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Powering Artificial Intelligence: Big Tech's Dream and Ratepayers' Nightmare

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Abstract

The rapid expansion of artificial intelligence (AI) and cloud computing is driving unprecedented growth in electricity demand, primarily due to hyperscale data centers operated by major technology firms. These facilities consume vast amounts of power, raising concerns over grid reliability and cost allocation. As utilities invest billions in new infrastructure to meet this demand, the financial burden often falls on ratepayers through increased utility bills. This paper examines the economic and regulatory challenges posed by AI-driven electricity consumption, analyzing the risk of cost overruns, preferential rate structures, and inflated demand projections. It explores policy measures aimed at protecting consumers, such as specialized rate classifications, cost-of-service studies, and coincident peak demand charges. By evaluating state-level regulatory interventions and alternative cost allocation frameworks, this essay highlights the importance of ensuring fair electricity pricing while maintaining grid stability.

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Artificial Intelligence: Big Tech's Dream and Ratepayers' Nightmare

Introduction

Artificial intelligence is the Gold Rush of the 21st century, and the tech giants — Amazon, Meta, Google, and Apple — are the modern-day miners. Their pickaxes and shovels? Data centers — massive facilities packed with computing hardware capable of running your ChatGPT search that consume staggering amounts of electricity. So called "hyper scalers," some of these data centers are capable of consuming up to 1 gigawatt (GW) of power (Moss 2024). To put that into perspective, a typical LED light bulb uses about 10 watts, while an average U.S. household consumes around 1,200 watts. A 1 GW data center, therefore, draws the same rate of power as 100 million LED bulbs or approximately 833,000 households.

As utilities and energy companies invest billions of dollars into building the large-scale transmission and generation infrastructure necessary for accommodating these data centers, who will ultimately be responsible for the cost? Will it be the utilities themselves, the tech companies, or will the cost be spread across all utility ratepayers?

In this paper, I examine how the rapid expansion of hyperscale data centers is reshaping electricity demand, creating unprecedented challenges in terms of cost, grid reliability, and fair cost allocations. I demonstrate how ratepayers could face disproportionate financial burden should utilities experience cost over-runs, should utilities offer preferential rates, and should projected load not materialize. Finally, I analyze current regulatory efforts, such as special rate classifications, cost-of- service studies, and coincident-peak demand charges, aimed at ensuring residential and small business customers do not see their utility bills rise as a result of data centers.

From Plateau to Peak

The North American Electric Reliability Corporation (NERC), is a non-profit regulatory authority whose mission is to ensure the reliability of North American electric grid infrastructure – essentially to make sure you have enough power to keep the lights on while simultaneously making sure the grid is not overwhelmed. Every year, NERC releases their Long-Term Reliability (LTR) Assessment, which includes their estimate of “Net Energy for Load Growth and Rate Projections.” Load, in this context, means power demand. For the past two decades, NERC’s LTR assessment has consistently predicted either decreasing or flat load growth in the United States (NERC 2024). It is important to note that this does not mean that the United States has used the same or increasingly less power over the past two decades. Instead, the nation has gradually come to rely upon the same or a smaller supply of electricity more efficiently. For example, in 2015, only 4% of U.S. households used LED light bulbs, which use up to 90% less power compared to traditional fluorescent light bulbs; now, according to the U.S. Energy Information Administration (EIA), nearly half of U.S. households use LED light bulbs for all or most of their indoor (U.S. Energy Information Administration 2022).

The trend of decreasing or flat load growth changed with NERC’s 2022 LTR assessment that predicted a sharp increase in forecasted load growth. This change was not an accident – the subsequent 2023 and 2024 LTR assessments both forecasted increasingly sharp increases in forecasted peak energy demand and load growth. As shown in Figures 1 and 2, peak demand and energy growth forecasts over NERC’s 10-year assessment period continue to climb higher than at any point in the past two decades. According to NERC, this growth is induced by (1) a drive to electrify everything from home heat pumps to vehicles and (2) increasing amounts of large commercial and industrial loads, namely data centers for artificial intelligence and crypto mining (NERC 2024).

