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Essential infrastructure: The HALO assets of the AI boom

Research & Insights

July 2026

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You could be fooled into thinking that the AI boom is all about NVIDIA, OpenAI, Anthropic and the hyperscalers. Fortunately for investors, AI is about a lot more. One area AI is stimulating is power, and the hard assets of essential infrastructure – assets which Goldman Sachs refers to as HALO (Heavy Assets, Low Obsolescence)[1]. Ausbil's Global Listed Infrastructure team explain how HALO assets in infrastructure are staring into the biggest step change in energy demand ever seen, offering compelling opportunities for investors.

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15 minute read

Key points

- The productivity miracle, with the addition of AI, is driving major global capital expenditure into technology infrastructure and in productivity investment by businesses, creating a long growth pathway that is only in its infancy.
- AI requires heavy asset, low obsolescence (HALO) assets for the immense power and processing draw needed in the new world of agentic automation and machine learning.
- The tokenisation of data processing, like electricity, has created a unitised global model for the supply, pricing, trade and powering of the processing and storage needed for AI.
- Essential infrastructure in the form of utilities and renewable electricity providers in the electricity complex provides the basic platform for the economics of AI and its data centres.
- AI is also revolutionising the revenue and cost side of infrastructure assets, improving the overall economics of the sector.
- Essential infrastructure, and its HALO assets, provides the foundation that is essential for AI to thrive, and is a key beneficiary of an unprecedented rise in demand.

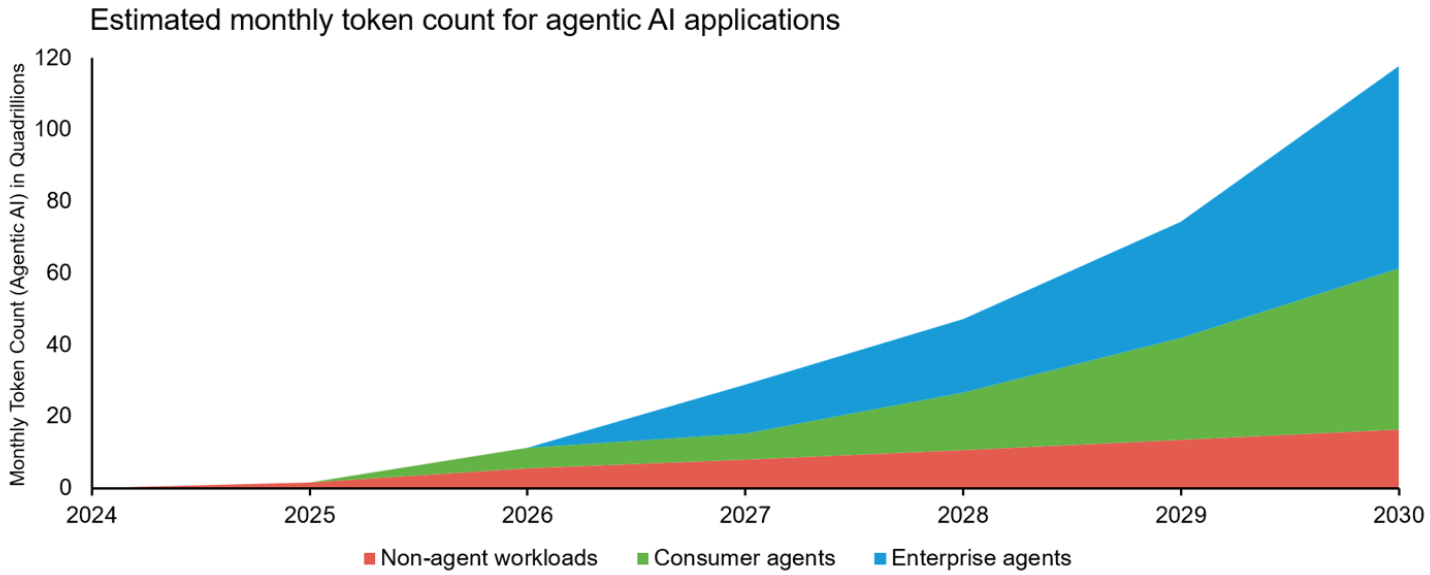
Q: In simple terms, can you explain how AI processing capacity is being monetised, and why this is good news for essential infrastructure?

A: AI processing capacity — measured in tokens — is the fundamental building block that allows AI to scale and be applied to real-world problems, automation, and intelligent experiences across every platform and channel. The sheer scale of token production needed for AI applications means that power demand is expected to rise significantly — positioning HALO assets such as electric utilities as critical enablers of the AI economy.

