

BIG TECH WAS GREEN UNTIL AI NEEDED A FEW MORE GIGAWATTS

How the AI infrastructure boom exposed the limits of voluntary climate pledges, why regulation matters, and whether AI can help build a future without consuming it

ALAN SHIMEL

Founder, Chief Executive Officer & Editor-in-Chief
Techstrong Group, a Futurum company · August 2026

CONTENTS

A Techstrong special report on the collision between artificial intelligence infrastructure and corporate climate commitments — what the gigawatt numbers actually say, who is paying for them, and what would have to change.

■	EXECUTIVE SUMMARY	3
	The Gigawatt Stress Test	
■	"THE WORLD LOOKS DIFFERENT"	5
	What changed between the Paris pledges and the AI build-out	
■	GW RANCH	7
	An AI Factory Meets the Climate Pledge	
■	THE MAGIC WORD IS "MATCHED"	9
	Electricity obeys physics before it obeys contracts	
■	AMAZON IS NOT AN ABERRATION	11
	The turn toward dedicated gas is becoming a strategy, not an exception	
■	FROM ELECTRICITY CUSTOMERS TO PRIVATE UTILITIES	14
	When the buyer of power becomes the builder of power	
■	THE COMMUNITIES BENEATH THE CLOUD	17
	There is nothing weightless about a data center	
■	EUROPE	19
	Transparency, Limits and Displacement	
■	CHINA	22
	Governing Compute as Infrastructure	
■	THE GLOBAL SOUTH	24
	Opportunity, Extraction and Resistance	
■	WHAT REGULATION HAS ACCOMPLISHED	26
	Where the rules have worked, and where they have not	
■	A REGULATORY FRAMEWORK FOR THE AI INFRASTRUCTURE AGE	29
	Six rules, and what each one is for	
■	BORROWING FROM OUR CHILDREN'S TOMORROW	31
	Every ton emitted today consumes part of the shrinking margin available tomorrow	
■	AI AS ITS OWN SAVING GRACE	34
	The first great test of AI's problem-solving power	
■	CONCLUSION: TALK IS CHEAP. CARBON IS NOT.	36
	What the next ten years have to prove	
■	SOURCES	38
	Every citation retrieved and read during fact-checking	



EXECUTIVE SUMMARY

The Gigawatt Stress Test

For years, the largest technology companies presented themselves as a new kind of climate leader. Amazon co-founded the Climate Pledge and promised net-zero carbon emissions by 2040. Microsoft pledged to become carbon negative by 2030. Google set out to operate on carbon-free energy around the clock. Meta promised net-zero emissions across its value chain. These were not trivial commitments, and the renewable projects they helped finance were not imaginary. Big Tech put capital, purchasing power and engineering credibility behind a cleaner electricity system.

Then artificial intelligence asked for more power.

Not a little more. The emerging AI factory can require electricity on the scale of a city, delivered continuously and on a schedule set by a corporate race rather than a public utility plan. Grid connection queues can take years. Transmission is constrained. New nuclear power will not arrive quickly enough for many near-term projects. Wind, solar and storage can do far more than the industry sometimes admits, but integrating them at gigawatt scale requires land, interconnection, flexibility and planning. Natural gas is familiar, dispatchable and available in the places where many companies want to build.

The result is a profound stress test for voluntary corporate climate action. Amazon has acquired the site of the proposed GW Ranch campus in West

Texas, where developer Pacifico Energy holds an air permit for as much as 7.65 gigawatts of gas-fired generation.^{1,3} Microsoft has signed a 20-year agreement with Chevron for a large gas-powered project in the same region and has signed a non-binding letter of intent to lease 1.35 GW of AI compute at the gas-powered Monarch campus in West Virginia.^{9,10} Meta is supporting a large expansion of gas generation for its Hyperion campus in Louisiana.^{11,12} Crusoe has filed for a 933-megawatt gas plant at the Goodnight campus in the Texas Panhandle, where Google is the anchor tenant, even as Google pursues other Texas projects built around large additions of wind and solar.^{8,7}

Most of this capacity does not yet exist. Some projects are permitted, some are under construction and some remain plans whose ultimate scale is uncertain. That distinction is essential. It is also the point. The infrastructure choices being made now will determine whether the AI boom becomes a catalyst for a cleaner power system or a new source of fossil-fuel lock-in.

The accounting makes the conflict easier to obscure. Amazon says that 100% of its 2025 electricity consumption was "matched" with renewable energy.⁵ Under accepted market-based rules, that does not mean every facility ran physically on carbon-free electricity in every location and every hour. The renewable investment

is real. So are the local emissions.

Most of this capacity does not yet exist. That distinction is essential. It is also the point.

The central finding is simpler. Corporate climate promises proved flexible when honoring them threatened the speed of AI expansion. That is why decisions affecting the public's air, water, electricity system and climate cannot depend entirely on corporate goodwill.

Other governments are already acting. Europe is imposing reporting and performance requirements.¹⁹ Ireland ties new connections to additional domestic renewable generation.¹⁶ China directs workloads and energy sourcing even as its data centers remain coal-heavy.^{21,24} In Chile, environmental review forced Google to replace a water-cooled design with air cooling.²⁹ Regulation has not stopped demand, but it has changed real projects and established that companies do not get to grade themselves.

The stakes extend beyond the industry. Current policies point toward warming of up to 2.8°C.³⁴ The years 2015 through 2025 were the hottest 11 on record, and UNICEF says 1.1 billion children face at least three overlapping climate hazards.^{36,38} Data centers produce only about half a percent of global fuel-combustion carbon emissions today, but they are among the fastest-growing sources during a decade when total emissions must fall rapidly.²²

There is another path. Big Tech could make the first genuinely carbon-free, gigawatt-scale AI factory its defining moonshot, using AI to optimize generation, storage, cooling, transmission and workload scheduling as one system. The first great test of AI's problem-solving power may be whether it can help solve the problem created by AI.

WHAT THIS REPORT COUNTS

7.65 GW — permitted gas capacity at GW Ranch, Pecos County, Texas. Not built.

~90 GW — announced behind-the-meter generation tied to U.S. data centers. About 2 GW of it operating.

474 GW — new load in ERCOT's interconnection queue as of August 2026. Roughly 90% data centers.

7,663 GWh — Irish data-centre electricity use in 2025, or 23% of the national total.

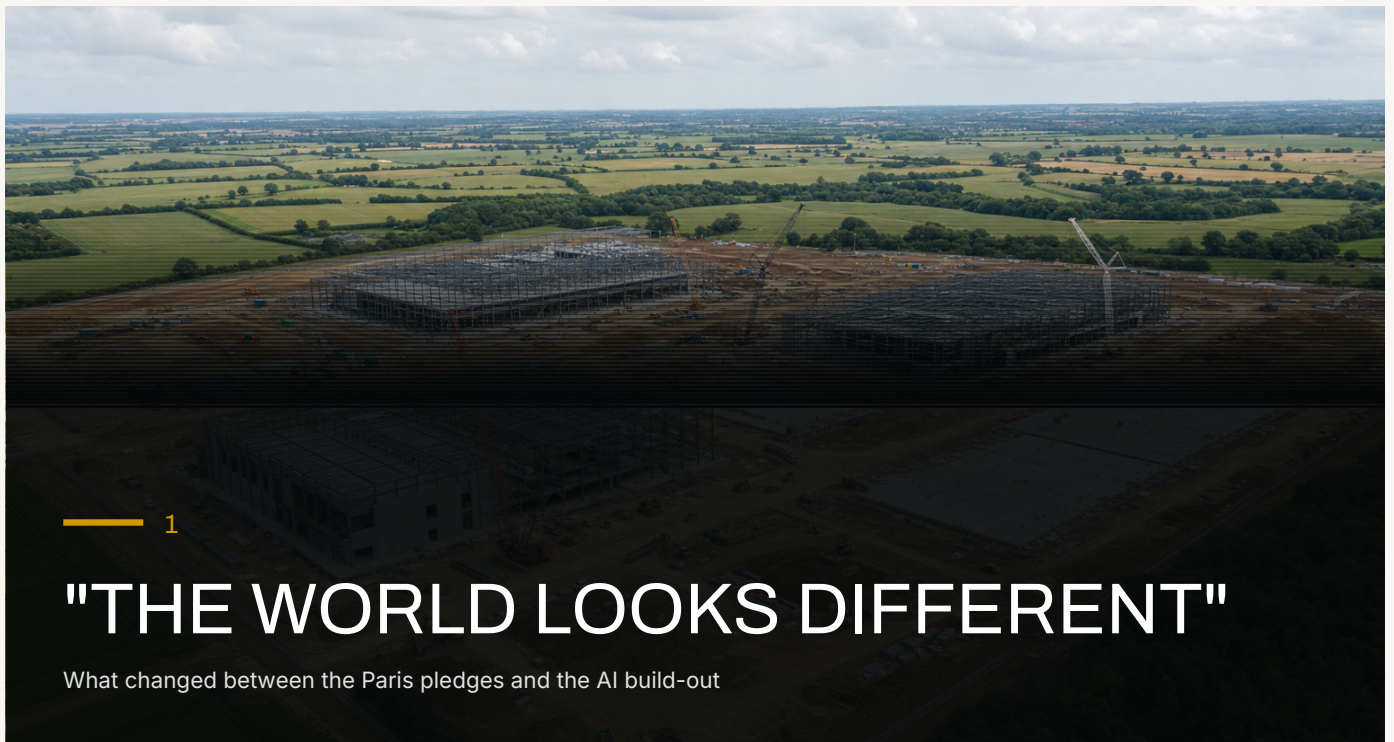
2.8°C — projected warming under current policies, ten years after Paris.



NEXT · 1

"THE WORLD LOOKS DIFFERENT"

What changed between the Paris pledges and the AI build-out



1

"THE WORLD LOOKS DIFFERENT"

What changed between the Paris pledges and the AI build-out

When The New York Times asked Amazon about the conflict between its climate commitments and the enormous gas-powered project emerging in West Texas, spokesperson Margaret Callahan offered a revealing explanation: "The world looks different now than when we co-founded the climate pledge." She maintained that Amazon's commitment had not changed.³

She is right about the first part. The world does look different. What matters is why.

The climate science did not become less urgent. The atmosphere did not acquire a mechanism for distinguishing emissions produced on behalf of artificial intelligence from emissions produced for any other purpose. Wind and solar did not stop working. Amazon did not lose access to capital or engineering talent.

What changed was the size and urgency of the electricity requirement. Generative AI transformed data centers from a fast-growing load into the central physical constraint on one of the largest capital investment cycles in history. Companies that compete in software release cycles now find themselves dependent on power plants, pipelines, transformers and transmission systems built on infrastructure timelines. The market rewards the company that brings compute online first. It does not automatically reward the one that waits for a cleaner grid.

The political environment changed, too. On January 20, 2025, President Donald Trump ordered the United States to withdraw from the Paris Agreement.³¹ On July 23 of that year, Executive Order 14318, "Accelerating Federal Permitting of Data Center Infrastructure," directed federal agencies to speed approvals for qualifying data centers and related energy infrastructure, and established new categorical exclusions from environmental review.³⁰ On February 12, 2026, the Environmental Protection Agency finalized the rescission of the 2009 greenhouse-gas Endangerment Finding for motor vehicles and simultaneously repealed all greenhouse-gas standards for light-, medium- and heavy-duty vehicles and engines — an action the agency itself called "the single largest deregulatory action in U.S. history."³² Speaking at the United Nations in September 2025, Trump called climate change "the greatest con job ever perpetrated on the world, in my opinion."³³

A pledge survives easily when it complements growth. Its meaning is revealed when it constrains growth.