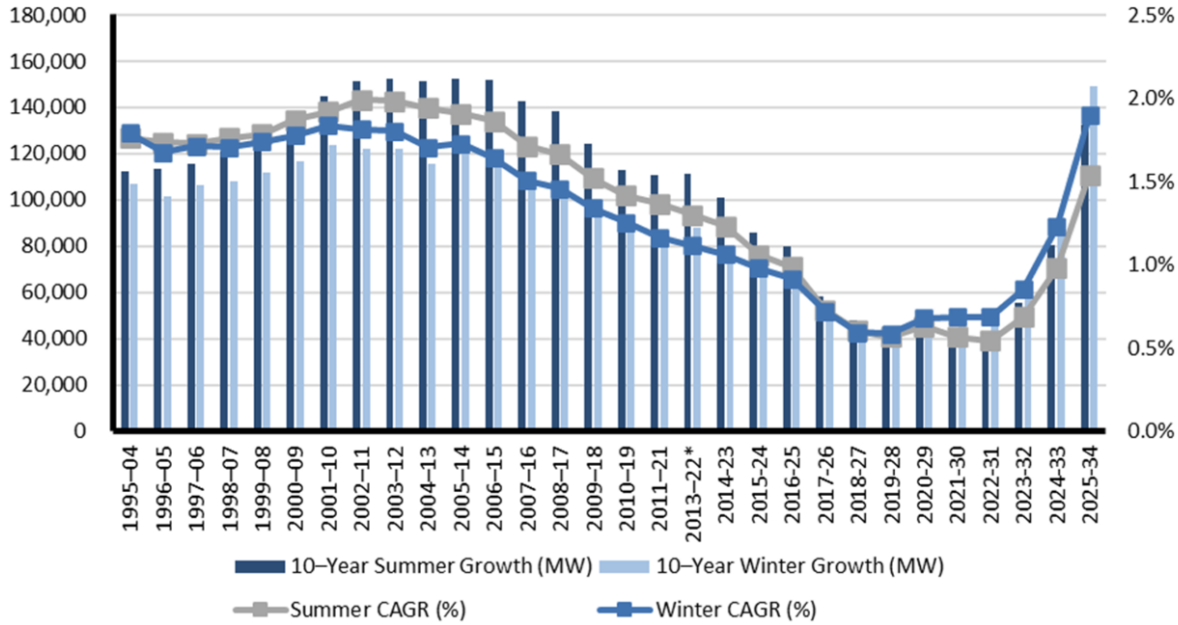

Figure 1: 10-Year Summer and Winter Peak Power Demand Growth and Rate Trends as Reported by NERC

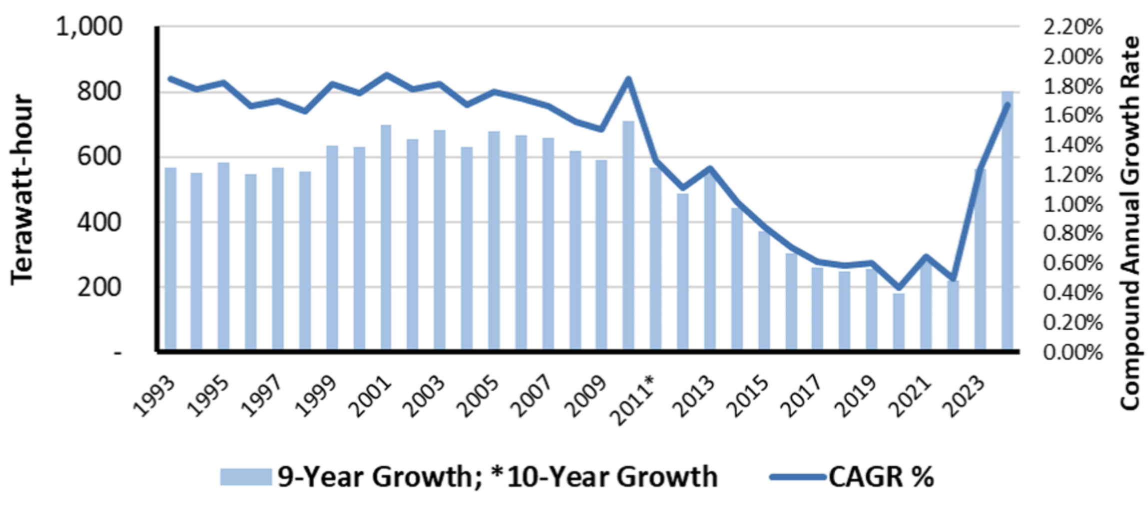

Figure 2: Net Energy For Load Growth and Rate Projections as Reported by NERC

NERC's identification of data centers driving higher energy demand is corroborated by the U.S. The Department of Energy (DOE), which in a 2024 report on United States Data Center Energy Usage to Congress, estimated that data centers could make up 6.7% to 12% of all United States power demand by 2028. Data centers only consumed 1.9% of all U.S. power in 2018 (Masanet et al. 2024).

