

THE ELECTRIFICATION MEGATREND

AI Is Rewriting The Power Demand Playbook

August 2026

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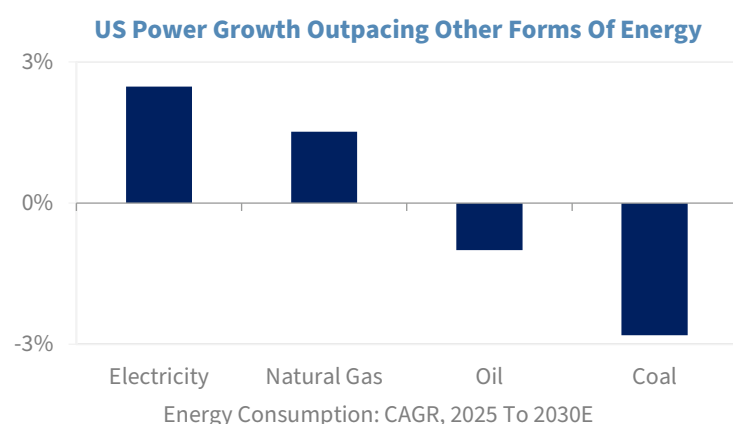
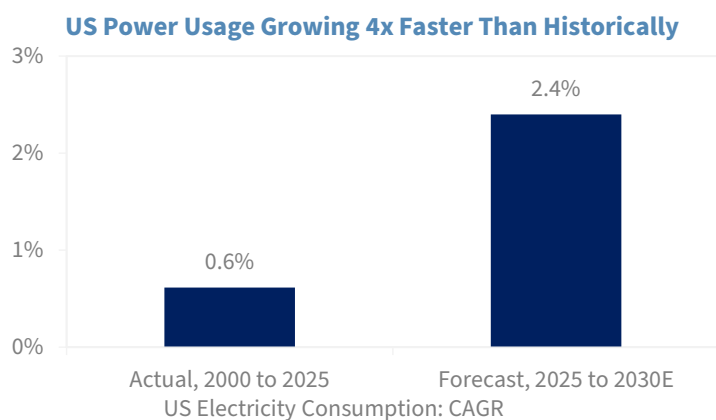
For two decades, US utilities and power-related companies were viewed as slow-growing businesses operating in a mature industry. Well, not anymore. A powerful combination of secular demand drivers—led by artificial intelligence (AI)—is transforming electricity into a bona fide growth story. We expect US power demand to grow nearly as much between 2025 and 2030 as it did in the previous 25 years. Meeting this demand will require significant investment across the power ecosystem, from building new power plants to expanding electric grid infrastructure. This report explores opportunities emerging across the electric power value chain and highlights where investors could position themselves to benefit. While enthusiasm for this megatrend has accelerated in recent years, we view electrification as a durable theme that has the potential to create investment opportunities over the next decade and beyond.

The Big Picture: US Power Demand Is In A New Growth Phase

Electrification is rapidly becoming one of the most powerful forces shaping the global economy. At its core, electrification reflects a shift away from fossil fuel and other forms of consumption toward electricity as the preferred source of energy. The reason: electric technologies are more efficient and cost effective than those powered by petroleum or natural gas. The transition extends beyond electric vehicles. Electric heat pumps are transforming how homes and businesses are heated. Farmers are relying on electricity, rather than diesel, to power their irrigation systems. Most importantly, the rise of AI is creating an unprecedented new source of electricity demand. Hyperscale data centers require enormous amounts of power—not just for advanced IT equipment, but also for cooling energy-intensive hardware.

This has fueled a powerful surge in global electricity demand. After two decades of relatively stagnant growth, US electricity consumption is accelerating. Power demand rose 2.9% in 2025, more than four times the average pace from 2000-2025. Looking ahead, we expect demand to average 2.4% through 2030, meaning the next five years could generate nearly as much incremental power demand as the previous 25 years. This is a structural shift, not a cyclical one.

Electricity is also gaining share within the broader energy mix. While natural gas demand is still growing, we expect it to average 1.5% through 2030. Oil and (especially) coal demand has already peaked and should continue to decline. In this comparison, we are aggregating all sources of power demand—including coal and natural gas. Later in the report, we will zoom in on individual portions of the electricity mix.



Source: EIA, RJ Investment Strategy. Data as of 8/25/2026.