Those actions did not create the gap between AI demand and available power. They changed the consequences of filling it with fossil fuels. An administration that treats climate rules as an obstacle to energy dominance sends a different signal than one requiring hyperscalers to account for the infrastructure and emissions created by their growth.

Corporate boards still choose their projects. Amazon, Microsoft, Meta and Google are not passive recipients of policy. Yet the policy shift matters because climate change is a collective-action problem. A company that voluntarily accepts slower growth risks losing to one that does not. Every participant can make a rational individual decision that produces an irrational collective result.

That is the weakness of goodwill as policy. A pledge survives easily when it complements growth. Its meaning is revealed when it constrains growth.

The climate did not change in Amazon's favor. Amazon's priorities changed, its electricity requirements changed and the government stopped applying pressure.



NEXT · 2

GW RANCH

An AI Factory Meets the Climate Pledge

2

GW RANCH

An AI Factory Meets the Climate Pledge

GW Ranch is not yet the largest gas power plant in the United States. It is a project with permission to become something close to that.

The campus sits in Pecos County, in the Permian Basin of West Texas, where natural gas, pipelines and large tracts of land are readily available. Pacífico Energy describes it as a private-grid power generation campus purpose-built for hyperscale data centers. In January 2026, the company announced that the Texas Commission on Environmental Quality had issued an air permit covering as much as 7.65 gigawatts of gas-fired generation using a mix of turbine sizes.¹ Pacífico's current development description promises more than 5 GW of integrated gas, battery and solar capacity, with first power targeted for early 2027, 1 GW planned for 2028 and a 5-plus-GW buildout targeted for 2031.²

Amazon confirmed in August 2026 that it had acquired the GW Ranch data-center site and is financing the power plant being built to serve it. The company describes the campus as "powered by new on-site generation" and says it is "designed to transition to grid-connected service as interconnection timelines allow."^{3,4} Permit reporting describes a development plan of up to 35 gas turbines, alongside proposed solar generation and battery storage.³ At least initially, the campus is intended to operate independently of the Texas

grid.

Every verb in that description matters. The project is permitted. Site work has begun. Amazon has acquired land and confirmed its role. The full gas complex is not operating, and its final capacity will depend on phased construction, equipment, demand, financing and other approvals. A 7.65 GW permit is not the same as 7.65 GW of steel in the ground.

GW RANCH, BY PERMIT

Location — Pecos County, Permian Basin, West Texas

Permitted gas capacity — 7.65 GW (TCEQ air permit, January 2026)

Current development plan — 5+ GW integrated gas, battery and solar

Turbines in plan — up to 35

Also proposed — 750 MW solar, 1.8 GW battery storage

First power — early 2027; 1 GW in 2028; 5+ GW by 2031

Permitted CO2 ceiling — roughly 33 million metric tons per year

Grid status — private grid initially; designed to interconnect later

The same caution applies to the project's most alarming emissions number. Permit records allow annual carbon emissions of roughly 33 million metric tons at the permitted ceiling.³ That would be an extraordinary figure for a single facility. It is not a prediction of actual annual emissions. Plants rarely run every permitted unit at the theoretical combination of load and hours embedded in a maximum-case authorization. Actual emissions will depend on how much generation is built, how it is dispatched, turbine efficiency, operating hours and the contribution of solar and batteries.

Calling it a permit ceiling does not make it irrelevant. A permit defines what the government has authorized and what the developer may build without returning for an entirely new emissions case. It reveals the scale for which the project has been designed. The honest formulation is neither "GW Ranch will emit 33 million tons" nor "the number is merely theoretical." The honest formulation is that Texas has authorized a project whose full permitted configuration could produce emissions on the scale of a large national source, and Amazon has chosen it as the power foundation for a major AI campus.

Pacifico and Amazon argue that private generation protects the public grid. The campus does not directly ask ERCOT to provide its entire load, and Amazon says it will bear the electricity cost rather than place it on Texas families. That has practical appeal, but cost has more than one meaning.

Amazon may pay Pacifico for the turbines and electricity. It may finance the substations, batteries, pipelines and operating systems that keep the campus running. That does not automatically price the climate effect of carbon dioxide, upstream methane leakage, conventional air pollution, noise, water use, land disruption or the opportunity cost of committing gas infrastructure to a private load for decades.

An AI accelerator can become obsolete in a few years; a turbine or pipeline can operate for decades. Pacifico also proposes 750 MW of solar and 1.8 GW of battery storage, and Amazon says the site will draw on non-potable, brackish groundwater rather than drinking water.^{2,3} Those measures can reduce fuel and water effects. They do not make a multi-gigawatt gas complex carbon-free or give the bridge an enforceable end.

The key question is not whether GW Ranch is financially off-grid. It is whether being off-grid allows an infrastructure system of unprecedented scale to exist outside the planning obligations normally imposed on public utilities while retaining the social license created by Amazon's climate brand.

An AI accelerator can become obsolete in a few years. A turbine or pipeline can operate for decades.

Amazon may pay for its turbines. That does not mean Amazon is paying for every consequence they produce.



NEXT · 3

THE MAGIC WORD IS "MATCHED"

Electricity obeys physics before it obeys contracts



THE MAGIC WORD IS "MATCHED"

Electricity obeys physics before it obeys contracts

Amazon's sustainability language is careful. In its 2025 sustainability reporting, the company said 100% of the electricity it consumed was "matched with renewable energy sources" for the third consecutive year. Its carbon-free energy portfolio comprised 712 projects with more than 42 GW of capacity across 30 countries as of January 2026.⁵

That is a significant achievement. Corporate power-purchase agreements helped make wind and solar projects financeable. Amazon's scale created demand for renewable generation that might otherwise have arrived later or not at all. Any fair account of the company's climate record must recognize that contribution.

The problem is not the renewable investment. It is what the word "matched" can lead the public to believe.

Electricity obeys physics before it obeys contracts. A data center consumes the power available on its local system at the moment it operates. If an on-site gas plant is producing electricity for the campus, those electrons and their associated emissions are part of the facility's physical energy system. A wind farm contracted by Amazon in another region may add clean electricity to another grid and create renewable-energy certificates. Retiring those certificates can support a market-based claim that annual corporate consumption has been matched. It cannot cause the

West Texas turbines to stop emitting.

TWO WAYS TO COUNT THE SAME ELECTRON

Location-based Scope 2 — estimates emissions from the average physical grid mix where the electricity is actually consumed.

Market-based Scope 2 — allows contracts and environmental attribute certificates to shape the reported emissions of purchased electricity.

24/7 carbon-free — matches consumption with carbon-free supply in the same region and the same hour. Harder, and much closer to the physical problem.

The distinction is embedded in greenhouse-gas accounting. Location-based Scope 2 reporting estimates emissions from the average physical grid mix where electricity is consumed. Market-based reporting allows contractual instruments, including power-purchase agreements and environmental attribute certificates, to shape the reported emissions associated with purchased electricity. Both views can be useful. Confusion begins when the market-based result is presented as though it describes the physical fuel serving each facility.

Annual matching also compresses time. A solar project may generate heavily at midday and little at night. An AI data center runs around the clock. On an annual ledger, excess renewable generation in one set of hours can offset consumption during fossil-heavy hours. Geographic matching can be similarly broad. The contract and the load may exist in different electricity markets that cannot physically supply one another.

Certificates are not fraudulent. They can finance cleaner projects, but their value depends on quality, additionality, location and time. The stronger 24/7 standard seeks to match consumption with carbon-free supply in the same region and hour. It is more difficult and much closer to the physical problem.

Amazon can make its electricity renewable in the sustainability report without making the electricity powering its Texas AI factory renewable in Texas.

GW Ranch demonstrates why the difference matters. Amazon helped finance a great deal of renewable energy and chose a gas-based physical power system for a major new AI development. The atmosphere records the second fact no matter how the first is entered in a sustainability report.

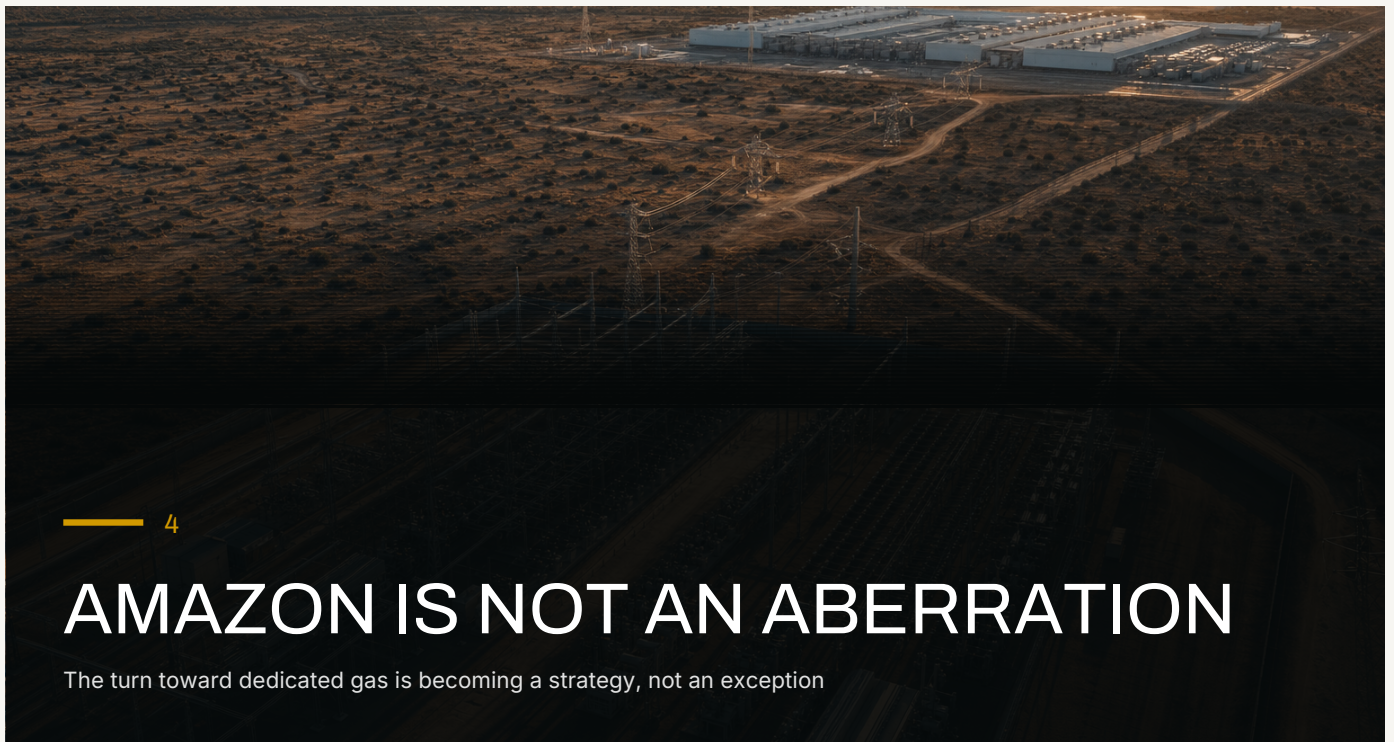
Amazon can make its electricity renewable in the sustainability report without making the electricity powering its Texas AI factory renewable in Texas.