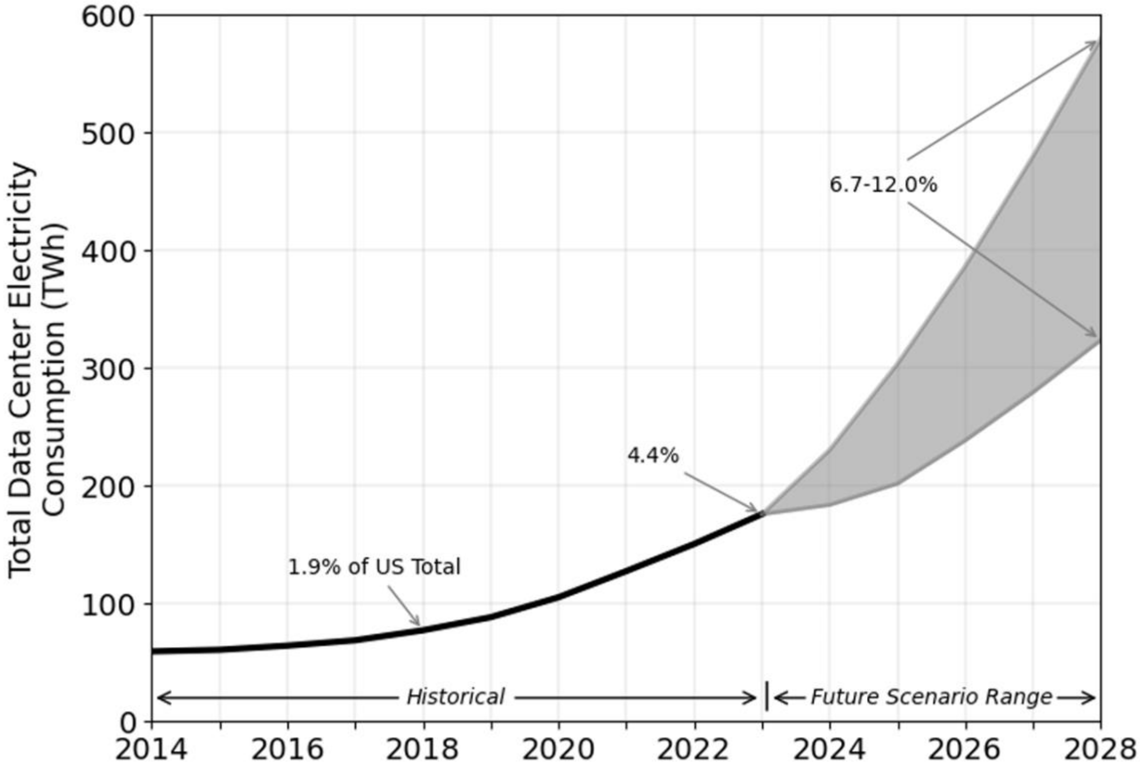

Figure 3: Total U.S. Data Center Electricity Use From 2014 Through 2028 According to the DOE.

Why would data centers represent a key component of this forecasted power demand increase? According to a report by Goldman Sachs, a ChatGPT query requires nearly 10 times as much electricity as a Google search query depending on the complexity of the search (Goldman Sachs 2024). With projected power demand soaring as a result of artificial intelligence, what impact will data centers have on grid reliability? How much will data centers that accommodate artificial intelligence cost? And what will be the impact of these data centers on ratepayers?

Ensuring Grid Reliability

After decades of stagnant or decreasing load growth in the United States, utilities were blindsided by the late 2022 breakthrough in generative artificial intelligence and its associated power demand. According to a report by consulting firm Bain & Company, the largest average increase in year-over-year generation by United States utility companies was only 5% from 2005 to 2023 (Rouch et al. 2024). However, utilities will need to increase annual generation by between 7% and 26% between 2023 and 2028 to meet projected demand. Figure 4 depicts Bain & Company's forecast of United States power generation relative to supply; the firm expects their "high-end" power demand forecast to vastly outstrip future power generation.

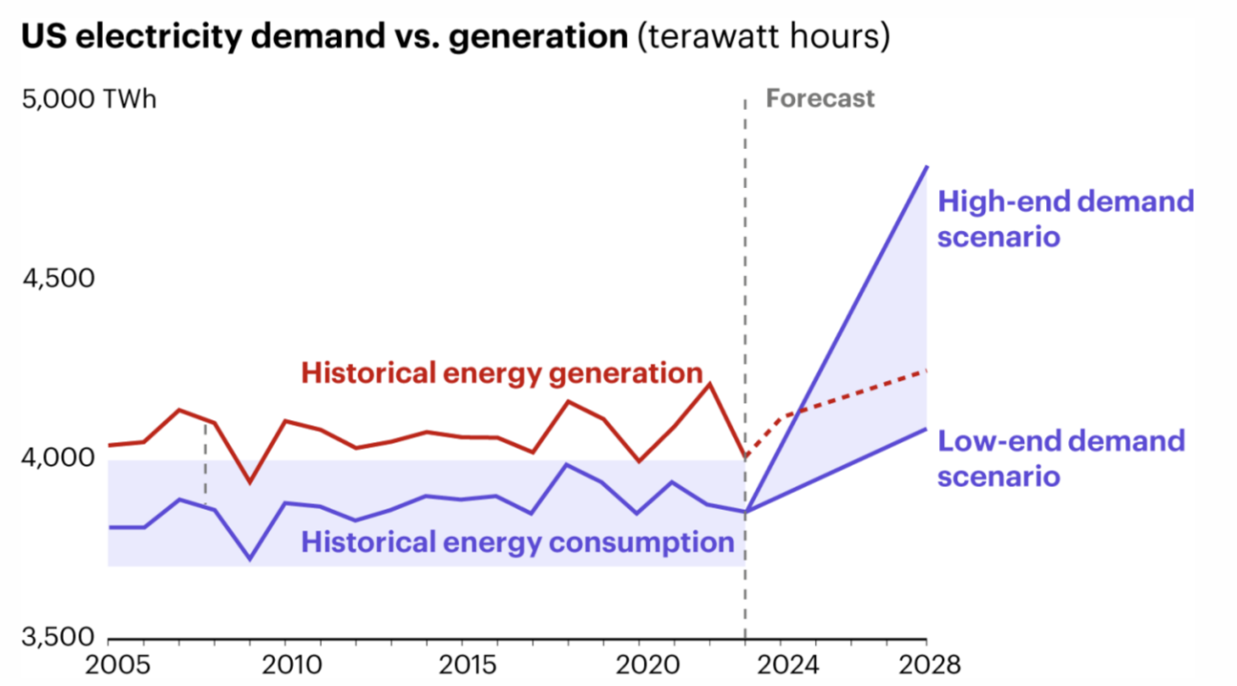

Figure 4: Historical and Projected U.S. Energy Consumption and Generation According to Bain & Company Analysis

Critically, supply of power in the form of generation must not only meet power consumption but **exceed it**. This supply surplus is necessary to account for energy lost due to inefficiencies in transmission and distribution as well as to ensure constant grid reliability. The EIA estimates that, on average, between 2018 and 2022, 5% of all power that enters power lines (transmission and distribution) in the United States was lost due to inefficiency (U.S. Energy Information Administration n.d.). A surplus is also necessary to account for unexpected spikes in net power demand that can occur during an extreme weather event or a power plant failure. As such, from a grid reliability perspective, what would happen if there was not enough power supply to meet demand?