1. Source: https://www.goldmansachs.com/insights/goldman-sachs-research/the-halo-effect-heavy-assets-low-obsolescence-in-the-ai-era?utm_source=chatgpt.com

AI tokens are the base units of information in AI, the building blocks into which text, code, images and data are broken down for processing, analysis and output. Often called the currency of the AI economy, tokens vary in cost and performance depending on the hardware generating them, data centre economics, latency and other technical factors. Projected demand for token production is expected to grow exponentially (Figure 1).

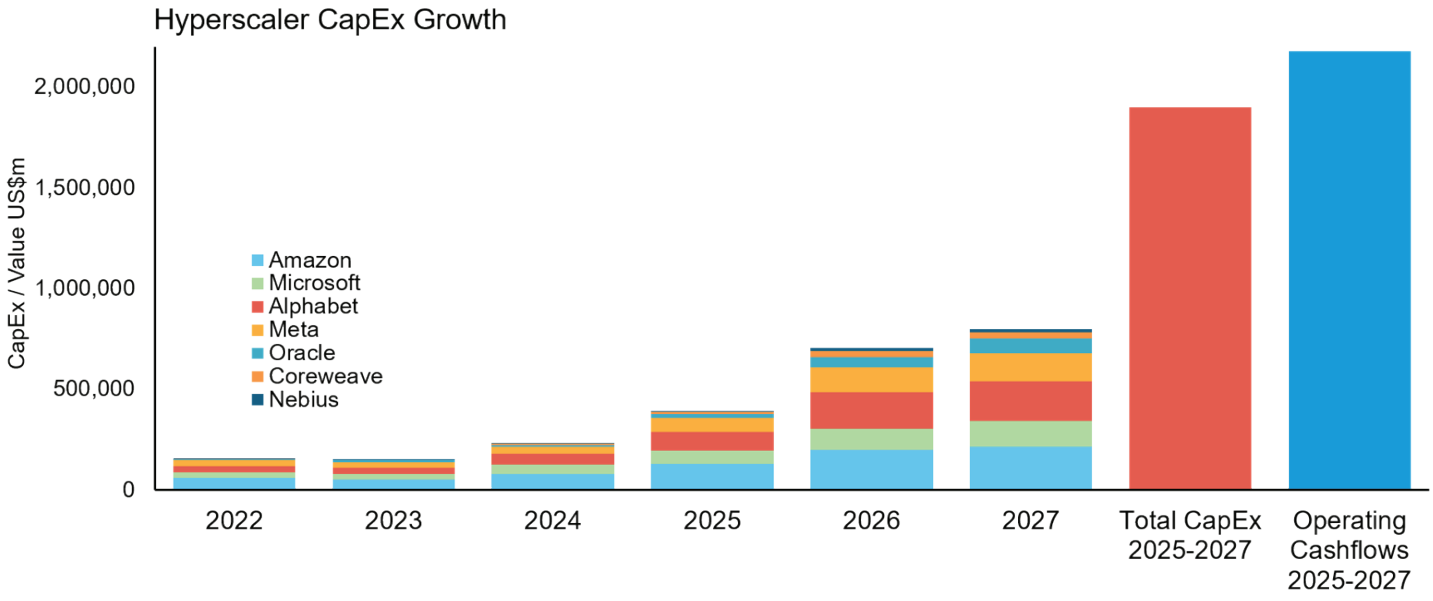
Figure 1: Token use by AI agents is expected to multiply 24 times by 2030



Source: Goldman Sachs Research, May 2026 and the IEA (International Energy Agency).

As a function of projected token demand from AI applications, there is a major data capacity buildout globally by companies that have become known as 'hyperscalers'. Hyperscalers are building data centres to process tokens with a relatively unprecedented spend on capital (Figure 2).

