SILVERCREST
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The Electrification Supercycle

Powering the Next Decade of Returns



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Executive Summary

Electricity demand is inflecting after roughly 15 years of stagnation in the developed world, and the shift is structural rather than cyclical. In 2024, for the first time in three decades outside of a crisis, global electricity demand grew faster than the economy. We believe this marks the opening of a multi-decade, capital-intensive supercycle driven by artificial intelligence, the reshoring of industry, and the electrification of transport and heat—a demand wave notable for being unusually broad-based and less cyclical than its predecessors.

The scale is significant. The IEA expects global electricity demand to grow at roughly 3.6% per year over the next five years, compared with 2.8% per year over the previous decade, or about 1,100 TWh of additional demand each year, up from roughly 700 TWh historically. Its mid-year update put growth at 3.6% in 2026 and 3.8% in 2027. The capital required is enormous and, so far, unmet: clean-energy investment reached a record $2.3 trillion in 2025, less than half the $5–8 trillion a year needed by 2030. Data centers crystallize the story at the margin (around 1.5–2% of global electricity today, rising to roughly 3–5% by 2030), but breadth, not the data center, is the investable point: data centers account for roughly half of United States demand growth, yet only a low single-digit share in China.

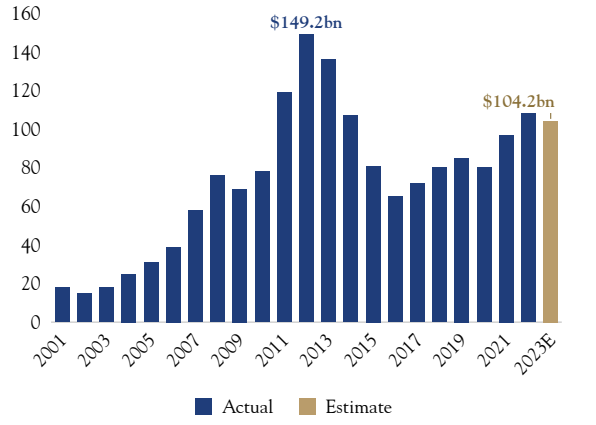
We see the opportunity across the full electron value chain, organized around four pillars:

- **Generation**: natural gas funds the transition as the reliable bridge fuel, while we believe nuclear is the long-term destination.
- **The grid and electrical equipment**: a binding constraint on the entire system, and therefore a defensible margin pool, given multi-year transformer lead times and order backlogs that keep growing.
- **Critical materials**: copper above all, alongside uranium, lithium, and aluminum, moving into structural deficits as supply constraints meet demand that is becoming less cyclical and more strategic.
- **Enablers**: energy storage, behind-the-meter power, and grid software that firm and route the system.

The value opportunity comes down to what is implied by the price, and the market has capitalized the theme very unevenly. The re-rating has happened in the equipment, not in the electrons. Global industrials, home to the electrical equipment makers, trade on roughly 23x forward earnings, a premium of about a quarter to the world index; global utilities trade near 17x, a discount of roughly a tenth, on a dividend yield more than twice the market's; and global materials, at about 15x, sit at an approximate 18% discount. Independent power producers have de-rated to around 8x EV/EBITDA. Copper makes the case most cleanly: in mid-August, with the metal near record highs, the producers were pricing in a copper price roughly equal to spot, against a three-year average premium of about 17%; copper has set further records since. Meanwhile, metals and mining capital spending still runs about 30% below its 2012 peak, a supply discipline that underpins durable free cash flow.

FIG. 1

Metals & Mining
Industry Capex, US$ Billions



Source: IEA; BofA Global Research estimates. 2023 is an estimate.

The risks are real. Demand could disappoint if efficiency gains compress the AI curve as they did in the 2010s. A recession would drag consumption. Overbuild, commodity overshoot, and overpaying for popular pipeline remain live concerns. Two developments deserve particular attention. First, affordability has moved from rhetoric to policy: wholesale prices in the largest U.S. power market rose 76% year over year in the first quarter of 2026, Texas has subjected new data-center connections to a statewide audit, and in late September, federal regulators suspended an emergency capacity procurement in that largest market. Second, physical delivery is slipping even as spending guidance rises. Several of these are price risks rather than thesis risks, highlighting the need for a margin of safety.