Independent System Operators (ISOs) and Regional Transmission Organizations (RTOs) are nonprofit, independent entities regulated by the Federal Energy Regulatory Commission (FERC) and are responsible for managing the electricity grid, ensuring a reliable balance between power supply and demand. They oversee the coordination of electricity generation, transmission, and distribution across large regions, optimizing efficiency and minimizing disruptions (ISO/RTO Council n.d.). If anything but Bain & Company's most conservative power demand projection were to occur, and there was more power demand than supply, ISOs and RTOs would implement emergency measures, such as requesting consumers to voluntarily reduce usage, directing power plants to increase output where possible, and importing electricity from neighboring grids. However, if these actions are insufficient to stabilize the grid, rolling blackouts may become necessary as a last resort. These outages can last anywhere from minutes to hours and have the potential to impact millions of Americans, disrupting businesses, essential services, and daily life (Diversegy n.d.).

Ensuring sufficient power supply to prevent this bleak scenario poses a unique challenge – new load in the form of a data center can generally be built and connected to the grid within one or two years (Wilson and Zimmerman 2023). On the other hand, it could take four years or longer to bring a new generation source online, and it could take even longer to build new transmission infrastructure.

While ensuring sufficient power supply with the goal of improving grid reliability is one challenge, another critical issue arises: Who ultimately bears the financial burden of these infrastructure upgrades?

Ensuring Fair Cost Allocation

Building the generation and transmission needed to service large commercial loads does not come cheap. According to a report by S&P Global, a financial information and analytics company, demand from U.S. data centers will require an estimated 50 GW of new generation capacity from 2025 until 2030. The report asserts that this increase in supply will necessitate about $60 billion of investment in generation and $15 billion in transmission (Prabhu and Kesh 2024). Who ultimately will pay for these expensive upgrades?

The answer this question lies in a utility's "Revenue Requirement," the amount of money a utility needs to collect from customers to cover their operating costs while also making a "reasonable" profit that is proportional to the amount of capital they have invested into infrastructure (Jamison 2005). The formula for calculating a utility's revenue requirement is as follows:

$$RR = (RB * r) + E + D + T + O, \text{ where:}$$

RR = Revenue Requirement

RB = Rate Base (The total value of a utility's assets, mainly generation and transmission assets, used to provide service)

r = Allowed Rate of Return (The profit the utility is allowed to make on its rate base to attract investors, cover the cost of borrowing, and promote financial stability)

E = Operating Expenses (Total costs incurred in the process of providing power)

D = Depreciation Expenses (The value lost by the utility’s assets after one year due to wear and tear, aging, and obsolescence)

T = Taxes

O = Other Costs

The formula indicates that a utility’s revenue requirement increases as it builds infrastructure in the form of generation, distribution, or transmission assets. As such, when a utility builds infrastructure to support a new proposed data center, their revenue requirement will increase as a result of their rate base increasing. But how does an increased revenue requirement ultimately affect the monthly electricity bills of the utility’s customers?

An increased revenue requirement ultimately increases monthly utility bills since the price per kWh that utilities charge customers equals the revenue requirement divided by total expected power sales in kWh.

$$\text{Rate per kWh} = \frac{Revenue\ Requirement}{Total\ Expected\ Sales\ (kWh)}$$

As such, if the revenue requirement proportionally increases faster than total expected sales, utility bills will go up – effectively socializing the infrastructure costs relating to powering data centers across a utility's entire customer pool. According to an analysis by Bain and Company, because of data centers, utility revenue requirements are indeed on track to increase at a faster rate than total expected power sales. As shown in Figure 5, Bain & Company estimated that utilities in the United States will have to make 10% to 19% in additional revenue each year from 2025 to 2035 to build infrastructure needed for data centers. The increasingly high revenue requirements, according to the report, would result in ratepayer utility bills increasing by 1% every year from 2023 until 2032 (Rouch et al. 2024).