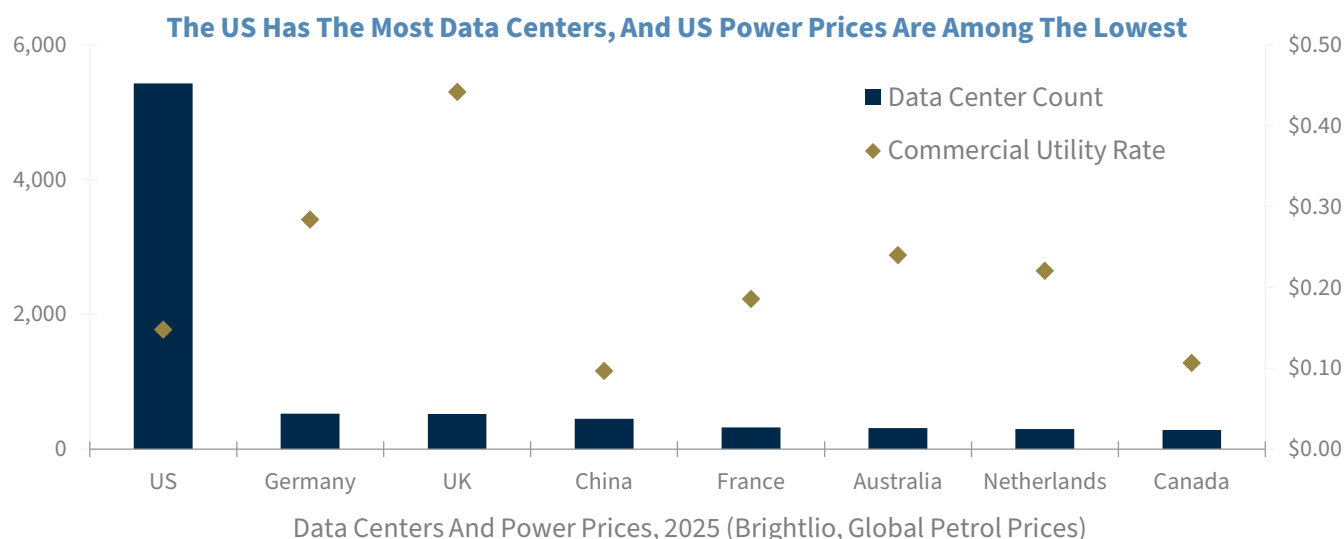
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The #1 Demand Driver: Hyperscale Data Centers

The scale-up of AI requires a massive buildout of data centers—more specifically, what’s known as hyperscale data centers. These are not just ordinary buildings. A single hyperscale data center can require as much as 1,000 megawatts of power generation annually, roughly equivalent to the electricity consumption of a city with 1.5 to 2.0 million residents. Put simply, every conversation we have about the AI boom is also a conversation about power demand. While data centers currently account for ~5% of US power demand, we estimate they will drive nearly two-thirds of the growth through 2030—making them one of the most important forces reshaping the nation’s energy landscape.



Based on 2025 data, the US is home to ~46% of the world’s data centers, nearly double its share of global GDP. While America’s technological leadership is certainly a factor, economics play a major role because data centers can be built almost anywhere. One of the US’s biggest advantages is lower electricity costs relative to many developed markets. The same principle holds domestically: states such as Virginia, Ohio, and Texas enjoy cheaper power than California and New England. This helps explain why the Washington, DC metro area hosts more data centers than any other metro area in the world.

Other Demand Drivers: Electric Vehicles, Air Conditioning, And Industrial Processes

EVs are not yet a major driver of power demand in the US, though they are playing a more meaningful role in other parts of the world. Today, only ~10% of US light-duty vehicle sales are electric. That compares to ~30% in Europe and more than 50% in China. As the EV adoption curve continues to ramp up in the US and abroad, we expect it to become more needle-moving for power demand in the 2030s.

Air conditioning is another important driver. Amid record-setting heatwaves, AC units are being installed even in northern cities that haven’t historically needed them. Although newer AC equipment is often more efficient, cooling still routinely uses more electricity than any other household appliance.

Finally, industrial electrification is also supporting demand growth. Case in point: steelmaking. Electric arc furnaces are gaining share from the older technology of blast furnaces (which use what’s known as metallurgical coal). Likewise, electric heat pumps are becoming more common in factories as companies strive to improve efficiency and reduce emissions.

