oklahoma are trying to pass legislation to incentivize data centers to be built in their state. In June 2025, Kansas approved a new sales tax exemption, yet some states such as Oregon are resisting new legislation in order to protect the environment (Miller).



Overall, government officials, including congresspersons outside of the executive branch, have facilitated deals with corporations, or indirectly supported their initiatives because of their own financial incentives.

Section 5. Political Opposition to Data Center Expansion

5.1 Grassroots Campaigns

However, there is also significant opposition to this deregulation, and it is consistent with local voices criticizing the construction of data centers and its effect on the energy grid. According to Darrell West, a senior fellow at the Brookings Institution, "People just feel like they no longer have control over the technology, [and] that worries them" (Neuman). West explains how it is a "real grassroots movement...[stemming from] ordinary people all across the country, both Republicans and Democrats" (Neuman). West's claims of bipartisan collaboration in favor of data center regulation are backed by a recent poll from The Economist and YouGov, which shows that "about two-thirds of Americans oppose new data center construction in their communities" (Neuman). Despite this overwhelming opposition, it is still unclear in the face of politics whether or not deregulation will end as the Trump Administration continues to further its own agenda.

5.2 Congressional Opposition

These grassroots campaigns are proving effective as certain congressional members start to take strong opinions against this issue while approaching the midterms. In a Politico article by Gabby Miller, it reports that "Washington Sen. Maria Cantwell, the top Democrat on the Senate Commerce Committee, and Rep. Lori Trahan (D-Mass.)...separately released a framework sketching out core AI safety principles and a liability discussion draft" (Miller). Despite bipartisan local campaigns, on the congressional level, the Democrats have seemed to take leadership over combating this issue. Democrats who are considering proposals include "Texas Rep. Greg Casar and Sen. Bernie Sanders (I-Vt.) as well as Reps. Sara Jacobs of California and Don Beyer of Virginia" (Miller). It is important to recognize that many of those names have actively shaped their party's approach to technology, therefore setting the stage for Democratic initiatives relating to data center construction and AI (Miller).

5.3 The 2026 Midterms

Especially since artificial intelligence has proliferated throughout the lives of many Americans, it is no wonder that many politicians are taking a stance on data center construction as the 2026 Midterm Elections approach. In Ohio, Democratic nominee for governor Amy Acton stated in a press release that she is "calling on our Statehouse to pass a conditional moratorium on data centers" (Callanan). However, despite Democratic accountability over combating AI data center development, GOP candidates are also taking the same stance. Acton's opponent, Vivek Ramaswamy, has promised to "issue an executive order...to immediately halt the approval of any new data center project announcements in Ohio" (Callanan).

Despite bipartisan agreement against data center construction in Ohio, many Republican candidates are supporting AI development and data center growth. In Georgia, while Democratic gubernatorial candidate Keisha Lance Bottoms is calling for “a temporary moratorium on construction,” her GOP opponent, Rick Jackson, says he wants to “educate people on the benefits if they want [a data center],” citing that “Some counties...expect they ‘will have zero property taxes after the data center goes in’” (Miller). Therefore, because many candidates are taking stances on this issue, the 2026 Midterm Elections will undoubtedly be telling of what most American people want as it relates to data center construction, and will also serve as a projection for what AI development in the United States will look like.

Section 6. Electricity Demands of Data Centers

Section 6.1 Short-term Implications on the Environment

The overall AI energy consumption is reaching alarming rates in the face of the climate crisis and rising carbon emissions. The environmental short-term implications of these data centers include the electricity demand being set to double by 2030, which is around 945 terawatt-hours. The data centers are also projected to drive greater than 20% of the growth in electricity between now and 2030. On top of that, data centers currently make up only 3% of electricity demand, but will soon shift to 8% by 2030 (“Hyperscale Operators”).

It is not only electricity consumption that will increase. Fossil fuels will account for two-thirds of additional electricity generation between now and 2035, mainly in part due to the increase in data centers (“Hyperscale Operators”). Carbon emissions are expected to increase alongside a demand for 720 billion gallons of water. Solar and wind energy are also projected to spike significantly. This trend is consistent with recent growth and development regarding the construction of new AI data centers, many of which are hyperscale data centers.

Currently, there are 6,111 data centers worldwide, which is up from 3,600 since 2015 (“Hyperscale Operators”). The expansion of AI data centers will cause more strain on the electrical grid because of their proximity to urban areas. Northern Virginia leads with the biggest concentration of data centers, with over 11,000 megawatts of power supply. This is enough to power about 10 million American homes.

Section 6.2 Future Growth Projections

AI does show promising long-term implications. There is current data revealing an increase in energy efficiency in the building sector due to AI (“Hyperscale Operators”). An AI algorithm, specifically the WWR algorithm method, is used to optimize AC and heat within any zone or building (“Hyperscale Operators”). These examples highlight how AI is currently proving beneficial by reducing energy consumption by 20%.

There are many unknown factors that make the projection for how AI will affect resources and the climate undeterminable. This includes the fact that there are no regulations on what machine learning activities are being used for. Machine learning was “10%–15% of Google’s



total energy use” from 2019 to 2021, and a ChatGPT query needs nearly 10 times as much electricity as a Google search query (Aljibour et al.).

Section 6.3 Corporate Accountability

Because AI’s energy use represents 20% of the global data center power demand, consuming 82 terawatt-hours of electricity in 2025 alone, many companies are trying to shift the narrative about their own intentions as it relates to AI and its impact on the Earth (“Google Environmental Report 2024”). Google’s 2024 sustainability report said its greenhouse gas emissions rose by 48% since 2019. Additionally, the report outlines Google’s goal to be carbon neutral by 2030. Microsoft, on the other hand, has the goal of reaching carbon negative by 2030. Microsoft’s 2024 sustainability report said that its emissions increased by 29% since 2020 due to the construction of data centers “designed and optimized to support AI workloads” (“2024 Environmental Sustainability Report”). As companies continue to receive public backlash surrounding their investment in AI and the development of AI data centers, it is expected that there will be a growing trend of organizations like Google committing to be carbon neutral.

Nevertheless, the concern for AI development and the climate continues to be an imminent concern. A study from the Lawrence Berkeley National Laboratory, which is funded by the U.S. Department of Energy, found that by 2028, data centers could represent 12% of all US electricity consumption (Shehabi et al.). Another analysis, by Grid Strategies, presents that “up to 90 gigawatts (GW) worth of data centers could come online by 2030, “which is about 9 times New York City’s peak summer demand” (Walker and Goldsmith).

Conclusion

In summary, AI is growing exponentially fast through deregulation and an outpouring from global tech supergiants funding massive data centers, competing to pull ahead in the AI race. Nevertheless, as AI development continues, the instability of the energy grid will increase as disproportionate amounts of water are used to cool down servers that require the energy equivalent to that of a small city. However, with the 2026 midterm candidates advocating against the deregulation of data center construction, this AI growth may be halted. Grassroots campaigns are fueling these popular opinions, leading to local efforts to stop the expansion of data centers. Economically, while short-term boosts in growth seem promising, the lasting impact is nonetheless detrimental, as the majority of the jobs associated with data centers are short-term in nature, related to initial construction rather than long-term operation, flooding out of the towns once the data centers are built. One thing is for certain: AI will continue to grow and proliferate throughout American society. It is a matter of determining whether or not it will increase alongside government regulation, or be overcome by corporate greed.

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