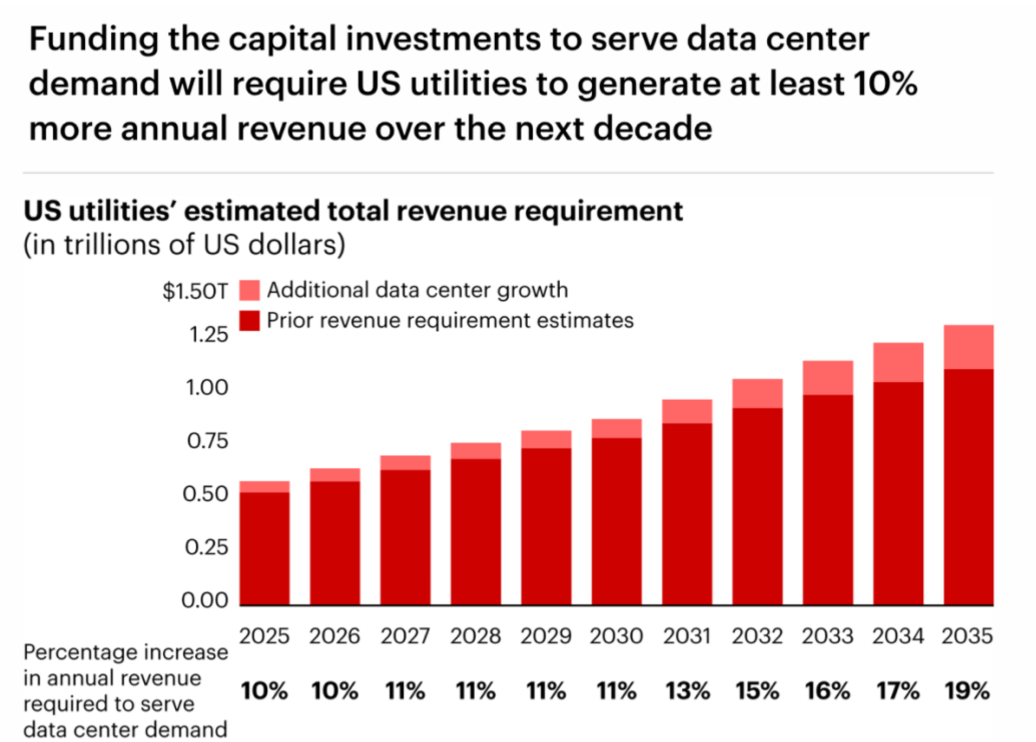

Figure 5: Projected Increases Utilities' Total Year Over Year Revenue Requirement

An examination of a sample Comed power bill, as shown in Figure 6, could pinpoint how exactly data centers could impact utility bills. This particular customer owes Comed $130.64 for power provided from June 20 to July 20 and that cost is broken down into three main components – electricity supply ($60.00), delivery services ($41.20), and taxes and fees ($29.35).

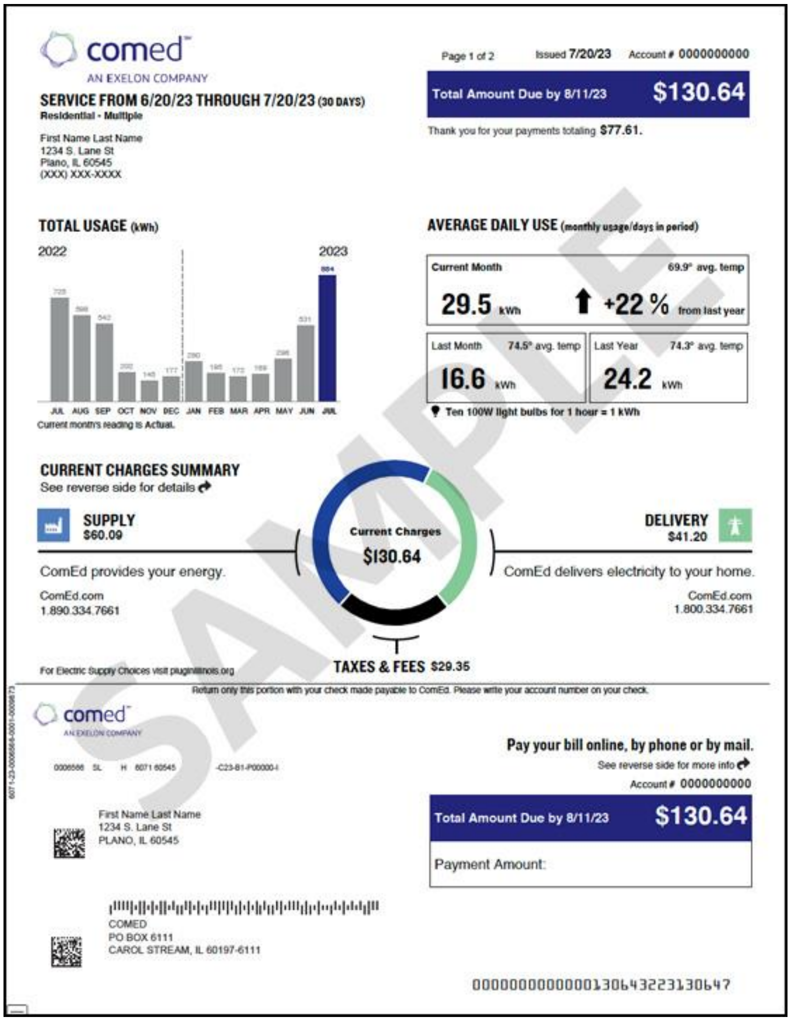

Figure 6: A Sample Utility Bill that a Rate Paying Customer Could Theoretically Receive.

Taking a deeper look into each of these components, the cost of delivery services includes a customer charge (a charge for customer services and to help Comed recover the cost of connecting your house to the grid), a standard metering charge (a charge for the costs of the meter, meter reading and other metering services), and a distribution facilities charge (a charge for costs incurred by ComEd for delivering electricity to the customer – essentially the costs associated with the wooden poles and wires that physically connect to your building or house).

Taxes and fees include state taxes and fees associated with funding renewable energy, supporting environmental cleanups, and reducing emissions.