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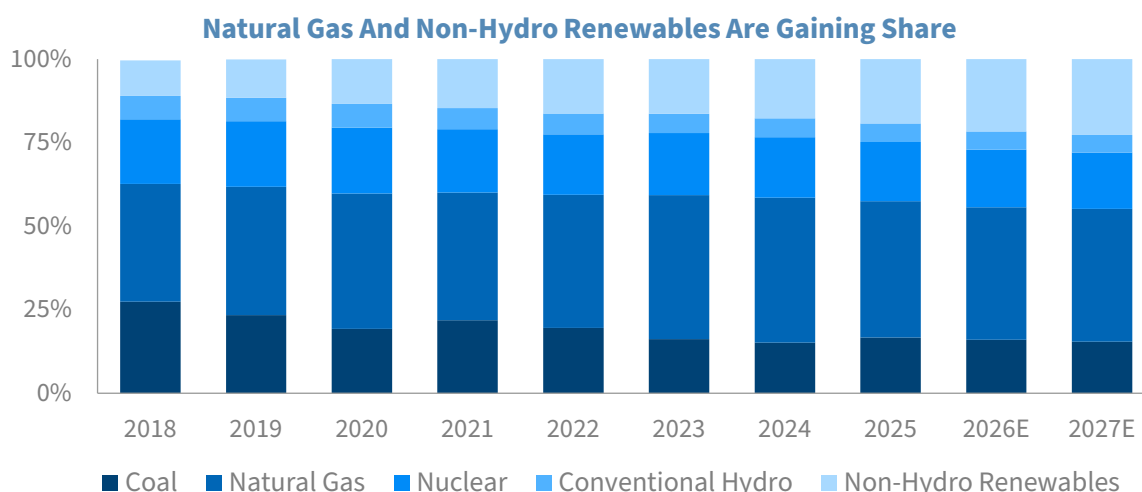
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Where Will All Of This Electricity Come From?

The surge in US power demand is *not* a secret. Meeting that demand will require significant investment across the power value chain. Electric power companies are at the center of this effort because they own and operate the generation, transmission, and distribution infrastructure that makes reliable electricity possible. Let's start with power plants, i.e., the generation portion of the value chain. There is no one-size-fits-all solution. The optimal mix varies by region and resource availability. For example, in Virginia and much of the Southeast, proximity to the giant Marcellus natural gas field makes gas-fired power plants a logical option. In Texas and the Great Plains, natural gas is also available, alongside some of North America's best wind resources. In California and the Southwest, solar power, typically paired with power storage, is often the lowest-cost solution.

What about nuclear power? It is certainly true that nuclear reactors have the highest capacity factor (utilization rate) of any generation source—making them particularly attractive for data centers that require uninterrupted power on a 24/7 basis. The challenge is timing. Traditional large-scale reactors typically require eight to ten years to develop and construct. Small modular reactors (SMRs), which are frequently mentioned in the context of data centers, offer the potential for shorter development timelines. However, no commercial SMRs are currently in operation, making it difficult to gauge deployment timelines and costs.



US Power Generation, Share of Electricity Mix

As we look at the US electricity mix, natural gas remains the largest source of generation and continues to grow at a modest pace. Non-hydro renewables, primarily wind and solar, are growing from a smaller base but at a faster clip. We expect wind and solar to continue growing through 2030, despite the [July 2025 tax law](#) that curtailed federal tax credits, as projects that began construction by July 2026 were grandfathered under the previous rules. Conventional hydro—Hoover Dam and the Tennessee Valley Authority readily come to mind—is largely flat to declining. Global warming has contributed to more frequent droughts, making existing dams less productive. Nuclear generation is also relatively flat. At present, there are no nuclear reactors under construction in the US, though a handful of previously retired plants are likely to return to service. The one power source that's in structural decline is coal. State-level regulation is playing a role in why so many coal plants are being shut down, but the main reason is economic: coal simply cannot compete with low-cost gas, wind, and solar. The issue is *not* that coal as a commodity is too expensive but rather the fact that burning coal is a fundamentally inefficient way of generating power.

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Grid Constraints Are Emerging As The Next AI Infrastructure Challenge

How will electricity get from where it is generated to where it is consumed? This part of the story encompasses transmission and distribution (T&D); in other words, grid infrastructure. One of the key challenges is geographic bottlenecks. As noted earlier, Virginia sits at the center of the data center buildout. More broadly, there are far more data centers in the eastern half of the country than the western half. This matters because the two major North American grids—Eastern and Western Interconnections—have only limited connectivity, reflecting decisions made in the first half of the 20th century. Meanwhile, the Electric Reliability Council of Texas (ERCOT) operates as its own ‘energy island’, with minimal connectivity to either of the two major grids.

As a result, data center operators in the east need to rely on physical electricity supply within the Eastern Interconnection. While there is lots of wind and solar development taking place across the country, a disproportionate share of the wind and (especially) solar capacity is being built in the west. This reflects two realities: 1) many of the country’s optimal wind and solar resources are located in western states; and 2) although the eastern half of the country is home to three-quarters of the US population, western states generally offer plentiful low-cost land needed for large scale renewable projects.