NEXT · 4

AMAZON IS NOT AN ABERRATION

The turn toward dedicated gas is becoming a strategy, not a...



4

AMAZON IS NOT AN ABERRATION

The turn toward dedicated gas is becoming a strategy, not an exception

It would be unfair to single out Amazon as though the rest of the industry had solved the problem. The turn toward dedicated gas is becoming a strategy, not an exception.

Meta's Hyperion project in Richland Parish, Louisiana, is one of the clearest examples. Meta has described a campus that could eventually reach 5 GW of compute capacity.¹¹ The generation behind it is a separate and larger number. Entergy Louisiana received approval for three combined-cycle units of roughly 2.3 GW and has since proposed seven additional plants of roughly 5.2 GW, an \$11 billion program that would total about 7.5 GW across 10 units.¹² The seven later plants still require approval from the Louisiana Public Service Commission. Meta has agreed to fund power associated with the campus. Supporters emphasize investment, tax revenue, reliability and jobs. Opponents question the speed of review, long-term fuel costs and the climate implications of building a fleet of gas plants around one corporate customer.

In Ohio, behind-the-meter construction is already less theoretical. Cleanview reports that Meta and EdgeConneX projects near New Albany account for a combined 736 MW of gas generation under construction.⁶ These are precisely the kinds of projects that disappear inside corporate-wide renewable claims. A company can continue procuring clean energy across its portfolio while

local generation moves in the opposite direction.

Microsoft has made even longer commitments. In June 2026, Chevron announced a 20-year power agreement for Project Kilby in West Texas. The proposed co-located gas facility is expected to ramp toward 2.67 GW, with first power targeted for 2028, although a final investment decision was still expected later in 2026.⁹ Separately, Microsoft signed a non-binding letter of intent to lease 1.35 GW of AI compute from Nscale at the Monarch Compute Campus in Mason County, West Virginia — a site Nscale is acquiring, building, owning and operating, with a potential buildout of up to 8 GW. The campus is designed around an on-site gas microgrid, though its developers say it "will have the opportunity to tie in to the grid."¹⁰ Microsoft leases the compute. It does not build the power plant.

Carbon removal can compensate on a ledger. It does not remove local air pollution or guarantee that a gas plant built for a 20-year contract retires with its first servers.

Microsoft's carbon-negative-by-2030 promise makes the question sharper. Carbon removal can compensate on a ledger. It does not remove local air pollution or guarantee that a gas plant built for a 20-year contract retires with its first servers.

Google offers both the warning and the counterexample.

At the Goodnight campus in Armstrong County, Texas — inside the Southwest Power Pool footprint, not ERCOT — developer Crusoe filed for a 933 MW on-site gas plant intended to power two data-center buildings. The permit application allowed up to roughly 4.5 million tons of carbon dioxide annually. Four other buildings were expected to use grid electricity. Crusoe, not Google, also filed the net-metering application for 265 MW of Goodnight Wind 1 capacity. Google's own position is that it "hasn't signed an offtake agreement with Crusoe."⁸ That qualification matters. A permit application and a developing partnership should not be reported as a finalized offtake contract.

At almost the same time, Google pursued a very different West Texas design. Filings involving AES described an 850 MW data center paired with 600 MW of solar and 945 MW of wind, while retaining a grid connection for reliability.⁷ Google also signed agreements for substantial additional Texas solar supply. The design is not literally isolated from fossil generation, because the ERCOT grid remains mixed. It nevertheless shows that a gigawatt-class campus can be built around large additions of wind and solar rather than an on-site gas fleet.

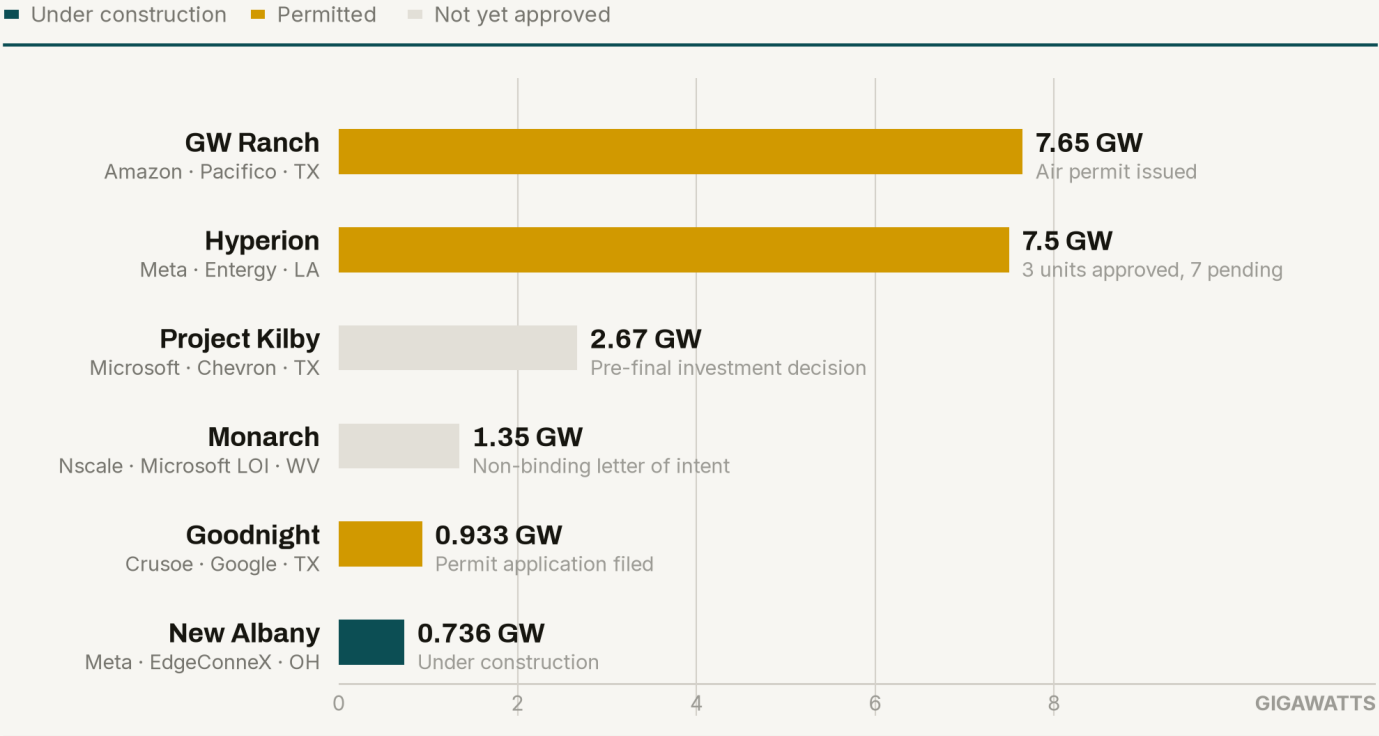
That does not prove every site can copy the design. Renewable quality varies by region. Transmission, weather, land and storage economics differ. It does disprove the lazy version of the speed-to-power argument: that dedicated gas is always the only commercially serious choice.

The hyperscalers are still buying vast amounts of clean power while making decisions that could add large new sources of fossil generation. The contradiction is the industry's emerging operating model. Figure 1 puts the six flagship campuses side by side.

FIGURE 1

Six AI campuses, and the gas attached to them

Dedicated generating capacity announced for flagship AI campuses. Permitted capacity is not operating capacity: only one of these six is being built.



SOURCE — TCEQ air permits; Louisiana PSC; company announcements, compiled August 2026.

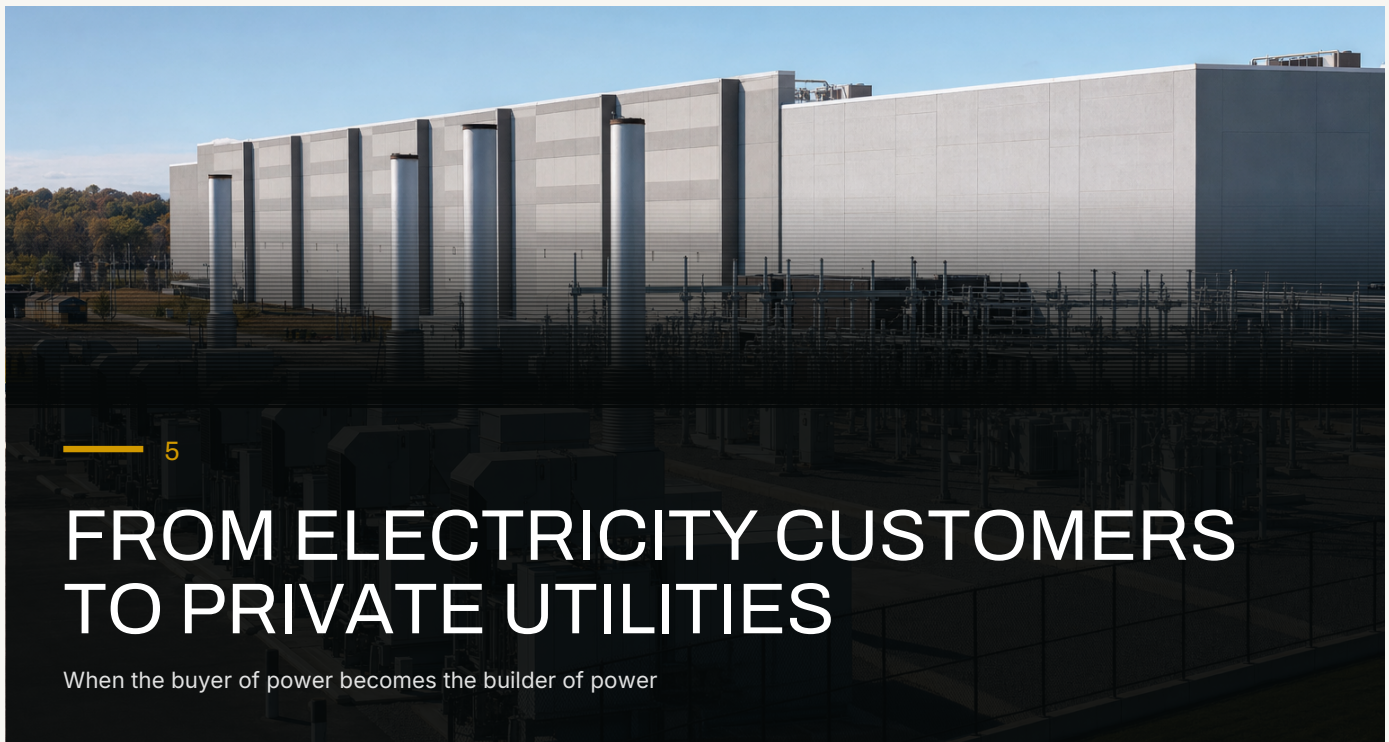
FIGURE 1 Read the status notes rather than the bar lengths. The two largest projects here are permits, not power plants, and only the smallest one is under construction.



NEXT · 5

FROM ELECTRICITY CUSTOMERS TO PRIVATE UTILITIES

When the buyer of power becomes the builder of power



5

FROM ELECTRICITY CUSTOMERS TO PRIVATE UTILITIES

When the buyer of power becomes the builder of power

For most of the cloud era, a data center was a large customer connected to a public utility. The utility planned generation and transmission, regulators reviewed investments and the data center paid a tariff. AI is producing something structurally different.