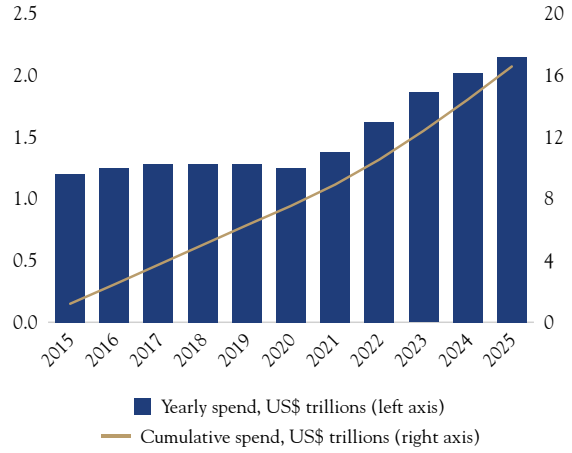
The bottom line, in our view, is that the asymmetry is concentrated at the bottleneck—grid equipment, firm and dispatchable generation, and copper—where pricing power is greatest, demand is least price-sensitive, and, in parts of the chain, valuations still sit below mid-cycle levels. The debate over electrification has moved past the question of whether power demand is rising. What remains is who captures the margin on supplying it and at what price that margin is owned.

Introduction: From Energy Transition to Energy Addition

For most of the past decade, "energy transition" has been shorthand for substitution: clean power displacing dirty, electrons replacing molecules. That framing no longer fits. The world has invested more than $15 trillion in clean energy over the past ten years, yet fossil fuels still account for roughly 80% of the global energy mix on a primary-energy basis (about 64% on a final-consumption basis; the two figures are often, wrongly, used interchangeably). The transition looks slow, not because it has failed, but because the more powerful dynamic is additive: the world is layering enormous new electrical load onto the existing system, even as it works to decarbonize it. Energy addition explains why demand for almost everything that generates, moves, and stores power is rising at once.

FIG. 2

Clean Energy Investment, Yearly vs. Cumulative, US$ Trillions



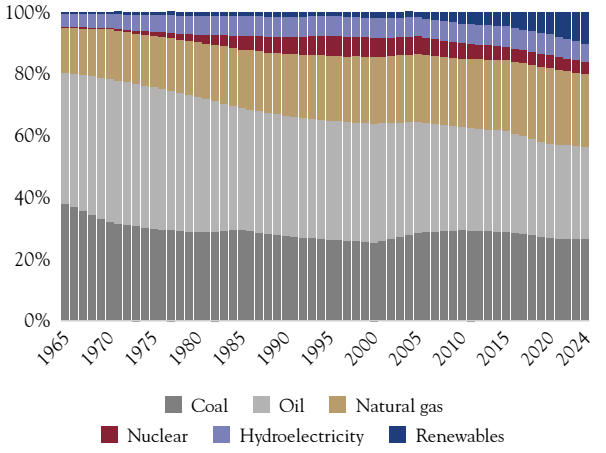
Source: IEA World Energy Investment; Bernstein analysis.

Beneath this sits a quieter change: energy is shifting from a commodity, extracted at volatile prices, toward a technology, manufactured at scale with costs that fall as production grows. The cost curves of solar, wind, and batteries are the clearest evidence, and energy that behaves like a technology rewards scale, learning curves, and incumbency differently from a pure commodity.

Four imperatives compete for primacy (affordability, security, reliability, and sustainability), and capital follows whichever feels most threatened. Sustainability led in 2018–22; the war in Ukraine elevated security concerns; AI and data-center demand have since elevated reliability; and through 2026, affordability has come to the fore, with the U.S. Consumer Price Index for electricity up 3.8% in the year to August 2026, against headline inflation of 3.4%. The theme, therefore, no longer depends on any single imperative. Security and reliability carry it even if the sustainability agenda cools. Affordability, however, has become the issue most capable of constraining how the build is paid for.

FIG. 3

Global Energy Mix, Share of Primary Energy (EJ Basis)



Source: Energy Institute Statistical Review of World Energy 2025; Bernstein analysis.

That durability favours incumbents with scale, order backlogs, and pricing power. A decade of under-investment has left the system under-provisioned just as demand inflects, while large parts of the value chain still trade below mid-cycle multiples and replacement cost. Inflecting, less-cyclical demand set against cheap, supply-constrained assets is precisely the configuration we look for as value investors.