Over the long run, greater connectivity between the Eastern and Western Interconnections, as well as ERCOT, will be an important part of grid modernization. However, these projects require significant capital investment—and often face lengthy development timelines. For example, the North Plains Connector, located in Montana and North Dakota, is not scheduled to come online until 2032.

Upgrading the grid also entails several other innovations. First, an increasing number of homeowners and businesses (including data centers) are self-generating power, via on-site solar systems, fuel cells, or other technologies. Second, power storage systems provide benefits for both utilities and end users, helping maintain reserve power, improve reliability, and protect against outages. Third, software plays an increasingly important role in optimizing grid operations and enabling greater energy efficiency. Together, these innovations can make the power system more reliable, resilient, and efficient.

The Power Boom Has An Unpleasant Side Effect: Higher Utility Prices

All of the infrastructure discussed earlier comes with a hefty price tag. As utilities invest more capital in new and upgraded assets, those costs will ultimately be passed on to consumers. Each utility has what is known as a rate base, an aggregate asset value on which regulators allow a fixed rate of return. More capital spending translates to an expanding rate base, and overtime, higher pricing, as shown in the table below.

US Utility Rates, National Averages (cents / kWh)

	Residential	Commercial	Industrial
Avg. Change, 2010-2021	2%	1%	1%
2022	15.12	12.55	8.45
Change	11%	12%	18%
2023	15.98	12.74	8.06
Change	6%	2%	-5%
2024	16.48	12.85	8.15
Change	3%	1%	1%
2025	17.30	13.41	8.62
Change	5%	4%	6%
2026E	17.99	13.95	8.96
Change	4%	4%	4%

Source: EIA. Data as of 8/25/2026.

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In the table on the previous page, power prices rose only modestly from 2010-2021—a period when demand growth was minimal. That changed in 2022, when inflation surged in the wake of the pandemic and utility prices experienced one of the sharpest increases in decades. Prices stabilized somewhat in 2023 and 2024, though increases were above historical norms. In 2025, utility price growth accelerated again.

The regulated nature of utilities means that prices avoid the dramatic volatility often seen in oil markets. The tradeoff is that electricity prices move steadily higher over time. In other words, it is extremely rare for utility prices to decline. In any given utility territory, rates typically remain stable until regulators approve a new price hike, whether annually or every few years. Following an increase, prices generally plateau until the cycle repeats. At the national level, we expect prices to increase by roughly 3% to 5% per year through 2030, outpacing broader inflation. Finally, even if you live in a community with few or no nearby data centers, that does *not* mean that you will be able to avoid rising utility bills. Power prices vary from state to state, and sometimes even within a state. However, increasing capital investment is a nationwide phenomenon, which is why the long-term trend in utility prices remains higher over time.

What Are Some Ways To Invest In The Electric Power Value Chain?

Industrials sector. We view Industrials as our preferred way to gain exposure to the electrification megatrend. As power demand accelerates, large-cap diversified electrical equipment companies are positioned at the center of the buildout, with broad exposure across the power value chain, including natural gas and wind turbines, nuclear reactors, transmission and distribution (T&D) solutions, and power storage systems. Smaller-cap companies offer more targeted exposure to pure-play businesses that specialize in one or two products, while engineering and construction firms stand to benefit from building and upgrading power plants and T&D infrastructure required to support surging electricity demand. Collectively, these businesses are well positioned to participate in what stands to be one of the largest investment cycles in energy and grid infrastructure in decades.

- **Key Risks:** Import-related tariff exposure, volatility in key raw material costs (particularly steel and copper), and execution challenges associated with project delays or cost overruns.

Utilities sector. While utilities stand to benefit from the electrification megatrend, we do not view the sector as the most compelling way to gain exposure. Keep in mind that most public utilities are *heavily regulated*, with state-level utility commissions limiting how much of their capital investment costs can be recovered through higher prices paid by customers. Independent power producers (IPPs), which own power plants and sell the electricity into wholesale markets, offer more direct exposure to rising power demand, though this comes with significantly greater earnings volatility than traditional utilities.

- **Key Risks:** Regulatory constraints for traditional utilities, electricity and natural gas price volatility for IPPs, and interest-rate sensitivity across the sector. Rising consumer electricity bills could increase political and regulatory scrutiny, potentially limiting future rate increases.

Bottom Line

The hyperscale data center buildout is emerging as a meaningful catalyst for US electricity demand, reinforcing the long-term electrification megatrend and driving investments across the power value chain. Utilities and Industrials are widely viewed as beneficiaries of the AI megatrend, shedding their historically ‘sleepy’ reputations and attracting significant investor interest in recent years. We believe that the most compelling opportunities extend beyond power generation to companies building, equipping, and modernizing the grid infrastructure needed to support the next phase of AI adoption.



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