The new campus can contain its own generating fleet, gas supply, substations, batteries, transmission and control systems. It may be physically connected to the grid for backup or market transactions, or it may begin as a private island. Either way, the operator is no longer merely buying electricity. It is shaping an energy system.

Cleanview's mid-2026 review identified roughly 90 GW of announced behind-the-meter generation associated with data centers. That headline number requires restraint. Only about 2 GW, or 2.2% of the total, was operating. Roughly 1.2% was under construction, about 36% had been permitted and approximately 60.6% remained announcements or early plans. Cleanview expected between 2.8 and 3.2 GW to be operating by the end of 2026, with far greater uncertainty after that.⁶

The pipeline is enormous. The physical reality is still young.

Companies are pursuing it because conventional grids cannot move at internet speed. Interconnection studies can take years.

Transmission projects can take longer. Turbine manufacturers have growing backlogs, but modular gas equipment can sometimes be installed faster than a new high-voltage line. Behind-the-meter arrangements can also give a hyperscaler more control over schedule, reliability and cost.

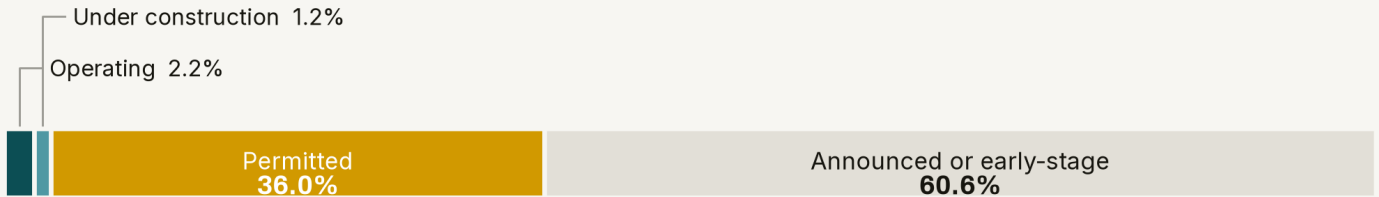
Self-supply can protect ordinary customers from some grid costs. It can also bypass protections created for utility-scale infrastructure. A private campus may avoid planning duties and service obligations while its emissions, gas demand, water use and construction effects cross the property line.

Texas illustrated the tension in August 2026 when Governor Greg Abbott ordered an audit before new data centers could receive grid approvals. ERCOT was reviewing 474 GW of proposed new load, about 90% of it associated with data centers — an implausibly large queue that included duplicative and speculative requests. The audit demanded information on electricity, water, incentives, ownership and community effects. Figures 2 and 3 show why.¹³ ERCOT followed with a market notice pausing its "Batch Zero" large-load study; BloombergNEF estimated the pause could delay 49.8 GW of data-center load and add up to \$15 billion in project costs.¹⁴ Treating every request as an ordinary customer application had stopped making sense.

FIGURE 2

The pipeline is enormous. The steel is not.

Roughly 90 GW of behind-the-meter generation has been announced for U.S. data centers. About 2 GW of it is actually running.



~90 GW announced ~2 GW actually operating

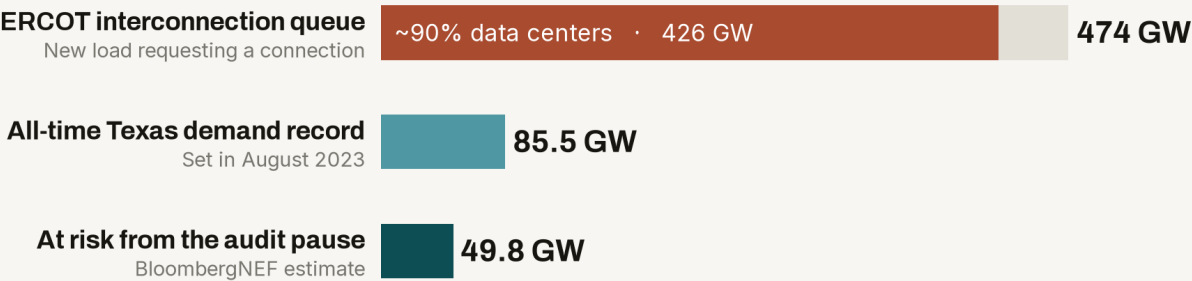
SOURCE — Cleanview, behind-the-meter generation tracker, mid-2026.

FIGURE 2 The distance between what has been announced and what is generating electricity is the whole of the argument above.

FIGURE 3

A queue five times larger than the grid's record peak

New load requesting connection to the Texas grid, against the state's all-time demand record. Texas paused new large-load studies on 3 August 2026.



SOURCE — ERCOT interconnection queue, August 2026; BloombergNEF via POWER; Texas Tribune.

FIGURE 3 ERCOT's queue is not a forecast. It is a list of requests, and the August pause is what happens when a grid operator stops taking that list at face value.

If an AI campus functions like a private utility, why should it not face utility-style obligations appropriate to its effects?

Off-grid projects may escape the immediate connection problem, but they do not escape the governance question. If an AI campus functions like a private utility, why should it not face utility-style obligations appropriate to its effects?

Who verifies its claims, ensures promised clean capacity is built with the gas and retires "temporary" generation? Who protects the community if the customer leaves but the infrastructure remains?

AI is collapsing the boundary between technology company and energy company. Public policy has not yet caught up.



NEXT · 6

THE COMMUNITIES BENEATH THE CLOUD

There is nothing weightless about a data center

6

THE COMMUNITIES BENEATH THE CLOUD

There is nothing weightless about a data center

The cloud has always been a misleading metaphor. There is nothing weightless about a data center. It sits on land, consumes electricity, moves water, produces noise and depends on roads, substations, pipelines and power plants. The AI factory makes that physical reality harder to hide.

Carbon is the global effect, but it is not always the first concern of the people living nearby. Gas turbines and backup generators can emit nitrogen oxides, carbon monoxide, particulate matter and volatile organic compounds. Upstream gas production and transportation can leak methane, a powerful warming pollutant. Cooling systems may require substantial water, especially in hot and dry regions. Air cooling reduces water use but can require more electricity under some conditions. Turbines, fans and generators create low-frequency noise that does not stop when the workday ends.

Even a privately powered campus may need transmission, backup service and fuel infrastructure. If utility demand forecasts are wrong or a customer leaves, ratepayers can be left with stranded assets.

Industry advocates point to the benefits: construction work, tax revenue, land payments, supplier business and the prestige of becoming an infrastructure hub. Those benefits can be significant. Pecos County may welcome investment that would be difficult to attract through another

industry. Louisiana sees Hyperion as an economic-development project as well as an AI campus. Local governments can use property-tax revenue to support schools and services.

The employment story needs the same precision as the emissions story. A multi-billion-dollar campus can support thousands of workers during construction. Once operating, highly automated facilities often employ far fewer people than a manufacturing plant with a similar capital value. Economic value is not measured only in permanent headcount, but communities deserve to know the difference before approving incentives.

The common complaint is not "we received too little." It is "nobody listened before deciding what we would be required to live with."

The deepest source of opposition is often procedural. Residents learn about a project after land has been assembled, incentives negotiated and political leaders have announced it as a victory. A formal hearing may still occur, but the decision feels settled. People are asked for comments on how the project will proceed rather than whether its scale, location and resource demands are

acceptable.

Opposition cuts across ideology. The common complaint is not simply "we received too little." It is "nobody listened before deciding what we would be required to live with."

The industry cannot certificate its way out of that conflict. A renewable contract in another state does not quiet a turbine next door. A global water-replenishment pledge does not refill a local aquifer on the day a cooling system draws from it. A corporate net-zero date does not answer who pays for a transmission line now.

People are not merely being asked to host AI infrastructure. They may be asked to supply, subsidize and absorb the effects of private industrial systems whose primary benefits flow to customers and shareholders elsewhere.



NEXT · 7

EUROPE

Transparency, Limits and Displacement



Europe is not rejecting data centers. It wants cloud capacity, AI sovereignty and a larger share of the infrastructure economy. Its difference from the current American approach is that it is increasingly unwilling to let operators define sustainability entirely for themselves.

The European Union's recast Energy Efficiency Directive created a reporting system for data centers with significant energy consumption. Operators report energy use, water footprint and performance indicators to a European database. A 2024 delegated regulation established the first phase of a common sustainability rating scheme. The Commission's follow-on Data Centre Energy Efficiency Package – covering ratings and potential minimum performance standards for energy efficiency, water efficiency, clean energy and waste-heat reuse – went out for public consultation between March 26 and April 23, 2026 and is now scheduled for the third quarter of 2026. It has not yet been adopted.¹⁹

Disclosure sounds modest compared with a permit denial, but it changes the market. Comparable facility-level data makes it harder to hide an inefficient campus inside a global average. Customers can evaluate cloud providers on something more meaningful than a corporate slogan. Governments can identify poorly performing facilities and build standards around

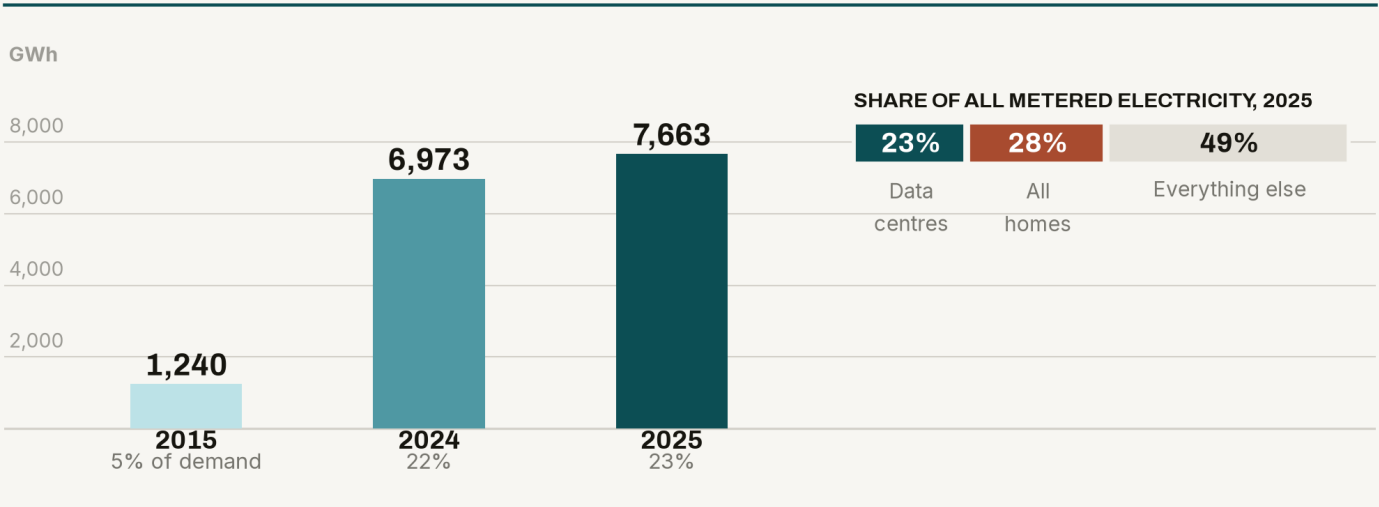
evidence rather than voluntary surveys.

Germany has gone further. Its Energy Efficiency Act imposes PUE, renewable-electricity and waste-heat rules. Facilities beginning operation from July 1, 2026 face a 10% waste-heat reuse requirement after an optimization period; the threshold rises to 15% for facilities starting from July 1, 2027 and 20% for those starting after July 1, 2028.¹⁸ The rule is difficult where no nearby system can use low-temperature heat, but it makes the facility's relationship with the surrounding energy system part of the design. Ireland, in Figure 4, is the case that made all of this urgent.