Figure 2: The cap-ex boom by hyperscalers is supported by future cashflows

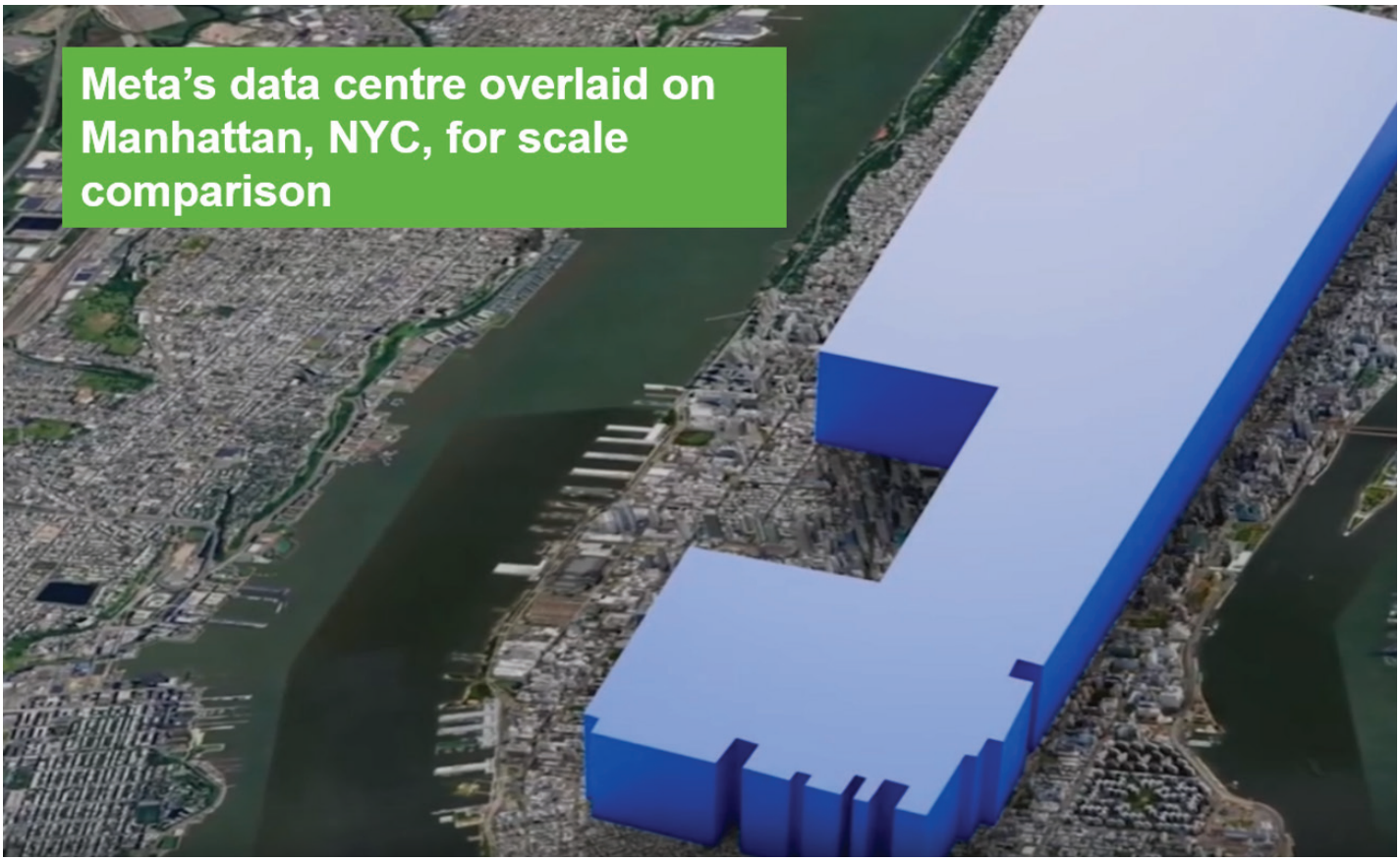


Source: Morgan Stanley equity analysts see hyperscaler capex approaching $740 billion in 2026 and $910 billion in 2027, as at Feb 2026.

Looking at US hyperscalers, the current committed capex as of February 2026 is around US$1.9 trillion when you combine 2025-2027 estimates, the equivalent of nearly the entire market cap of the ASX 200 (Figure 2). However, this capex spending is more than covered by the US$2.2 trillion in operating cashflows that US hyperscalers are projected to generate in the same period, highlighting the coverage these companies have for their AI investment spending.

The size of some data centres being built is monumental. Meta is building a 5-gigawatt data centre in Louisiana, called Hyperion. The campus is envisaged to eventually be a quarter of the size of Manhattan, will cost around US$10bn and will consume electricity equivalent to half of New York City's total electricity consumption (Figure 3). This gives a sense of the scale of data infrastructure that will be linked to electric utilities through the US grid network. US utility and essential infrastructure portfolio holding, Entergy, is spending around US$13bn to build, own and operate the necessary power generation and electricity transmission assets to support Meta's Hyperion data centre development.

Figure 3: Meta's Hyperion data centre campus in Louisiana – a quarter of the size of Manhattan, but half of New York City's electricity consumption



Source: Ausbil https://www.datacenterdynamics.com/, Meta as at May 2026.

Q: If the demand for AI token generation is exponential, is the demand for the electricity that supplies these tokens just as promising?

A: The underlying electric power required to support the AI revolution is rising significantly in a major step change. While the rise in demand for electricity is not parabolic, it is transformational for the sector and a major source of revenue growth for utilities.