Finally, electricity supply encompasses both the cost of the electricity provided to the customer and the cost of transmission (Commonwealth Edison n.d.). Transmission, in this case, represents moving power from a power plant to Comed. This component of your electricity bill is key because it is where large load data centers could potentially cause the most impact – if a utility raises their revenue requirement to finance infrastructure, the per kWh rate the utility charges increases.

To illustrate this, let's say Google wanted to build a 1 GW data center on the outskirts of Chicago. ComEd would likely need to invest tens of millions of dollars in new transmission and generation infrastructure to support this massive load. To recover these costs, ComEd would submit a rate case to the Illinois Commerce Commission (Illinois' version of a CPUC), requesting an increase in its revenue requirement—the total amount of money it is allowed to collect from customers. If the Illinois Commerce Commission approves the request, the new revenue requirement would be divided by the projected total kWh consumption across all customer classes to determine updated electricity rates.

In theory, a higher revenue requirement does not always lead to higher rates for consumers. If the data center's electricity demand is large enough, it could spread fixed costs more efficiently across all ratepayers, keeping per-kWh rates stable or even reducing them (Borenstein 2024). However, this outcome depends on three main factors – if the utility underestimates costs, if the data center negotiates a preferential rate, or if infrastructure investments exceed realized demand, residential and small business customers could still see higher electricity bills as a result.

Diving into each of these three factors, large-scale transmission and generation projects frequently exceed initial cost estimates due to unexpected factors such as material price increases, labor shortages, regulatory delays, or engineering challenges. If ComEd initially estimates the cost at $100 million but actual costs balloon to $150 million, the utility must recover the difference—either through a future rate case or by absorbing losses, which often results in future rate hikes (Citizens Utility Board 2024). For a more concrete example, lets examine the construction of the United States' first new nuclear power reactors in decades. These reactors were slated to come online in the state of Georgia's Vogtle Nuclear Power Plant by 2017 at a cost of $14 billion. However, the reactors only began operation in 2024 (7 years late) and ultimately costed $31 billion ($17 billion in cost overruns). In this egregious case, who ultimately pays for the cost over runs? Although the chairs of the elected Public Service Commission decide how much of the cost overruns are prudent (able to be covered by utility customers), the bulk of the costs will most likely be paid collectively by customers of Georgia Power, the state utility. In fact, according to the Associated Press, Georgia Power customers could pay $35.7 billion overall for the nuclear reactors, $20.5 billion more than originally projected (Amy 2023). Currently, Constellation Energy is working to restart the deactivated Three Mile Island reactors to power Microsoft data centers. It remains to be seen if this restart will encounter cost over runs and if ratepayers could face higher utility bills as a result.

Nonetheless, Vogtle Power Plant's case study demonstrates the risk that utility rate payers face as utilities invest in new massive generation for data centers that may lead to cost overruns.

Next, some data centers negotiate lower rates or tax incentives with local utilities or local governments respectively. Utilities have an incentive to offer reduced rates to data centers in exchange for long-term contracts that can provide a consistent stream of revenue. Similarly, local governments have an incentive to attract data centers for perceived community investment and the potential for quality jobs. For additional insight on this topic, I conducted an interview with Kent Chandler, the former Chairman of the Kentucky Public Service Commission. The Kentucky Public Service Commission regulates the rates and services of 1,100 utilities within the state of Kentucky. Chandler stressed that utilities may "attempt to lure [data center] customers there based on some sort of special rate and that raises a lot of questions around cross subsidies of residential and commercial customers" (Kent Chandler, interview with author, February 28, 2025). In this case, cross-subsidization refers to residential and small commercial customers absorbing the costs that data centers avoid (Schiller 2025). For example, in order to attract a new Google data center in 2019, the Tennessee Valley Authority (TVA) promised Google access to 100% renewable energy as well as existing infrastructure for their facilities through their "Economic Development Program." The price of power from renewable energy is known to be significantly cheaper on a per unit basis than the market price for power; thus, while this move encouraged local job creation, it also raised concerns about potential cross-subsidization, where residential and small business customers could end up subsidizing infrastructure costs for large energy users (Tennessee Department of Economic and Community Development n.d.).

Finally, it is possible that realized power demand is ultimately either far lower than previously projected or non-existent. In terms of the former, there are several indicators that power demand from artificial intelligence may actually be overestimated. For example, earlier this year, Chinese start-up DeepSeek appears to have produced an AI model that is more efficient than the incumbent ChatGPT, allowing it to achieve the same results for a fraction of the energy use (Rosenberg 2025). DeepSeek's success is reminiscent of over-estimating power demand during the "dot com bubble" of the early 2000s. During the internet's rapid expansion two decades ago, concerns arose about it straining the electricity grid. However, dramatic improvements in the efficiency of computing allowed for these drastic power demands to largely not materialize (Ma and Chediak 2025). As artificial intelligence becomes more efficient in a similar way, load that was previously slated to come online may not actually come even though the infrastructure is already in the process of being built. This demand shortfall may be a blessing in terms of grid reliability, but if the utility were to pay for expensive infrastructure that is not offset by expected power purchases, rates would increase across the board. At this point, you might correctly point out that we have covered arguments for why future power demand will most likely go up but also why those demand projections might be vastly overstated. So, which is it? The answer is unclear. On the topic of future power demand, Chandler identifies that "there's an expectation that in broad areas of the country there's going to be significant load growth to the tunes of hundreds, if not thousands of megawatts, over the next five to seven years" (Chandler 2025). However, Chandler identifies that it is difficult to estimate the effect of growing power efficiency and duplication (singular prospective loads being counted multiple times) on load estimates, saying that "what the load growth actually becomes is something that is impossible to discern… because there's a lot of questions around what sort of energy efficiencies we are going to see from these sort of loads themselves" (Chandler 2025).