FIGURE 4

In Ireland, data centres now use almost as much power as every home

Metered electricity consumed by Irish data centres, and their share of all metered electricity in the country.



SOURCE — Central Statistics Office Ireland, Data Centres Metered Electricity Consumption, published 7 July 2026.

FIGURE 4 Ireland is the clearest case of what happens when data-centre growth outruns the grid built to serve it — and the reason Dublin's connection moratorium exists.

Ireland offers the clearest warning about scale. Data centres consumed 7,663 gigawatt-hours in 2025, roughly 23% of national metered electricity and nearly as much as all Irish households combined, which accounted for 28%. Their consumption had risen from 1,240 GWh in 2015 — a sixfold increase in a decade.¹⁵ The concentration around Dublin created grid constraints so severe that new connections were effectively restricted for years.

Ireland's December 2025 connection policy reopened a pathway under explicit conditions. New data centres must bring dispatchable on-site or proximate generation and/or storage matching their Maximum Import Capacity, and must meet at least 80% of annual demand with additional renewable electricity generated in Ireland. Notably, the regulator dropped a proposed mandatory demand-flexibility requirement in favour of the generation and storage obligation. Existing subsidised projects under REFIT, RESS or ORESS generally cannot be recycled to satisfy the additionality requirement. Developers receive a six-year glide path to bring new renewables online.^{16,17}

That is a more honest version of "bring your own power." It recognizes that a large customer needs reliability while refusing to treat any private generator as socially equivalent. The generation must support system adequacy, and most annual consumption must be paired with new domestic renewable supply.

The Netherlands and Singapore have used moratoria, land-use restrictions and tighter utility approvals to slow development in constrained markets. These policies produced measurable effects, but not always the ones regulators intended. Demand moved. Singapore's restrictions helped accelerate development across the border in Johor, Malaysia. Limits in Amsterdam and Dublin encouraged developers to consider other European regions.

That is a more honest version of "bring your own power." The generation must support system adequacy, and most annual consumption must be paired with new domestic renewable supply.

This regulatory displacement argues for broader standards and portfolio-wide measurement so companies cannot celebrate improvements achieved by exporting the load.

Europe's coming AI gigafactories will test its principles. The region says it wants clean infrastructure and strategic compute capacity. When those goals collide, Europe will confront the same stress test as Amazon. The difference is that the rules are being written before every decision is left to the companies.



NEXT · 8

CHINA

Governing Compute as Infrastructure



CHINA

Governing Compute as Infrastructure

China treats computing capacity as part of national industrial infrastructure. Its "East Data, West Computing" strategy is an attempt to solve a geographic mismatch: much of the demand, population and digital business sits in the east, while land, cooling advantages and abundant wind, solar and hydropower are more available in the west.

The government has designated national computing hubs and encouraged latency-tolerant workloads to move toward western regions. Real-time financial transactions and interactive services cannot tolerate every additional millisecond of delay, but model training, batch processing, backups and some inference workloads can be scheduled farther from users. China is also imposing PUE standards and renewable procurement expectations. In March 2025, the National Data Administration set a target for new data centers in national hub regions to source at least 80% of their electricity from green power, with green electricity certificates as the compliance instrument; English-language advisories read the same policy as an 80% target by 2030.²⁴ It is a state target rather than a statutory mandate — but it is a target with an accounting system attached.

That is the antithesis of a purely voluntary pledge. Siting, efficiency and energy sourcing are instruments of state policy. What those instruments

cannot change quickly is the generation mix underneath them, shown in Figure 5.

FIGURE 5

China's data centres run on the grid China actually has

Estimated generation mix supplying Chinese data centres. Gas accounts for the remainder. Between 2024 and 2030 coal and renewables each add about 90 TWh.



A coal-heavy grid remains a coal-heavy grid.

SOURCE — International Energy Agency, Energy and AI, 2025.

FIGURE 5 Siting rules and efficiency targets govern how a data centre uses power. They do not govern what generates it.

It is not proof that Chinese data centers are clean. The IEA estimates that about 70% of the electricity supplying them today comes from coal, with renewables providing roughly 20% and nuclear close to 10%. Between 2024 and 2030, coal and renewables are each expected to add nearly 90 TWh of annual data-center supply.^{21,23} China's extraordinary renewable buildout is changing the mix, but the physical system remains carbon intensive.

The western strategy has limits. Power may be abundant where networks, chips, skills and demand are not. Latency makes some workloads unsuitable for relocation, and underused facilities show that a national map cannot move demand simply by drawing an arrow.

China nevertheless demonstrates what governing compute as infrastructure can accomplish. It can direct investment toward regions with cleaner resources, demand minimum efficiency and establish sourcing thresholds. It can also make mistakes at national scale and suppress public participation in ways democratic governments should not emulate.

Data centers cannot become cleaner than the physical power system supplying them. A coal-heavy grid remains a coal-heavy grid.

The lesson is not that the United States should copy China's political system. It is that energy, location and compute can be planned together. The American model increasingly lets each hyperscaler assemble a private system around the fuel and timeline it finds most convenient. China begins from the premise that computing capacity has public consequences and should fit a national resource plan.

There is one limit no planning regime can escape. Data centers cannot become cleaner than the physical power system supplying them. China can move servers west and improve PUE, but a coal-heavy grid remains a coal-heavy grid. Efficiency determines how much electricity is consumed. The generation mix determines what that electricity does to the atmosphere.





9

THE GLOBAL SOUTH

Opportunity, Extraction and Resistance

There is no single Global South data-center story. Countries enter the AI infrastructure race with different grids, water resources, political systems and development needs. Some see clean energy as a competitive advantage. Some welcome investment faster than safeguards can develop. Some discover that a project celebrated nationally can become a local resource conflict.

Brazil is trying to attach conditions to the opportunity. Its REDATA program, created by Provisional Measure 1,318/2025 on September 17, 2025, offers tax benefits for eligible data-center equipment and projects while requiring environmental and operational commitments, including a water-use effectiveness standard of no more than 0.05 litres per kilowatt-hour. Legislation has included a requirement to reserve at least 10% of processing capacity for the domestic market.²⁵ The underlying bargain matters: if Brazil supplies tax relief, renewable electricity, land and water, some of the resulting digital capacity should strengthen Brazil rather than function entirely as an export-oriented factory.

Brazil's electricity mix gives it an advantage. Large shares of hydropower, wind and solar allow a hyperscaler to locate where low-emissions electricity is physically available rather than burn gas locally and buy renewable attributes elsewhere. The opportunity is not risk-free. Drought can

constrain hydropower, transmission must reach the site and data-center growth can still compete with other users. Clean power is an asset, not an inexhaustible entitlement.

Kenya illustrates the gulf between a compelling announcement and a viable system. Microsoft and G42 announced a \$1 billion campus at Olkaria in 2024, designed around renewable geothermal energy and water conservation. It looked like a model for locating compute near carbon-free baseload power. By 2026, the project had stalled amid disputes over capacity guarantees and concern about the scale of the power requirement relative to Kenya's roughly 3 GW system.²⁶ A project that eventually sought as much as 1 GW could not be treated as an ordinary industrial connection in a country whose entire installed capacity was only several times larger.

A clean power source does not make a project just if it compromises reliability or transfers disproportionate financial risk to the host government.

The failure is not an argument against geothermal data centers. It is an argument for sizing infrastructure to the society that must support it. A

clean power source does not make a project just if it compromises reliability or transfers disproportionate financial risk to the host government.

India is moving through an earlier version of the same dilemma at far greater scale. The Council on Energy, Environment and Water describes installed data-center capacity as having nearly tripled between 2020 and 2025, and estimates that data centers accounted for about 0.5% of national electricity consumption and roughly 150 billion litres of annual water use in 2024, with both figures expected to more than double by 2030.²⁷ National consumption shares can make the burden appear small while hiding intense local pressure in Mumbai, Chennai, Hyderabad, Bengaluru and other water-stressed markets.

India has state-level data-center policies but no single binding national sustainability framework equal to the speed of development. The decisions being made now about siting, cooling and power will remain in place long after today's servers are replaced. Cheap coal-backed electricity and scarce urban water are not a durable foundation for unlimited growth.

A 50 MW DATA CENTER, PER DAY

Electricity — as much as 22,000 households consume in a day

Water — as much as 2,200 households consume in a day

Source — Bank Negara Malaysia, Quarterly Bulletin, 3Q 2025

Malaysia shows how regulatory displacement works in real time. Singapore's restrictions helped turn Johor into one of the world's fastest-growing data-center markets. Investment poured in from American and Chinese companies. Electricity and water demand followed. By mid-2026, Malaysia was tightening project vetting and pricing, while Johor faced a pipeline that could increase capacity many times over. Malaysia's central bank estimated that a 50 MW data center can consume as much electricity in a day as 22,000 households and as much water in a day as 2,200 households.²⁸

Malaysia gained investment, construction and a larger role in the digital economy. It also inherited the resource problem Singapore was trying to

manage. The choice is not between growth and regulation. Unmanaged growth eventually produces regulation under worse conditions, after land has been committed and expectations have hardened.

Chile provides one of the strongest examples of public action changing a specific design. Google planned a \$200 million data center in the Santiago region using water-based cooling. Residents and local officials challenged the environmental approval because of the effect on a stressed aquifer during a long drought. A Chilean environmental court required the climate and water effects to be reconsidered. In 2024, Google withdrew the original permitting process and said it would return with an air-cooled design.²⁹

The project was not stopped forever. The cooling architecture changed. That is measurable impact. Public review did more than produce another sustainability page. It forced the company to adapt the facility to local limits.

Across these markets, the governing question is who captures value and who supplies the inputs. A data center can create domestic cloud capacity, skilled jobs, tax revenue and a foundation for AI development. It can also become a form of resource extraction in which local electricity, water and land serve computing demand generated elsewhere.

The difference depends on conditions negotiated before the project arrives: domestic capacity, workforce development, transparent water and power plans, fair infrastructure pricing, community consent and enforceable environmental standards. Countries eager for investment have more leverage before the first groundbreaking than after the campus becomes "too important" to constrain.



NEXT · 10

WHAT REGULATION HAS ACCOMPLISHED

Where the rules have worked, and where they have not



10

WHAT REGULATION HAS ACCOMPLISHED

Where the rules have worked, and where they have not

The argument for regulation is often caricatured as a choice between stopping AI and letting it flourish. The international evidence shows something more practical. Regulation changes designs, locations, disclosure and costs. It does not make demand disappear.

European reporting rules have made facility-level energy and water performance visible to regulators. German standards have forced developers to consider renewable procurement, PUE and waste heat at the design stage. Irish connection policy has redirected development and tied new load to additional domestic renewable generation. Chinese planning has moved suitable computing tasks toward renewable-rich regions and imposed efficiency and sourcing targets. Chilean environmental review changed Google's cooling technology.

These are not theoretical benefits. They are changes to steel, water, contracts, maps and schedules.