A Brief Historical Development of Electrification

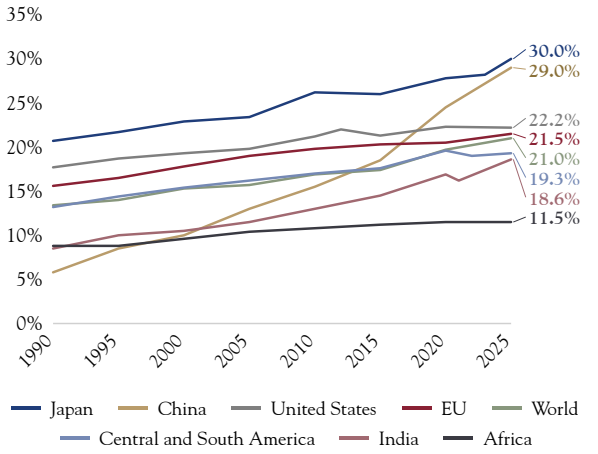
Global electricity demand nearly doubled between 2000 and 2023, and in 2024 it accelerated again, rising roughly 4.4% (about 1,000 TWh, close to Japan's entire annual consumption) to approach 30,000 TWh for the first time. For an investor, the shape of the curve matters more than its size: after years of steady, almost mechanical growth, the rate of change inflected. The recent acceleration is best read not as a continuation of the old trend but as a break from it.

A Two-Speed World: Emerging-Market Growth, Developed-Market Plateau

The global doubling masked a sharp divergence. Emerging economies, led by China and India, drove the bulk of growth as industrialization, urbanization, and rising living standards pulled hundreds of millions of people onto the grid; China's electrification (the share of electricity in final energy consumption) has more than doubled since 2005, reaching above 27%. The developed world told the opposite story. U.S. demand grew just 0.6% a year for 15 years, and German demand actually declined as efficiency gains and the offshoring of heavy industry offset population growth. The resulting consensus among utilities and planners that load growth was structurally low and that the task was to decarbonize a flat system shaped a decade of under-building. This assumption has now been overturned.

FIG. 4

Share of Electricity in Total Final Consumption, Select Countries & Regions, 1990–2025



Source: IEA.

Even so, electrification continued to advance: electricity's share of global final energy consumption rose from around 18% in 2010 to roughly 22% by the mid-2020s. What changed was its pace and the source of the marginal unit of demand.

The Data-Center Parable: Why Efficiency Lulled the Market

Data centers offer a cautionary lesson. Their electricity use roughly doubled between 2000 and 2005, then went nearly flat through the 2010s, even as streaming and cloud computing exploded, as the migration to hyperscale facilities, better power usage effectiveness, and higher server utilization absorbed the growth in workloads. That achievement bred a dangerous intuition: that efficiency could forever neutralize demand growth. Generative AI shattered it. GPU-dense servers draw far more power per rack than the hardware they sit beside, and U.S. data-center consumption more than doubled between 2017 and 2023. Efficiency is real, but it is not infinite, and betting on it to absorb a step-change in workloads can prove costly.

The Hinge: Electricity Decouples from GDP

For three decades, global electricity demand outgrew the economy only in the disruption of crises: 2000–01, 2008–09 and 2020. In every normal year, electricity tracked at or below GDP. But in 2024, for the first time outside of a shock, it outpaced economic growth.

This decoupling signals that electricity is no longer a passive by-product of economic activity but an active input into its most dynamic drivers: artificial intelligence, advanced manufacturing, electrified transport and the reshoring of supply chains. For a value-oriented investor, the significance is that the demand now building is durable and broad-based rather than cyclical, which changes how the assets that serve it should be valued.

A System Entering the Surge Under-Provisioned

The supply side, meanwhile, spent the plateau years preparing for a future that did not arrive. Metals and mining capital expenditure ran roughly $50 billion (about 30%) below its 2012 peak of approximately $149 billion, starving the pipeline of the copper and aluminum the grid now requires. U.S. transmission build over the last decade was roughly 50% lower in miles than in the decade before, and the average age of transformers, transmission lines, and other grid equipment is 40–50 years.