We have now established that investments in infrastructure needed to service data centers have the potential to raise rates for all customers through an increase in a utility's revenue requirement that is not offset by a proportionally equal increase in the sale of power. This scenario could occur if utilities spend more on infrastructure than expected, if data centers are given preferential rates, or if power demand is not as high as expected.

Efforts to Protect Ratepayers

Now that we have established the potential harm to ratepayers that data centers can cause, what safeguards are currently in place to prevent unfair cost allocations and what efforts are being enacted to protect ratepayers?

When it comes to this question of ensuring fair cost allocations, the most important regulatory body to examine is Public Utilities Commissions (PUCs), the main advocate on behalf of consumers. For context, electric utility services have historically been allowed to operate as natural monopolies given that electricity is considered a public necessity. In exchange for cutting out all competition, investor-owned utilities have their customer rates regulated by PUCs. PUCs serve as regulatory watchdogs, ensuring that utilities set fair and justifiable electricity rates that do not disproportionately burden residential and small business consumers (Ciulla and Felder 2024). As such, if a utility were to approach a PUC requesting to raise their revenue requirement without proper justification as to the necessity of their increased expenditures, the PUC has the authority to reject the utility's request on the basis of protecting consumers.

Lately, in an effort to ensure tech companies cover the brunt of the cost of their energy infrastructure, several PUCs have explored the idea of creating special or separate rate structures for large electricity users. Specifically, rather than allowing these facilities to be grouped into general commercial or industrial rate classes, some states have introduced separate tariffs that ensure data centers contribute fairly to infrastructure costs. Recall the aforementioned example of cost overruns stemming from the construction of the Vogtle Nuclear Power Plant. On January 23, 2025, the Georgia Service Commission (PSC), the state of Georgia's PUC, unanimously approved a new rule that applies to customers whose energy usage exceeds 100 megawatts (MW). Under the new rule, this new class of customers is required to cover the entirety of the transmission and distribution costs incurred during their data center's construction. In addition, any new contracts between Georgia Power and large-loads customers must be submitted to the PSC for review, thereby ensuring regulatory oversight and transparency in commercial contracts that could carry significant implications for Georgia's power grid and ratepayers. In enacting these new rules, PSC Vice Chairman Tim Echols said "our commission's action today protects residential and small business customers from data center load financial impacts. We want to keep Georgia the best place to do business, but data centers will need to bear the cost of their electricity acquisition" (Chernicoff 2025).

The actions of Georgia's PSC come on the heels of similar reforms proposed by American Electric Power (AEP) Ohio. AEP Ohio is Ohio's largest utility, serving approximately 1.5 million residential and commercial customers in the central, southeast, and northwest portions of Ohio. On May 13, 2024, AEP Ohio filed an application with the Public Utilities Commission of Ohio (PUCO) to create two new rate classifications specifically for data centers and cryptocurrency mining operations. The proposed classifications would impose higher demand charges and stricter service obligations on these customers compared to normal residential and business ratepayers (Kim 2024). Under this framework, large data centers would be required to commit to long-term ten-year electric service agreements, pay a minimum demand charge of 90%, and face an exit fee equal to three years of charges if they cancel their contract after five years. These requirements help ensure that utilities do not make expensive grid investments for data centers that may later relocate or fail to materialize, leaving residential ratepayers to cover the stranded costs. Additionally, data centers under these new classifications would be required to reduce their electricity demand during emergency grid events, preventing them from straining the system at critical times. In this way, a new rate classification for data centers effectively addresses the aforementioned concern of non-payment if load fails to materialize. New efforts to create new rate classes for large load data centers may become increasingly common as utilities and PUCs recognize data centers' unique infrastructure requirements and cost allocation risks should load not materialize.

Another key effort is the requirement for utilities to conduct cost-of-service studies before requesting rate increases to support data center-related grid investments. These studies help determine whether the costs associated with serving data centers are appropriately allocated, rather than being spread across all ratepayers. In Virginia, where data center expansion has driven significant utility investment, the State Corporation Commission (SCC) has intensified its review process to verify that infrastructure costs are not unfairly passed on to residential consumers (Schmidt 2025). Similarly, AEP Ohio's proposal acknowledges the immense financial burden of expanding the state's 765 kV extra-high-voltage transmission system to support data centers – a project estimated to cost billions of dollars over the next decade. In response, AEP Ohio has placed a moratorium on new data center connections until its application is reviewed, ensuring that further expansion does not proceed without a cost recovery structure in place (Kim 2024).