Regulation can also fail or create side effects. A moratorium can move a project across a border. A PUE target can make a building efficient while the electricity remains coal-fired. A renewable mandate based on certificates can reproduce the same gap between contractual and physical supply found in corporate accounting. Waste-heat requirements can become symbolic when there is no customer for the

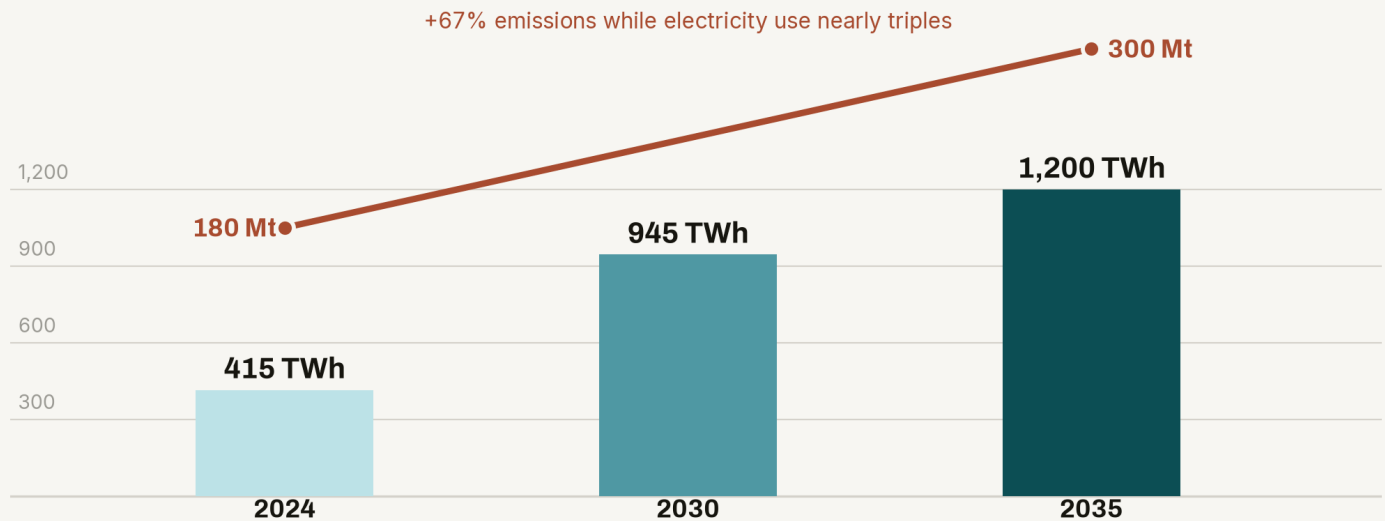
heat. Figure 6 shows the aggregate result of a decade of such rules. Reporting without enforcement can become a database nobody uses.

FIGURE 6

Consumption doubles. Emissions do not fall.

Global data-centre electricity use, and the indirect CO₂ emissions attributable to that electricity, under the IEA Base Case.

■ Electricity use, TWh ■ Indirect CO₂, Mt



SOURCE — International Energy Agency, Energy and AI, Base Case projections.

FIGURE 6 The IEA's own base case is the strongest available evidence for the point made above: efficiency and procurement alone do not bend the emissions curve.

Most importantly, regulation has not stopped the upward curve. Global data-center electricity demand is rising faster than efficiency gains can offset it; the IEA reported that data-centre electricity demand rose 17% in 2025 alone, and expects electricity use to more than double by 2030 in its base case, from about 415 TWh in 2024 to around 945 TWh.²⁰ Emissions associated with data-centre electricity use are projected to rise from roughly 180 million metric tons today to about 300 million tons in 2035.²² A separate IEA measure — emissions from electricity generation for data centres — peaks at about 320 million tons around 2030 before the generation mix improves.²¹ The two numbers are often conflated. They are not the same metric.

That does not prove regulation is ineffective. Fuel-efficiency rules did not eliminate driving. Building codes did not eliminate buildings. Pollution controls did not eliminate industry. The

purpose of regulation is to set boundaries, expose costs and change incentives where the private market would otherwise transfer consequences to the public.

Each metric can contain useful information. None should be the sole grade assigned by the company being graded.

Climate accounting is especially vulnerable to self-regulation because companies choose the definitions, boundaries and time frames that make performance look strongest. One may emphasize carbon intensity while absolute emissions rise. Another may emphasize annual renewable matching while new local gas generation is built. A third may count future removal contracts against

present emissions.

Each metric can contain useful information. None should be the sole grade assigned by the company being graded.

Regulation has not solved the environmental cost of AI. It has established that the cost exists, that it can be measured and that companies can be required to change their plans.



NEXT · 11

A REGULATORY FRAMEWORK FOR THE AI INFRASTRUCTURE AGE

Six rules, and what each one is for



11

A REGULATORY FRAMEWORK FOR THE AI INFRASTRUCTURE AGE

Six rules, and what each one is for

The United States does not need to prohibit every gas-powered data center or copy another country's system. It needs rules equal to the scale of the infrastructure being proposed.

The first principle is facility-level truth. Every major campus should disclose electricity consumption, peak demand, physical generation sources, fuel, emissions and water. Reports should distinguish operations from estimates, current phases from full buildout and permit ceilings from expected emissions. Renewable contracts and certificates should appear separately from physical supply, with market-based claims beside location-based and hourly data.

The second is additionality with temporal and geographic integrity. A gigawatt of new computing should bring substantial new generation. Buying attributes from existing plants is not equivalent to financing capacity that serves the new load. Hourly matching in the relevant electricity region is more honest than annual global matching, even if no standard can trace every electron.

The third is lifecycle and cumulative review. Methane can leak before gas reaches a turbine, while construction and backup generation add effects of their own. Gigawatt-scale projects should face independent assessments of grid capacity, water, air, noise, land and the cumulative burden of regional clusters.

SIX RULES FOR THE AI INFRASTRUCTURE AGE

1. Facility-level truth — disclose physical supply and contractual claims separately, at each site.
2. Additionality with integrity — new compute brings new generation, matched hourly and regionally.
3. Lifecycle and cumulative review — count methane, construction, backup generation and regional clustering.
4. Participation and performance — hearings before incentives are final; standards for PUE, cooling, water, heat reuse and hardware utilization.
5. A real definition of "bridge" — milestones, responsibility, dates and an enforceable retirement.
6. Attributable cost — operators bear the infrastructure and mitigation costs they create.

The fourth is public participation and minimum performance. Hearings should occur before incentives and core designs are effectively final. Standards should address PUE, cooling, water, heat reuse and hardware utilization. An efficient building filled with underused servers is not an efficient computing system.

The fifth is a real definition of "bridge." If gas is temporary until nuclear, geothermal, transmission or storage arrives, permits should identify

milestones, responsibility and dates. A bridge without an exit is a destination.

Finally, operators should bear attributable infrastructure and mitigation costs, while portfolio reporting prevents a company from improving one region by exporting dirty workloads to another.

These principles do not settle every argument. A region with abundant gas and little transmission may reasonably use some fossil generation during a transition. A critical public-service workload may justify a different reliability standard from discretionary model training. A water-rich cold climate presents different tradeoffs from a drought-prone desert.

The objective is not to write one technological answer into law. It is to prevent the beneficiary of the project from becoming the sole authority on what is clean.

The objective is not to write one technological answer into law. It is to prevent the beneficiary of the project from becoming the sole authority on what is clean, temporary, responsible and unavoidable.



NEXT · 12

BORROWING FROM OUR CHILDREN'S TOMORROW

Every ton emitted today consumes part of the shrinking marg...

12

BORROWING FROM OUR CHILDREN'S TOMORROW

Every ton emitted today consumes part of the shrinking margin available tomorrow

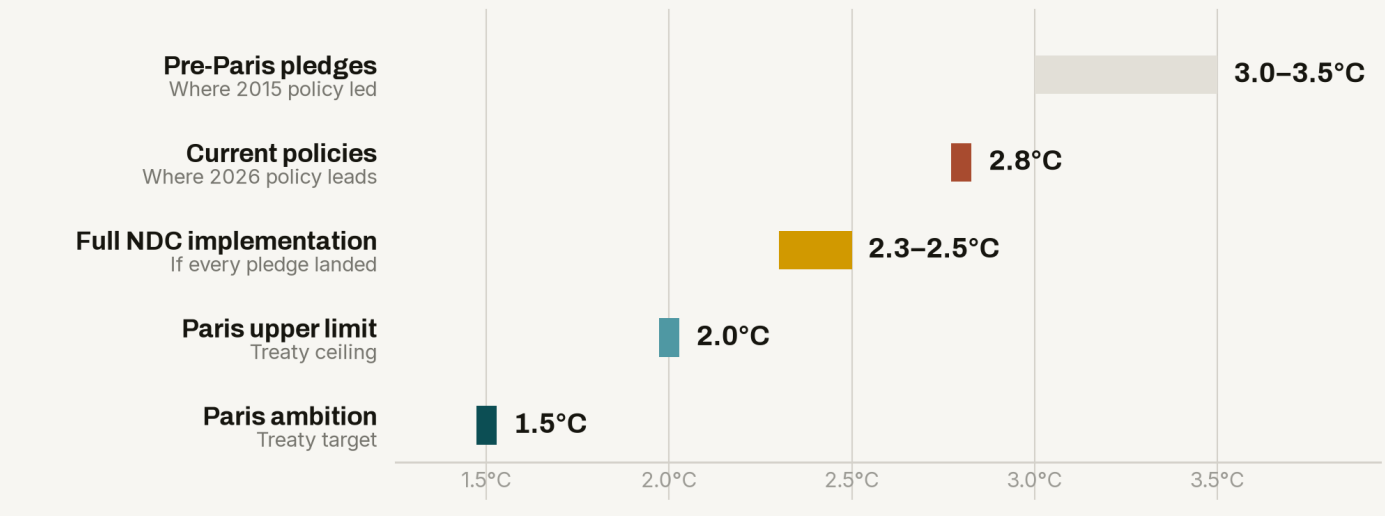
The data-center debate can feel like a contest between corporate claims and local permits until it is placed against the climate trajectory the world has already chosen.

The Paris Agreement seeks to hold warming well below 2°C and pursue efforts to limit it to 1.5°C above preindustrial levels. Ten years after its adoption, the world is not on track for either goal. UNEP's 2025 Emissions Gap Report estimated warming of up to 2.8°C under current policies. Full implementation of current national commitments would still leave the world at roughly 2.5°C under unconditional pledges and 2.3°C if conditional pledges are met. To align with a 2°C pathway, annual global emissions in 2035 must be 35% below 2019 levels. For 1.5°C, they must be 55% lower.³⁴ The November 10, 2025 update to the UNFCCC's NDC synthesis — covering 86 new or updated pledges from 113 Parties — suggested only about a 12% reduction from 2019 levels by 2035.³⁵

FIGURE 7

Ten years of Paris, measured in degrees

Projected global warming by 2100 under each scenario, against the two temperature limits written into the Paris Agreement.



SOURCE — UNEP Emissions Gap Report 2025; Climate Action Tracker.

FIGURE 7 Every scenario above 1.5°C on this chart is a scenario in which the load added this decade decides the margin.

Paris has not failed in the sense of accomplishing nothing. Before the agreement, pledge-based projections commonly pointed toward warming of roughly 3°C to 3.5°C. National targets, clean-energy investment and technology progress have lowered that path. A world at 2.8°C is still dangerously warmer, but the improvement demonstrates that policy changes outcomes.

The remaining gap is enormous.