As an example, the projected compound average growth rate for AI token demand between 2025 and 2030 is around 133% per annum which, including economies of scale in token production, will drive up electricity demand from data centres by a CAGR of 32% over the same period[2], a major systematic step-up in electricity demand that is transforming the growth outlook in several essential infrastructure sectors.

2. Based on data produced by Goldman Sachs in November 2025 (energy demand) and May 2026 (AI token demand).

About Ausbil Investment Management

Ausbil is a leading Australian based investment manager. Established in April 1997, Ausbil's core business is the management of Australian and global equities for major superannuation funds, institutional investors, master trust and retail clients. Ausbil is owned by its employees and New York Life Investment Management a wholly- owned subsidiary of New York Life Insurance Company. As at 31 May 2026, Ausbil manage over $21.8 billion in funds under management.

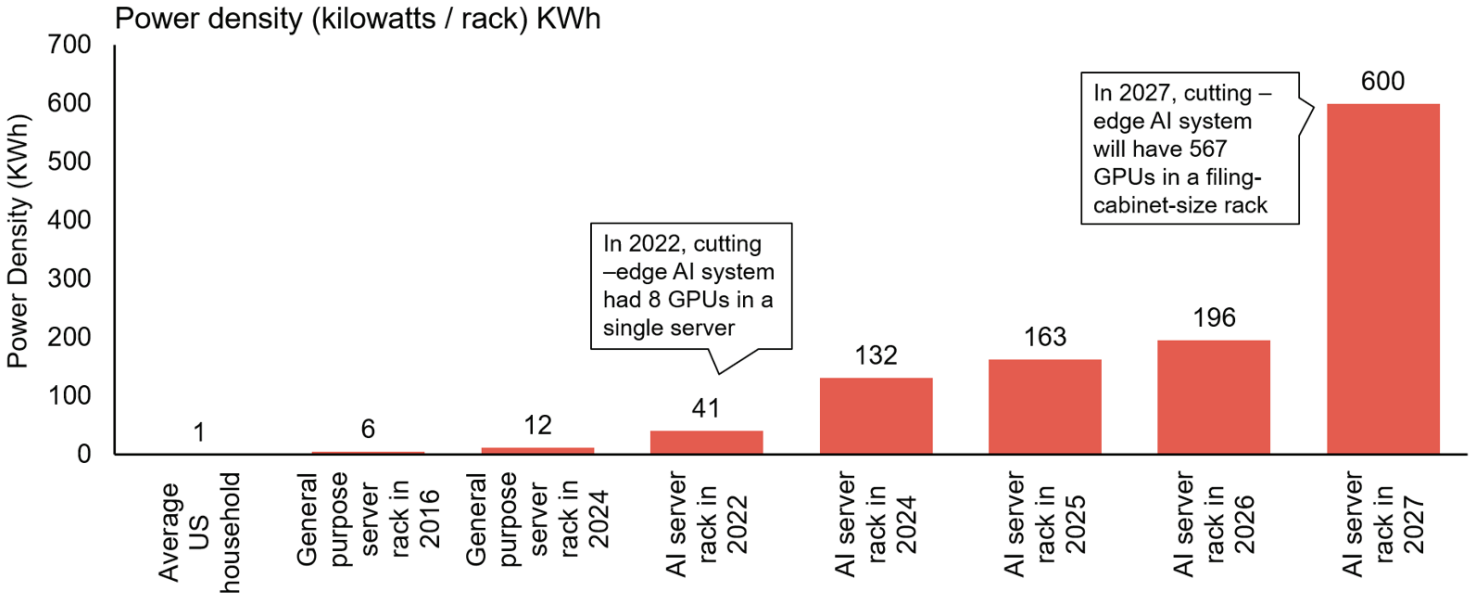
Electric utilities sit at the sweet spot of the AI boom, benefiting on two fronts. On the demand side, the surge in AI-driven electricity consumption flows directly through power stations, poles and wires, lifting revenues. On the supply side, AI optimises the balance between power demand and supply in real time — improving network efficiency and reducing operating costs.

While the long-term trajectory of AI remains less clear in terms of who will ultimately win, there are a number of key trends that are emerging, as both disruptive and additive themes. The power demanded by AI and data centres in the build out of this technology, along with the necessary associated infrastructure, is the key opportunity for essential infrastructure investors.

The data centres which hyperscalers are building provide the processing power underpinning AI and its deployment across a rapidly growing range of applications. The scale of this demand and the increase in efficiency is striking: by 2027, a server rack that held 8 GPUs consuming 41 kWh just five years earlier will pack 567 GPUs into a filing-cabinet footprint — drawing 600 kWh in the process (Figure 4).