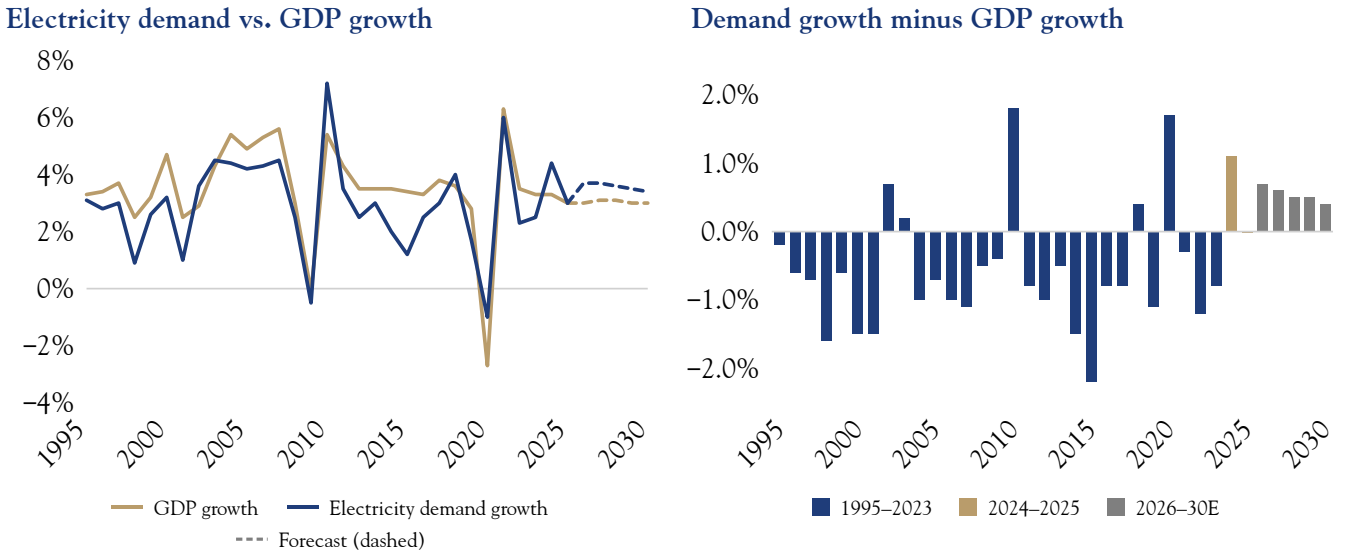
The demand inflection of the mid-2020s is therefore meeting a structurally under-built system, with long lead times on the equipment needed to expand it. That mismatch—accelerating, less-cyclical demand on one side, constrained and slow-to-respond supply on the other—is the foundation for everything that follows. It is the source of the pricing power that accrues to incumbents along the value chain, and the reason so many of the assets that will meet this demand still trade below their mid-cycle worth.

Future Expectations: The Demand Inflection & Its Drivers

Where is the new demand heading, how durable is it, and can the system supply it? The answers matter because

FIG. 5

Global Electricity Demand & GDP Trends, 1995–2030



Source: IEA (CC BY 4.0); GDP based on the IMF World Economic Outlook. Data for 2026–2030 are forecast values.

the character of demand, and not merely its level, determines how the assets that serve it should be valued. We believe this growth is broad-based, structurally less cyclical than in prior eras, and colliding with a supply base that cannot respond quickly.

The Macro Shift: Electricity Decoupling from GDP

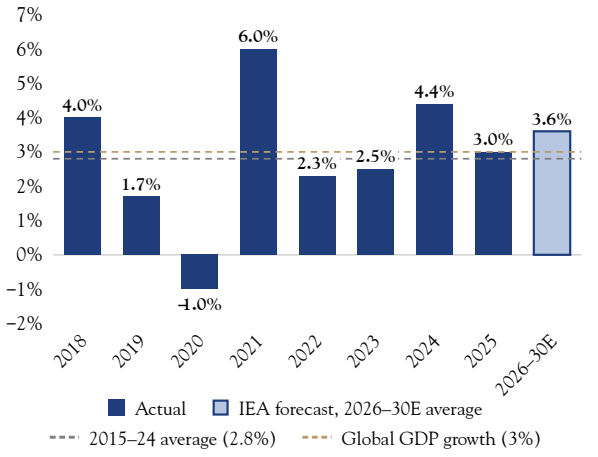
The International Energy Agency expects global electricity demand to grow at roughly 3.6% per year over 2026–2030, compared with 2.8% over the previous decade, raising consumption from 28,200 TWh in 2025 to 33,600 TWh in 2030. Electricity consumption is projected to grow at least two and a half times as fast as overall energy demand, lifting its share of final consumption from around 21% toward 24%, in what the IEA now calls the "Age of Electricity." The 2024 decoupling is forecast to persist rather than revert: after a weather-affected moderation to about 3% in 2025, the agency's July 2026 update raised the near-term path to 3.6% in 2026 and 3.8% in 2027. Emerging economies account for nearly 80% of additional demand through 2030, with China alone accounting for close to half, adding over five years the equivalent of the European Union's entire current consumption.