The physical record has stopped being subtle. The World Meteorological Organization confirmed that 2015 through 2025 were the hottest 11 years in the observational record. The year 2025 was about 1.43°C above the 1850-to-1900 average, the second or third hottest year measured. Earth's energy imbalance reached the highest level in the 65-year record assessed by WMO.³⁶

One year above or near 1.5°C does not mean the Paris limit has been permanently breached. Paris concerns sustained long-term warming, not a single year affected by natural variability. The direction is nevertheless unmistakable. WMO estimated a 70% chance that the five-year average for 2025 through 2029 would exceed 1.5°C.³⁷ UNEP concluded that a

temporary overshoot of the multi-decadal average is very likely within the next decade.³⁴

That is the world in which Big Tech is proposing new fossil infrastructure.

Data centers are not the largest cause of climate change, and exaggerating their share would weaken the case. The IEA estimates that electricity consumed by all data centers produces about 180 million metric tons of indirect carbon dioxide today, around 0.5% of global fuel-combustion emissions. AI is only part of that total. Even in 2035, base-case data-centre emissions remain below 1.5% of energy-sector emissions.²²

The equipment selected to win an AI race measured in quarters can consume carbon headroom across a generation.

Their significance lies in growth and discretion. Data centers are among the fastest-growing emissions sources. Much of the new capacity is being built by companies with the capital, technical

ability and purchasing power to choose a cleaner path. These are not subsistence emissions or the unavoidable legacy of an old industrial system. They are infrastructure decisions being made now for one of the richest industries ever created.

The conflict can be stated plainly. The world has agreed that emissions must fall rapidly. Big Tech is building an industry whose emissions are rising rapidly. It is doing so not because cleaner alternatives are imaginary, but because gas can sometimes deliver power where companies want it on the schedule their competition demands.

Then there is the time mismatch. A 20-year power contract extends far beyond the useful life of today's accelerators. A gas plant can operate for 30 or 40 years. The equipment selected to win an AI race measured in quarters can consume carbon headroom across a generation.

THE INHERITANCE

2.3 billion — children exposed to at least one major climate hazard

1.1 billion — children facing at least three overlapping hazards

4 million — children facing as many as six

Hazards counted — drought, extreme heat, heatwaves, fire, riverine floods, coastal floods, dust storms and tropical storms

Source — UNICEF, The Children's Climate Risk Report 2026, published June 16, 2026

UNICEF's 2026 Children's Climate Risk Report makes the generation question concrete. Almost every child in the world — 2.3 billion — is exposed to at least one major climate hazard. Roughly 1.1 billion children face at least three overlapping hazards, including drought, extreme heat, heatwaves, fire, riverine floods, coastal floods, dust storms and tropical storms. More than 4 million face as many as six. The effects reach health, food and water security, education, displacement and survival.³⁸

The people approving today's AI factories will receive many of the immediate benefits. The children who inherit the infrastructure will live with its cumulative emissions and the cost of a faster, harder adjustment.

Are we sacrificing our children's tomorrow to build AI factories today?

The honest answer is not that every data center represents a choice between artificial intelligence and a livable planet. AI can produce real benefits, including climate benefits. The sacrifice occurs when the industry pretends there is no choice about how the factories are powered. It occurs when gas plants with operating lives measured in decades are justified by competitive pressure measured in quarters. It occurs when possible future efficiencies are offered as compensation for present emissions without any obligation to deliver them.

Every ton emitted today consumes part of the shrinking margin available tomorrow. Every long-lived fossil project makes the eventual transition faster, more expensive or more disruptive. The bill does not disappear because it is absent from Amazon's balance sheet, Microsoft's carbon-removal contracts or Meta's renewable certificates. It is transferred forward.

AI is routinely described as an investment in humanity's future. An industry cannot credibly make that claim while powering its expansion by borrowing against the future it promises to improve.



NEXT · 13

AI AS ITS OWN SAVING GRACE

The first great test of AI's problem-solving power

13

AI AS ITS OWN SAVING GRACE

The first great test of AI's problem-solving power

The strongest industry response is also the report's most hopeful possibility: AI may help the world avoid far more emissions than its infrastructure creates.

The IEA has identified applications that could reduce emissions by as much as 1.4 billion metric tons in 2035 if widely adopted – while cautioning that "there is currently no momentum" behind the widespread adoption those savings assume.²² AI can forecast renewables and demand, coordinate storage, detect methane, optimize industry and accelerate materials discovery. Those benefits are plausible, not automatic. Adoption, incentives and rebound effects will determine what is actually saved.

We cannot treat hypothetical future savings as payment for physical emissions being locked in now. Big Tech is effectively asking the public to accept certain emissions from AI factories today in exchange for possible reductions from AI applications tomorrow. That is not yet a climate strategy. It is another pledge.

There is a better bargain.

Amazon, Microsoft, Google or Meta could make the energy problem of AI the first problem AI is required to solve at industrial scale. The goal would not be another global net-zero date. It would be a repeatable, carbon-free, gigawatt-scale AI factory

whose performance is measured at the facility and every hour.

AI could schedule flexible workloads around clean electricity, coordinate generation and storage, adapt cooling to weather and water, design more efficient chips and model transmission congestion. It could treat the data center and energy supply as one system rather than a building attached to the first fuel available.

WHAT A CREDIBLE MOONSHOT WOULD REQUIRE

Every major block of new computing capacity brings additional clean generation.

Physical and contractual electricity data are published separately.

Carbon-free matching occurs hourly and regionally, not annually and globally.

Climate benefits attributed to AI are independently measured.

Any gas capacity used as a bridge carries a funded replacement plan and an enforceable retirement date.

A credible moonshot would have measurable conditions. Every major block of new computing capacity would bring additional clean generation. The company would publish physical and

contractual electricity data separately. Carbon-free matching would occur hourly and regionally. Climate benefits attributed to AI would be independently measured. Any gas capacity used as a bridge would have a funded replacement plan and an enforceable retirement date.

The company that solves clean power at this scale would gain a development model for markets increasingly hostile to data centers, reduce exposure to fuel and carbon risk and could sell the operating system for clean AI infrastructure to the industry.

No company has tied its AI expansion to one accountable proposition: We will use AI to solve the energy and climate problems created by AI.

Each hyperscaler has major clean-energy initiatives, but they remain divided across procurement, research and individual projects. No company has tied its AI expansion to one accountable proposition: We will use AI to solve the energy and climate problems created by AI.

Perhaps the answer to AI's environmental problem will come from AI itself. The first great test of its problem-solving power may be whether it can help solve the problem it created.

That could be Big Tech's saving grace, but only if climate potential becomes an engineering mandate rather than a public-relations defense. An industry that describes its work as the future should be capable of building that future without borrowing it from our children.



NEXT · 14

CONCLUSION: TALK IS CHEAP. CARBON IS NOT.

What the next ten years have to prove



14

CONCLUSION: TALK IS CHEAP. CARBON IS NOT.

What the next ten years have to prove

Amazon says the world looks different from the one in which it co-founded the Climate Pledge. It does.

AI needs extraordinary amounts of electricity. Data centers are becoming industrial power systems. Grids cannot always connect them quickly. The United States government has stepped away from climate leadership and prioritized rapid AI infrastructure. Corporate promises are being tested against trillions of dollars in potential revenue and the fear of losing the defining technology race of the era.

None of that makes the promises obsolete. It reveals whether they were commitments or marketing.

Amazon's renewable portfolio is real. So is its decision to build at GW Ranch. Microsoft can finance carbon removal while signing a 20-year gas agreement, Google can build renewable-heavy and gas-linked campuses in the same state, and Meta can buy solar while underwriting new gas. The contradictions are not side stories. They are the operating reality of an industry trying to preserve climate leadership while escaping the constraints climate leadership imposes.

Voluntary action still matters. Companies move markets faster than legislation and finance technologies governments are too slow to back. Big Tech's renewable purchases helped transform the

electricity sector. The conclusion is not that corporate action is worthless.

It is that corporate action is insufficient when the hard choice arrives.

Society need not choose between AI and the future. It needs to decide whether the companies profiting from AI must build within the environmental boundaries that future requires. That means transparent physical accounting, additional clean generation, community participation, resource limits and enforceable transitions. It means rewarding the company that solves the problem instead of accepting the claim that it cannot be solved on schedule.

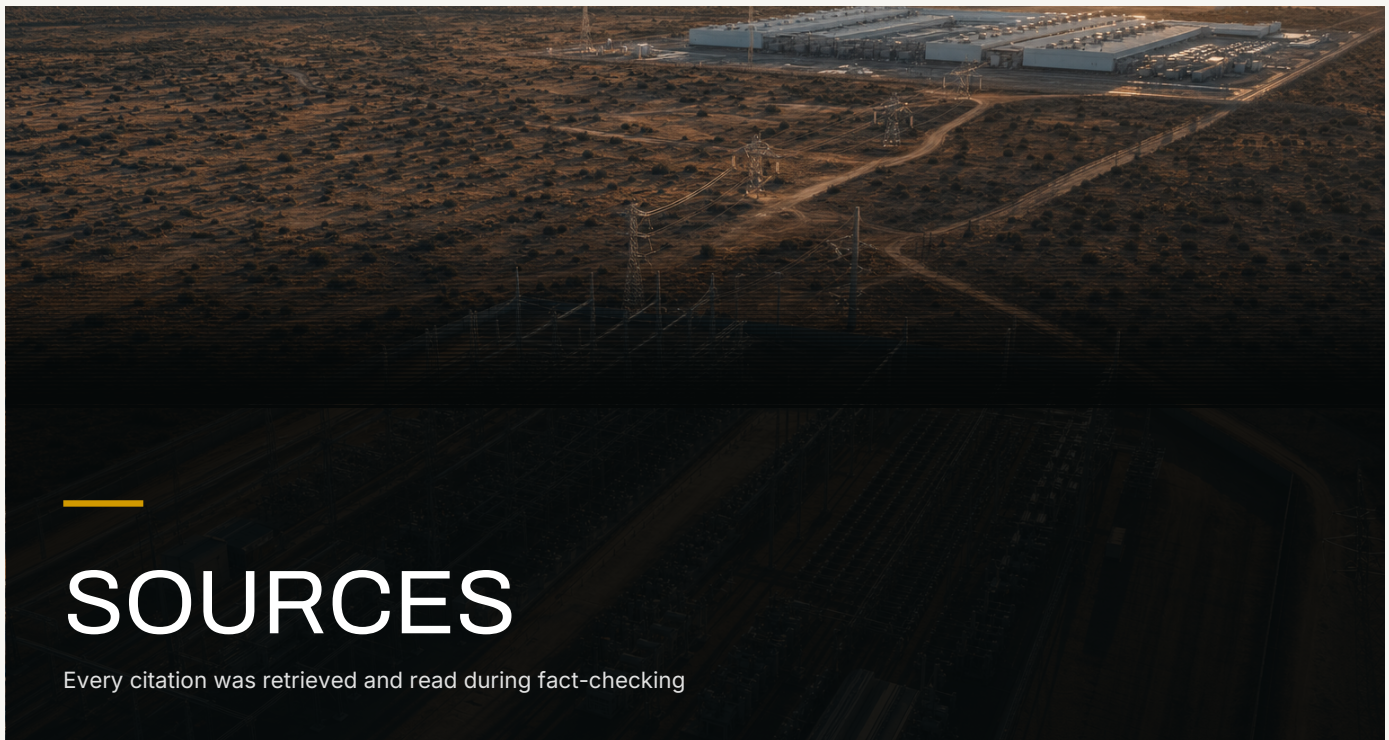
Big Tech was green while being green fit inside its growth strategy. AI asked for a few more gigawatts, and the promises gave way. That is not evidence that responsible AI infrastructure is impossible. It is evidence that commitments affecting the public interest cannot rest on corporate goodwill.