> “Electric utilities sit at the sweet spot of the AI boom”

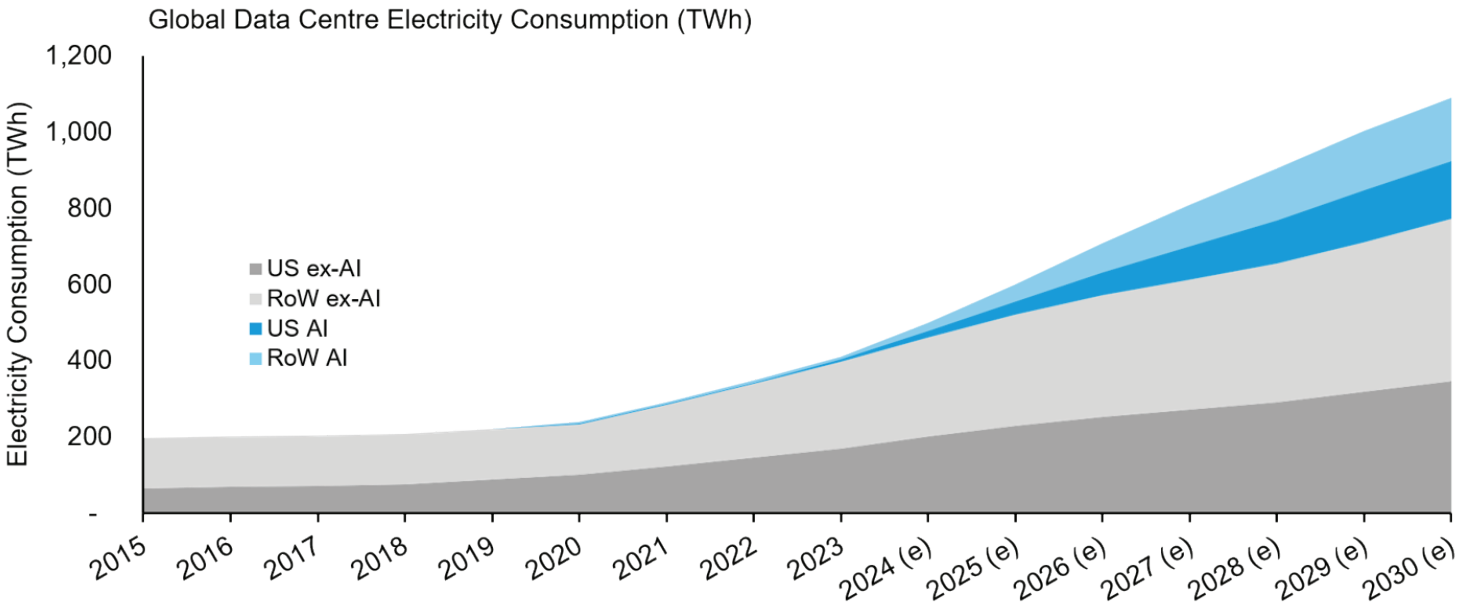
Figure 4: The emergence of ‘hyperscalers’, data and its power density



Source: Goldman Sachs (2025, August 29). How AI Is Transforming Data Centers and Ramping Up Power Demand.

The processing demands and cooling of the heat generated by hyperscale data centres are becoming one of the most significant new sources of demand on electricity grids globally. The load AI is adding to data centre electricity consumption is driving major capital expenditure both in the centres themselves and in the grid infrastructure required to power them. According to Goldman Sachs, AI processing will account for approximately 29% of all data centre electricity demand by 2030 — up from negligible levels prior to 2020 — representing one of the fastest demand step-changes the power sector has ever absorbed (Figure 5).