Some states are also reforming coincident peak demand charges to reduce strain on the grid and to help finance transmission infrastructure cost. Specifically, regulators have sought to bolster grid reliability in the wake of data centers by implementing coincident peak **demand charges**. Demand charges represent a fee that regulators impose on data centers that reflects how much electricity the facility used when demand peaked system wide. Revenues from this fee is used to help pay for grid infrastructure. In theory, demand charges reduce strain on the grid when it is most under stress, improving grid reliability. However, many data center companies are able to dodge paying demand charges by predicting when annual peak demand will occur and not operating only on that specific day. This cost avoidance strategy is known as “uneconomic bypass” (Costello 2022). By doing this, tech companies avoid the entirety of the infrastructure cost utilities were hoping to garner, thereby forcing utilities to shift the entirety of these costs onto residential customers. However, recognizing this loophole, regulators have begun to increase the frequency of coincident peak allocations, meaning that data centers might be charged for their quarterly or monthly peak demand as opposed to their annual peak demand. For example, the Electric Reliability Council of Texas (ERCOT) recently implemented a Four Coincident Peak (4CP) Program that charges commercial and industrial customers for their peak energy usage during four 15-minute intervals: one each across the summer months of June, July, August, and September (Williams 2022). By increasing the number of coincident peaks, large-load customers are less likely to effectively predict and avoid paying demand charges that help pay for transmission infrastructure.

In addition, regulators are increasingly discussing the idea of requiring data centers to build their own power generation in order to limit ratepayer financial risk if load is lower than expected. For example, Thomas Gleeson, Chairman of the Public Utility Commission of Texas, is requiring data center developers to supply a portion of their own power if they would like to connect to the grid within 12 to 15 months (Malik 2024). Chandler also emphasizes that this generation requirement for prospective data centers may be a path that other PUCs may also choose to pursue. “In some states, you're actually seeing legislators and policymakers and governors bring up the idea of ‘why should we let our current customers shoulder the risk of something that may never come?’ And instead, let's work with these new incremental customers to let them bring their own supply and their own power, so that if they want a power plant worth of electricity, then they can directly engage someone and they can take on all that risk, as opposed to being subsidized over the folks that are there” (Chandler 2025).

Finally, regulators are increasingly scrutinizing special rate deals and financial incentives granted to large load customers. For example, on December 22, 2021, the Michigan Public Service Commission, Michigan’s PUC, approved a proposal from Consumers Energy Co. and DTE Electric Co. to offer preferential rates to large-load manufacturers of electric vehicles and batteries. In making their decision, MPSC claimed that “these rates would not impact any existing rates or result in higher costs for other classes of customers, including smaller industrial or commercial users or residential customers [since] special rates such as this cannot, under Michigan law, result in higher costs or rates for other customers, a key factor the Commission must consider in weighing the application” (Michigan Public Service Commission 2021). However, that same month, DTE Gas Co., a subsidiary of the utility DTE Electric Co., asked MPSC to approve a rate increase of $195 million, which would translate to a massive 11% increase for residential customers. In their request, DTE Gas Co., cited the increase was necessary to fund infrastructure investments, operations, maintenance, information technology investments, and lower than expected revenue (Moore 2021). Michigan’s attorney general, Dana Nessel, intervened in this case, arguing that DTE Gas Co.’s request was “excessive and unreasonable." Ultimately, MPSC approved a $84,173,000 rate increase – nearly $111 million less than the original request. The coinciding of MPSC approving a rate subsidy for large-load manufacturers in the same month as raising rates for residential customers appears to be a clear indication of cross-subsidy, whereby Michigan residents are expected to pay for the revenue shortfalls that might result from the subsidy offered to manufacturing companies (despite MPSC claiming this is not the case). However, on a positive note, this case study demonstrates that regulators beyond PUCs, such as state attorney generals, are pushing back against preferential treatment being offered to large corporations at the expense of normal ratepayers. In the end, should utilities never offer preferential rates to potential customers? Chandler would say no. A sensible approach he promotes is allowing utilities to offer preferential rates only when they have **excess capacity**, thus shielding customers from higher rates while also attracting economic investment. "Kentucky has had a very clear system for 35 or 36 years at this point where utilities know that they can provide economic development rates, but they can only do so when they have excess capacity," Chandler said (Chandler 2025).

These ongoing efforts highlight how regulators and utilities are working to balance economic growth with ratepayer protection. However, as data center electricity demand continues to grow, additional regulatory measures may be necessary to prevent consumer costs from rising unfairly.

The Path Forward

Ultimately, as artificial intelligence and cloud computing takes an increasingly large role in modern society, power demand stemming from data centers that enable these privileges is almost guaranteed to present challenges to grid reliability and to a fair cost allocation between tech companies and residential and small commercial utility ratepayers.

Ensuring a fair cost allocation, in particular, is challenging due to the potential for ratepayers to suffer financial harm if utilities experience cost overruns while building new generation, if utilities offer preferential rates to data centers, or if projected load does not materialize.

However, regulators in local and state governments and PUCs are adopting innovative policy solutions to tackle this challenge. They range from creating a new rate classification that mitigates the risk of non-payment if load does not materialize to requiring data centers to build a portion of their own power generation for the purpose of bolstering grid reliability to reforming non-coincident peak demand charges to limit large-load cost avoidance.

In reflecting upon the path to achieving fair cost allocation in the future, Chandler emphasized that “the question of whether we're successful at the end of this is going to depend exclusively on how willing we are to get out of our comfort zone to accommodate this, but also at the same time to protect consumers in a way that makes whatever development there is sustainable” (Chandler 2025).

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