Data Centers & AI as the Swing Driver

Data centers are the most consequential driver at the margin, and the one where credible estimates diverge most. The IEA puts their consumption at roughly 415 TWh in 2024, about 1.5% of global electricity, rising to about 950 TWh, or some 3% of global demand, by 2030, representing less than a tenth of global demand growth. Morgan Stanley's

FIG. 6

Global Electricity Demand Growth Has Broken Above Its Decade Average, & Above GDP



Source: IEA, Electricity 2026 and prior editions; GDP per IMF/IEA. Data to 2025; 2026–30 is the IEA forecast average.

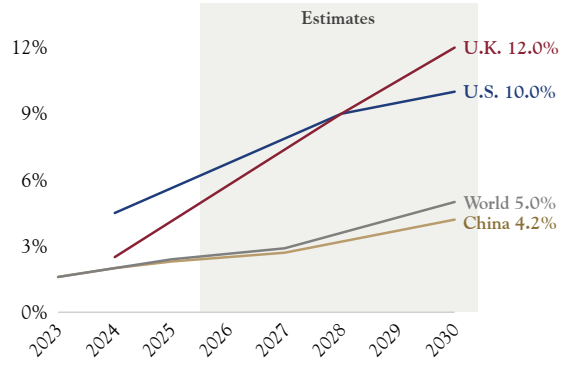
estimates are materially higher, at about 5% of global consumption by 2030 and roughly 20% of incremental demand.

The U.S. sits at the sharp end. The IEA expects data centers to account for roughly half of U.S. demand growth through 2030, with total U.S. demand rising close to 2% a year; Morgan Stanley models about 3% a year and a three-quarters share. The Department of Energy's scenarios project data centers at 6.7–12.0% of U.S. electricity by 2028, up from 4.4% in 2023. In China, by contrast, data centers have accounted for only a low single-digit

share of incremental demand, with industrial load dominating. A global thesis built on the U.S. figure would substantially overstate the case.

FIG. 7

Data Centers as a Share of Electricity Demand, Selected Markets



Source: Morgan Stanley (world, UK, China); US Department of Energy (US 2028 range of 6.7–12.0% of US electricity); IEA. Figures beyond 2025 are estimates.

AI workloads are vastly more energy-hungry than the services they replace. Yet utility load forecasts have historically overestimated demand, and more conservative analysts model AI at around 4.5% of 2030 U.S. electricity demand. What is striking, and directly relevant to valuation, is how price-insensitive this demand appears. Morgan Stanley's analysis of a fully integrated 100-megawatt AI hyperscaler finds that raising power prices from $120 to $140 per MWh costs only about 100 basis points of return, with returns on equity still well above 20% at roughly $160 per MWh. The buyers of incremental power can absorb materially higher prices, a condition under which generators, utilities and equipment suppliers can earn durable excess returns. The corollary is that someone else ends up paying: price-insensitive demand and political sensitivity to household bills are on a collision course.

Electrification of Transport, Heat, & Industry

Data centers dominate the headlines, but the broader electrification of the economy may prove even more durable. Buildings, including space cooling, heat pumps, and the data centers housed within them, are expected to contribute roughly 49% of incremental global demand over 2025–2030, and transport's share of demand growth is forecast to double to more than 10%. A home's electricity consumption roughly triples once an electric vehicle and a heat pump are both in place.