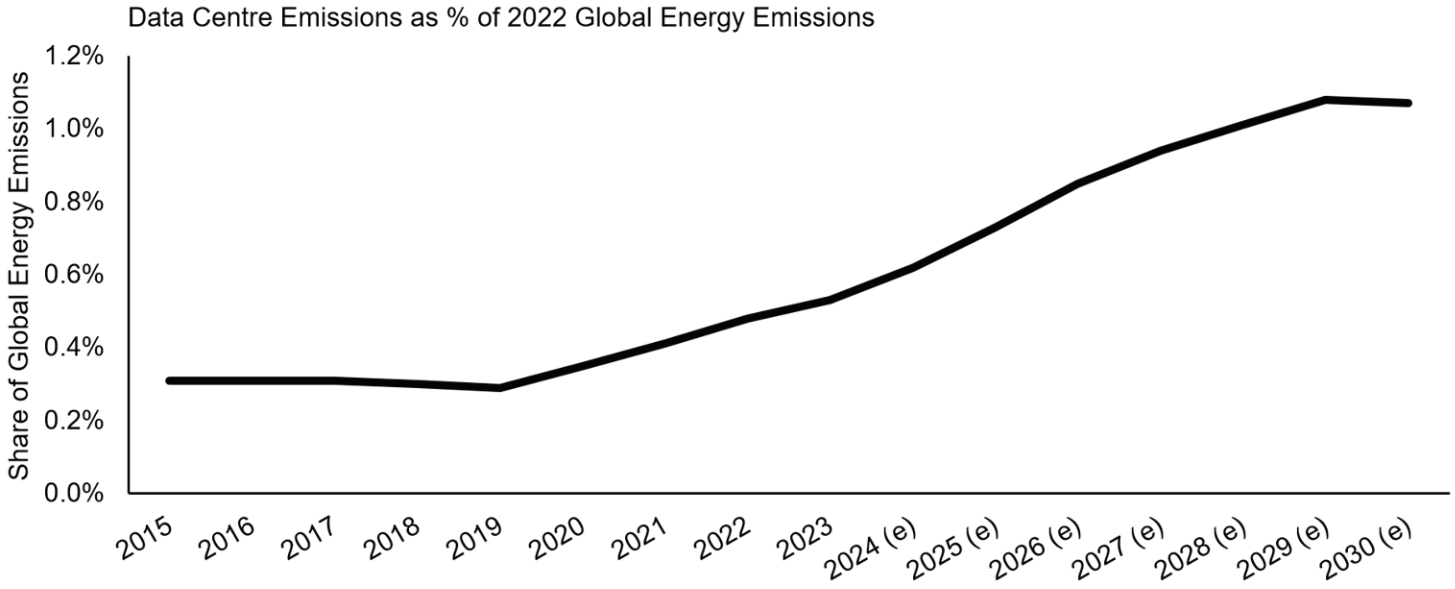
Figure 5: AI is now a major driver of electricity demand



Source: Goldman Sachs. (2025, August 29). How AI Is Transforming Data Centers and Ramping Up Power Demand. Retrieved from https://www.goldmansachs.com/insights/articles/how-ai-is-transforming-data-centers-and-ramping-up-power-demand

A further consideration for electricity producers is the carbon intensity of the electricity used to power AI workloads. Ausbil believes that the sustainability credentials of power supply will become an increasingly decisive factor in where hyperscalers choose to locate and source electricity for their data centres. AI's electricity consumption is generating a rapidly growing carbon footprint that sits squarely within hyperscalers' Scope 2 emissions commitments, and corporate and regulatory pressure to decarbonise is tightening. Clean and reliable power may become an increasingly important procurement consideration for hyperscalers, particularly where they have emission reduction commitments (Figure 6).

Figure 6: Carbon emissions projected to rise from data centres until the mix is 100% renewables



Source: Goldman Sachs. (2025, August 29). How AI Is Transforming Data Centers and Ramping Up Power Demand. Retrieved from https://www.goldmansachs.com/insights/articles/how-ai-is-transforming-data-centers-and-ramping-up-power-demand

According to Goldman Sachs, carbon emissions from data centres are projected to reach 1% of global emissions by 2030 — around 1.5 times their current share — a trajectory that will require both a significant increase in renewable electricity sourcing and material improvements in electricity efficiency. Notably, AI may also contribute to efficiency improvements in grid management, cooling and renewable integration, although the net emissions impact will depend on the electricity mix, pace of renewable deployment and overall growth in compute demand.

> “AI may also contribute to efficiency improvements in grid management, cooling and renewable integration”

Q: Where does essential infrastructure sit in the AI stack?

A: Not all businesses that benefit from AI qualify as essential infrastructure. Ausbil applies a strict definition: essential infrastructure assets must generate long-duration, predictable cash flows, operate within regulated or contracted frameworks, and be protected by significant barriers to entry. These characteristics matter in the AI context because they distinguish the durable, compounding beneficiaries of the build-out — the toll roads of the digital economy — from businesses with more cyclical or contested exposure. Figures 7 and 8 illustrate how Ausbil maps this definition onto the AI stack, drawing on Social Capital's framework to identify where genuine infrastructure characteristics begin and end.