Maybe AI will help produce the answer. Maybe the first carbon-free gigawatt-scale AI factory becomes the model for an industry capable of living up to its own claims. That would be a worthy race.

Until then, renewable accounting cannot cool the planet, a pledge cannot stop a turbine and a future benefit cannot erase a present emission.

Talk is cheap. Carbon is not.

TECHSTRONG SPECIAL REPORT · ALAN SHIMEL · AUGUST 2026



SOURCES

Every citation was retrieved and read during fact-checking

All project capacities and timelines reflect the status publicly reported as of August 9, 2026. Proposed or permitted capacity should not be read as operating capacity. Emissions values associated with permits are authorization ceilings unless identified otherwise. Every source listed here was retrieved and read during fact-checking. Where a widely syndicated wire report could not be retrieved directly, the claim was verified against the primary document or an equivalent outlet; that source is listed first, with the corresponding Reuters report listed alongside it.

1. Pacífico Energy, "Pacífico Energy Secures 7.65 GW Power Generation Permit for GW Ranch Project," January 26, 2026.
<https://www.pacificoenergy.com/post/pacifico-energy-secures-7-65-gw-power-generation-permit-for-gw-ranch-project>
2. Pacífico Energy, "GW Ranch," project page. Accessed August 9, 2026.
<https://www.pacificoenergy.com/gw-ranch>
3. Hiroko Tabuchi, "Amazon's New Texas Data Center Will Run on Gas," The New York Times, August 8, 2026.
https://www.nytimes.com/2026/08/08/climate/amazon-data-center-texas-pollution.html?unlocked_article_code=1.31A.HIOe.IXG6s1hqKVNN
4. Agence France-Presse via BSS, report on Amazon's West Texas gas-powered AI campus, August 2026.
<https://www.bssnews.net/international/412686>
5. Amazon, "Carbon-free energy," Amazon Sustainability. Portfolio figures as of January 2026.
<https://sustainability.aboutamazon.com/climate-solutions/carbon-free-energy>
6. Cleanview, "Behind-the-Meter Data Centers," mid-2026 review of announced behind-the-meter generation.
<https://cleanview.co/reports/behind-the-meter-data-centers>
7. Michael Thomas, Cleanview, "Google Is Proving You Don't Need On-Site Gas to Build a Gigawatt Data Center."
<https://newsletter.cleanview.co/p/google-is-proving-you-dont-need-on>
8. Google, natural gas excerpt from its data center power strategy report (Goodnight campus; Crusoe filings).
<https://storage.googleapis.com/report-googl-data-center-power-strategy/google-report-natural-gas-excerpt.pdf>
Also: Reuters, "AES Corp signs power supply agreements with Google data center in Texas," February 24, 2026.
<https://www.reuters.com/business/energy/aes-corp-signs-power-supply-agreements-google-data-center-texas-2026-02-24/>
9. CNBC, "Chevron signs 20-year power deal with Microsoft for West Texas data center," June 22, 2026.
<https://www.cnbc.com/2026/06/22/chevron-cvx-microsoft-msft-natural-gas-data-center.html>
Also: Reuters, "Chevron signs power supply deal with Microsoft for Texas data center," June 22, 2026.
<https://www.reuters.com/legal/litigation/chevron-signs-power-supply-deal-with-microsoft-texas-data-center-2026-06-22/>
10. Data Center Dynamics, "Nscale acquires 8GW Monarch compute campus; Microsoft signs on for 1.35GW of compute."
<https://www.datacenterdynamics.com/en/news/nscale-acquires-8gw-monarch-compute-campus-microsoft-signs-on-for-135gw-of-compute/>
11. Meta, "Deepening Our Investment in Richland Parish, Louisiana," July 2026.
<https://datacenters.atmeta.com/2026/07/deepening-our-investment-in-richland-parish-louisiana/>
12. The Lens, "Meta triples order of gas-fired power plants for its AI campus in Louisiana," March 30, 2026.
<https://thelensnola.org/2026/03/30/meta-triples-order-of-gas-fired-power-plants-for-its-ai-campus-in-louisiana/>

13. The Texas Tribune, "Abbott orders audit of data center projects," August 3, 2026.
<https://www.texastribune.org/2026/08/03/texas-data-center-project-audit-greg-abbott/>
Also: Reuters, "Texas governor orders pause on new data center approvals pending audit," August 4, 2026.
<https://www.reuters.com/business/energy/texas-governor-orders-pause-new-data-center-approvals-pending-audit-2026-08-04/>
14. POWER Magazine, "Texas Audit Could Delay 49.8 GW of Data Center Load, Cost Projects Up to \$15 Billion, BNEF Warns."
<https://www.powermag.com/texas-audit-could-delay-49-8-gw-of-data-center-load-cost-projects-up-to-15-billion-bnef-warns/>
15. Central Statistics Office Ireland, "Data Centres Metered Electricity Consumption 2025," key findings, published July 7, 2026.
<https://www.cso.ie/en/releasesandpublications/ep/p-dcmec/datacentresmeteredelectricityconsumption2025/keyfindings/>
16. Commission for Regulation of Utilities, "The CRU publishes its decision on new electricity connection policy for data centres," December 2025.
<https://www.cru.ie/about-us/news/the-cru-publishes-its-decision-on-new-electricity-connection-policy-for-data-centres/>
17. Arthur Cox, "New Connection Policy for Data Centres in Ireland," legal analysis.
<https://www.arthurcox.com/knowledge/new-connection-policy-for-data-centres-in-ireland/>
18. White & Case, "Data center requirements under the new German Energy Efficiency Act."
<https://www.whitecase.com/insight-alert/data-center-requirements-under-new-german-energy-efficiency-act>
19. European Commission, "Minimum performance standards for EU data centres," preparatory studies. Package scheduled Q3 2026.
https://energy.ec.europa.eu/resources/preparatory-studies/minimum-performance-standards-eu-data-centres_en
20. International Energy Agency, Energy and AI — Executive Summary.
<https://www.iea.org/reports/energy-and-ai/executive-summary>
21. International Energy Agency, Energy and AI — Energy Supply for AI.
<https://www.iea.org/reports/energy-and-ai/energy-supply-for-ai>
22. International Energy Agency, Energy and AI — AI and Climate Change.
<https://www.iea.org/reports/energy-and-ai/ai-and-climate-change>
23. REGlobal, summary of IEA Energy and AI findings including China's data-centre generation mix.
<https://reglobal.org/energy-for-ai-iea/>
24. ACT Group, "China's GEC Update: What It Means for Data Centers." National Data Administration green-power target, March 2025.
<https://www.actgroup.com/latest/blogs/china-s-gec-update-what-it-means-for-data-centers>
Also: Reuters, "China sets its first renewable standards for steel, cement, polysilicon," July 11, 2025.
<https://www.reuters.com/sustainability/boards-policy-regulation/china-sets-its-first-renewable-standards-steel-cement-polysilicon-2025-07-11/>
25. UNCTAD Investment Policy Monitor, "Brazil establishes tax incentives for data centres investment" (REDATA, Provisional Measure 1,318/2025).
<https://investmentpolicy.unctad.org/investment-policy-monitor/measures/5203/brazil-establishes-tax-incentives-for-data-centres-investment>
26. Data Center Dynamics, "Microsoft and G42 data center in Kenya stalled due to lack of power capacity."
<https://www.datacenterdynamics.com/en/news/microsoft-and-g42-data-center-in-kenya-stalled-due-to-lack-of-power-capacity/>
Also: Reuters, "Microsoft's African data center falters on payment demands, Bloomberg News reports," May 10, 2026.
<https://www.reuters.com/world/africa/microsofts-african-data-center-falters-payment-demands-bloomberg-news-reports-2026-05-10/>
27. Systemiq and the Council on Energy, Environment and Water, "Scaling India's Data Centre Ecosystem."
<https://www.systemiq.earth/scaling-indias-data-centre-ecosystem/>
28. Bank Negara Malaysia, Quarterly Bulletin 3Q 2025, box article on data centre resource demand.
https://www.bnm.gov.my/documents/20124/19910400/qb25q3_en_box1.pdf
Also: Reuters, "Malaysia data centres battle higher power costs, unclear pricing," July 1, 2025.
<https://www.reuters.com/sustainability/boards-policy-regulation/malaysia-data-centres-battle-higher-power-costs-unclear-pricing-2025-07-01/>
Also: Reuters, "Malaysia's resource anxiety tests Asia's fastest data centre build-out," July 24, 2026.
<https://www.reuters.com/world/asia-pacific/malysias-resource-anxiety-tests-asias-fastest-data-centre-build-out-2026-07-24/>
29. PBS NewsHour / Associated Press, "Google to pause plans for big data center in Chile over water worries."
<https://www.pbs.org/newshour/world/google-to-pause-plans-for-big-data-center-in-chile-over-water-worries>
Also: Reuters, "Google takes Chile data center plans back to square one on environmental concerns," September 17, 2024.
<https://www.reuters.com/technology/google-takes-chile-data-center-plan-back-square-one-environmental-concerns-2024-09-17/>
30. The White House, Executive Order 14318, "Accelerating Federal Permitting of Data Center Infrastructure," July 23, 2025.
<https://www.whitehouse.gov/presidential-actions/2025/07/accelerating-federal-permitting-of-data-center-infrastructure/>
31. The White House, "Putting America First in International Environmental Agreements," January 20, 2025.
<https://www.whitehouse.gov/presidential-actions/2025/01/putting-america-first-in-international-environmental-agreements/>
32. U.S. Environmental Protection Agency, final rule rescinding the 2009 Endangerment Finding and repealing vehicle greenhouse-gas standards, February 12, 2026 (91 FR 7686).
<https://www.epa.gov/regulations-emissions-vehicles-and-engines/final-rule-rescission-greenhouse-gas-endangerment>
33. The American Presidency Project, "Remarks to the United Nations General Assembly in New York City," September 23, 2025.
<https://www.presidency.ucsb.edu/documents/remarks-the-united-nations-general-assembly-new-york-city-20>
Also: Reuters, "Trump tells UN that climate change is con job," September 23, 2025.
<https://www.reuters.com/sustainability/cop/trump-tells-un-that-climate-change-is-con-job-2025-09-23/>
34. United Nations Environment Programme, Emissions Gap Report 2025.
<https://www.uncclearn.org/wp-content/uploads/library/EGR2025.pdf>
35. UNFCCC, "Message to Parties and Observers: NDC Synthesis Report Update," November 10, 2025.
https://unfccc.int/sites/default/files/resource/message_to_parties_and_observers_ndc_synthesis_report_update.pdf
36. World Meteorological Organization, State of the Global Climate 2025.
<https://wmo.int/publication-series/state-of-global-climate/state-of-global-climate-2025>
37. World Meteorological Organization, Global Annual to Decadal Climate Update 2025–2029.
<https://wmo.int/resources/publication-series/wmo-global-annual-decadal-climate-update/wmo-global-annual-decadal-climate-update-2025-2029>
38. UNICEF, The Children's Climate Risk Report 2026, published June 16, 2026.
https://www.datocms-assets.com/30196/1781618297-ccrr-2026_final-compressed.pdf
Also: Reuters, "Almost all world's children exposed to climate hazards, UN agency says," June 16, 2026.
<https://www.reuters.com/business/environment/almost-all-worlds-children-exposed-climate-hazards-un-agency-says-2026-06-16/>