Industry is the third leg. Industrial and commercial power demand has been rising faster than at any point in recent memory across the U.S., Europe, Japan and Taiwan, propelled by reshoring and the electrification of industrial heat. In the U.S., essentially all demand growth is now commercial and data-center-led: the IEA's September outlook has commercial consumption edging above residential in 2026, and its October outlook expects commercial use to rise a further 2.8% in 2027, while residential use stays broadly flat. Industrial electrification and grid hardening are policy-spanning and increasingly mandatory, lending the overall demand profile a stickiness that a purely AI-driven story would lack.

Regional Divergence

Regional dispersion is itself an opportunity for a globally mandated investor. U.S. demand is expected to grow close to 2% a year to 2030, more than twice the rate of the past decade, on infrastructure that is conspicuously old. The EU is forecast to grow at 2.3% per year, not regaining 2021 levels before about 2028, while European data centers rise from about 2.5% of consumption in 2025 to roughly 5% by 2030, with the United Kingdom an outlier at near 12%. India is the fastest-growing major market at 6.4% per year; China moderates to 4.9% but still accounts for close to half of global demand growth.

The most attractively priced exposure need not sit in the fastest-growing market. Grid-equipment suppliers and utilities in slower-growth but supply-constrained European markets may offer a better risk-adjusted entry than assets already pricing in the demand they expect to capture. European power prices support the point: German day-ahead prices ran around €124 per MWh in mid-August 2026, up roughly 65% year over year, with calendar-2027 baseload above €100, revenue that flows directly to merchant-exposed generators operating heavily depreciated assets.

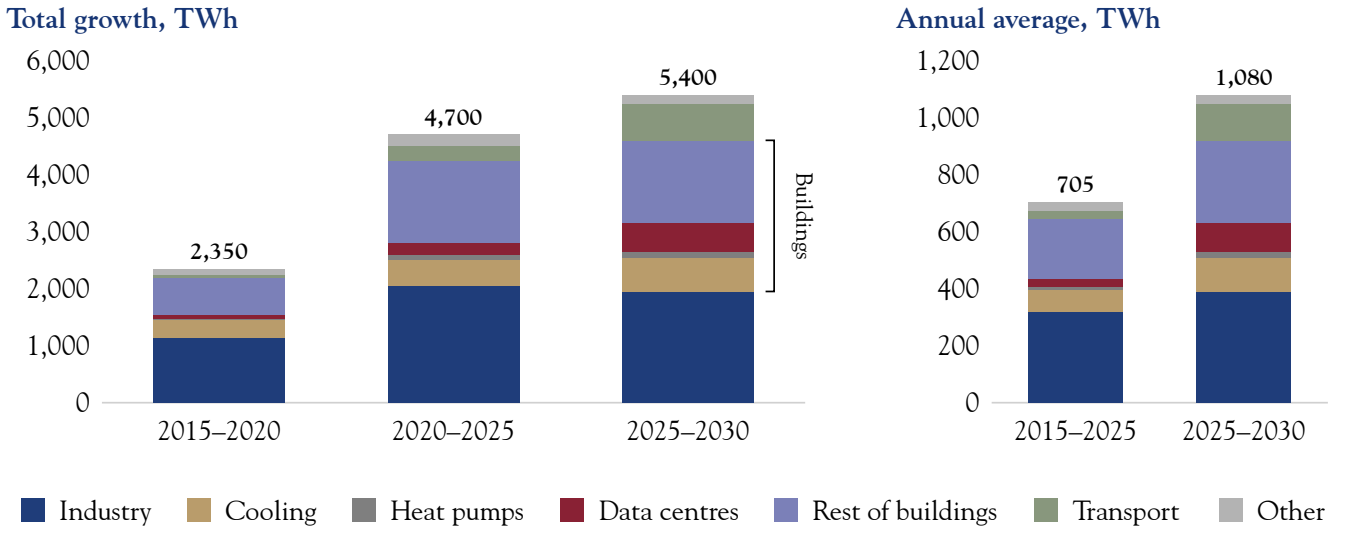
The Supply-Side Response & Its Bottlenecks

Capital is responding, but the constraint is physical rather than financial. Capital expenditure by the four largest U.S. hyperscale operators rose from approximately $410 billion in 2025 to an estimated $725–760 billion in 2026. The grid, not generation, is the bottleneck. U.S. interconnection queues held roughly 2,060 GW of generation and storage at the end of 2025, with a median wait time from request to operation exceeding 5 years. Globally, more than 2,500 GW sits in connection queues, and the IEA estimates that one-fifth of the global data-center build-out is at risk of delay. Tellingly, the U.S. gas queue grew 86% in 2025 while every clean-generation category shrank.