Figure 7: The place of infrastructure in the AI stack

The AI stack

Disruption Easier ↓ Harder

Deployment	Application	Physical and digital AI applications
	Execution	Actuation or agent systems
Intelligence	Model	Physical or digital AI models
	Data	Embodied or symbolic AI
Data Infrastructure	Chips	Physical or digital AI chips
	Tokens	Commoditised processing packets
HALO assets	Data Centres	Data processing factories and cloud storage
Essential Infrastructure	**Energy**	**Electricity generation, battery storage, renewable generation, grid, cooling**
Inputs	Materials	Critical minerals, gas, electricity, renewable energy, copper, steel, base metals

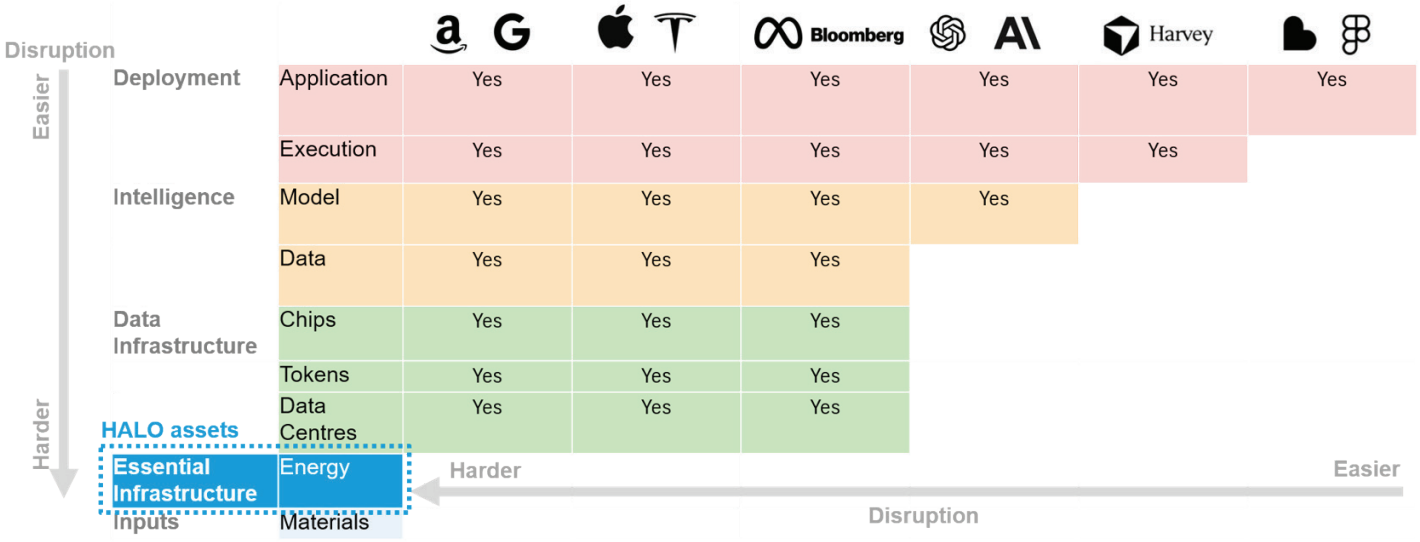
Source: Ausbil, adapted from Social Capital AI stack schematic that adds key resources inputs, and more clearly defines the role of essential infrastructure, as at May 2026.

While data centres could be considered essential infrastructure through a purely technological lens, Ausbil does not define them as such – though their criticality to AI is beyond question. Data centres operate in a highly competitive environment: users can switch providers dependent on price and capacity; contracts tend to be short in duration (3-5years); and multiple hyperscalers are actively competing to sell capacity to end users. Taken together, this falls short of Ausbil's definition of essential infrastructure, which requires long-term contracted revenue – typically on a take or pay basis – regardless of whether the end user draws on the capacity. Moreover, barriers to entry are not as high as for essential infrastructure assets as there are multiple hyperscalers competing in the tech build out to sell capacity to end users. Data centres are also exposed to relatively more rapid obsolescence risk than an essential infrastructure asset, where physical longevity and regulatory support underpins value over decades.

Yet essential infrastructure is indispensable to data centres, and therein lies the investment opportunity. The electricity grids, transmission networks, and utility assets that power hyperscalers sit upstream of the competitive fray, providing investors with what have been coined HALO assets. This offers exposure to the AI thematic with materially lower risk than data centre infrastructure itself. As with renewable electricity, essential infrastructure allows investors to benefit from the potential of new technology without needing to predict which hyperscaler ultimately prevails — the infrastructure gets used regardless of who wins.

AI demand from end users will drive hyperscalers to draw significantly more power from the grid, making electric utilities essential infrastructure partners for hyperscalers (Figure 8). Like with renewable electricity, essential infrastructure offers investors the benefits of new technologies and developments without having to make a decision as to which companies will prevail.

Figure 8: The fundamental place of essential infrastructure in the AI stack



Source: Ausbil, adapted from Social Capital AI stack schematic that adds key resources inputs, and more clearly defines the role of essential infrastructure, as at May 2026.

Q: Separately to electricity demand, how is AI revolutionising HALO assets, and especially, electric utilities?

A: AI is delivering a dual benefit to utility infrastructure: on the revenue side, surging AI-driven electricity demand is filling capacity and lifting volumes through existing networks. On the cost side, AI-enabled optimisation is improving operational efficiency and reducing waste. Together, Ausbil believes that these forces may drive stronger cash flow growth and improve returns on invested capital — a combination that is rare in a sector historically valued for stability rather than growth.

To illustrate how this plays out in practice, we draw on three portfolio holdings: NextEra, the US electric utility that sits at the intersection of power demand growth and renewable build-out; and TC Energy and Italgas, two gas utilities that demonstrate that the thesis extends beyond electricity to broader energy network infrastructure.

NextEra (NEE: NYSE)

NextEra, the largest renewable electricity producer in the US, is among one of the most direct beneficiaries of the AI hyperscaler build-out. Its subsidiary Florida Power & Light (FPL) already has over 20GW of large load enquiries in Florida, with 9GW of additional data centre demand at an advanced stage of development. At the portfolio level, NextEra has announced plans to develop multiple data centre campuses totalling 15GW by 2035, with an upside case of 30GW.

Beyond the demand uplift, NextEra has entered a strategic partnership with Google to deploy AI tools — including REWIRE — to modernise FPL's grid operations, improve reliability, and reduce costs. NextEra has also agreed with Google to recommission the recently retired Duane Arnold nuclear plant in Iowa under a 25-year contract, underwriting the economics of the restart and supporting Google's cloud and AI infrastructure in the region. The combination of surging demand, long-duration contracted revenue, and AI-driven operational improvement positions NextEra as a textbook example of the dual-benefit thesis — and its leadership in renewable electricity places it at the forefront of the clean power sourcing that hyperscalers are increasingly required to demonstrate.

> "AI is delivering a dual benefit to utility infrastructure: on the revenue side, surging AI-driven electricity demand is filling capacity and lifting volumes through existing networks"

TC Energy Corp (TRP: Toronto Stock Exchange)

TC Energy illustrates how AI can unlock latent value in existing infrastructure without material capital expenditure. The company operates one of North America's most complex energy networks — approximately 93,000km of pipeline, 350 compressor stations, and around 25,000 valves — a system of such scale and intricacy for manual optimisation across its full extent is effectively impossible.

AI is changing that. By identifying pressure imbalances across the network — where one section may be operating near its 1,400psi limit while adjacent sections run at barely 400psi — TC Energy can dynamically optimise throughout and sell incremental transportation capacity without building new pipes. In one early example, AI identified a 50km section of its GTN pipeline system where pressure optimisation unlocked an additional US$65 million in revenue over a 12-month period. Management have indicated that if similar opportunities were identified system-wide, the cumulative revenue uplift could reach US$1 billion over time — a striking return on what is essentially a software investment.

AI is also being deployed on safety and emissions monitoring, training models to detect subtle anomalies in pressure and flow data that may indicate leaks or methane releases earlier than conventional systems — delivering both economic and ESG value by potentially reducing product loss, remediation risk, and ESG-related regulatory exposure.

Italgas (IG: Borsa Italiana)

Italgas demonstrates that the AI efficiency thesis extends well beyond electric utilities into gas distribution infrastructure. As the largest owner of regulated gas distribution networks in Italy, Italgas is deploying AI tools across its business following the 2025 acquisition of Italy's second-largest regulated gas distributor — one of the more complex integration challenges in the European utility sector.

The scale of the opportunity is concrete: Italgas has identified approximately €400 million in AI-related capital expenditure through to 2031, which Italgas expects may generate recurring savings of around €70 million per annum — implying a payback period of roughly six years on a conservative basis, with returns compounding thereafter as the efficiency gains become embedded. These savings flow from process optimisation across safety, service quality, and predictive maintenance. One example: an AI-driven scheduling algorithm that allocates field worker activities dynamically, accounting for variables such as weather and traffic, improving both productivity and resource deployment. The network digitalisation being rolled out across newly acquired assets could accelerate the programme further, making Italgas a clear example of how AI-driven efficiency can enhance returns on regulated infrastructure without requiring tariff increases or volume growth.

> "AI is also being deployed on safety and emissions monitoring, training models to detect subtle anomalies in pressure and flow data that may indicate leaks or methane releases earlier than conventional systems"

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