The equipment that expands the grid is itself scarce, though the shortage varies by class: large power transformers remain in short supply for up to four years, while medium-voltage units have partially normalized to 14–16 months. Power transformer prices are up to 77% higher than in 2019,

FIG. 8

Global Electricity Demand Growth by Sector & End-Use, 2015–2030

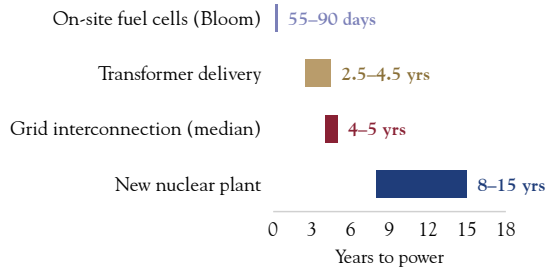


Source: IEA.

and distribution transformers are up to 98%. The largest European grid-equipment manufacturer reported a record grid order backlog of approximately €51 billion in the June quarter, with orders up 28% year over year and a book-to-bill ratio of 1.5x. Manufacturers are adding 30–100% transformer capacity, but only in phases to 2028.

FIG. 9

Time to Power, by Route: Why the Grid, Not Generation, Is the Bottleneck



Source: IEA, Electricity 2026; Bernstein (on-site generation, interconnection); Morgan Stanley and McKinsey (transformers, nuclear). Ranges are indicative and vary by jurisdiction.

Where the grid cannot deliver power fast enough, demand is spilling into on-site generation, and gas turbines show scarcity pricing most clearly. Global orders annualized at about 83 GW in 2025, the strongest year since 2007, against heavy-duty manufacturing capacity of 60–70 GW a year; industry backlogs of roughly 110 GW mean close to two years of output is already booked, and prices are up roughly 195% on 2019. In Bernstein's survey of 50 data center operators, a wait of more than three years for power was deemed effectively unacceptable. This is a standard that grid interconnection routinely fails to meet, and on-site solutions delivering power in 55 to 90 days are increasingly being met.

The crux of the investment case is that durable, broad, and relatively price-insensitive demand is meeting a constrained, slow-to-respond supply base. That asymmetry is where margin accrues, and, because much of the chain spent the plateau years de-rated and under-owned, it is where mispricing is most likely to be found.

Investment Opportunities

The demand case is widely understood; the edge for a value investor lies in where along the chain that demand is monetized, and at what price the market lets you own it. We follow the physical path of an electron from the materials that make up the system, through generation and the grid, to the storage that sustains it. We apply one discipline throughout: favour the bottleneck, favour demand that cannot easily be rationed by price, and require a margin of safety to mid-cycle multiples, replacement cost, or net asset value. We discuss sectors and industries rather than individual securities.

A Framework: Investing Across the Electron Value Chain

Value does not accrue evenly along the chain; the most defensible returns cluster where supply is constrained, and the buyer is least sensitive to price. Bernstein's framing is a useful organizing sentence: in the U.S., gas funds the transition, utilities enable it, and clean energy is the ultimate

destination. Within every link, our preference is for proven, cash-generative assets trading below mid-cycle worth, not development pipelines the market has already chosen to capitalize. The precedents are instructive: the 2019–20 re-rating of renewables developers, the elevated enterprise-value-per-watt multiples paid for data center optionality, and a 45–80% fall in listed nuclear and small-modular-reactor developers from their 2025–26 highs. The disciplined approach is to underwrite the optionality but pay for the cash flow. Two further observations: energy-security spending is risk-led and mandatory, which tends to produce broader and stickier re-ratings than demand-led AI spending; and many of the most attractively valued comparables in our research are listed in Asia, particularly in China.

Generation: Gas as the Bridge, Nuclear as the Destination

Natural gas supplies roughly 40% of U.S. electricity and is the practical backstop for a reliable grid. The commodity has been benign in North America. Henry Hub is expected to average about $3.44 per MMBtu in 2026 on record production, while European TTF has roughly doubled year over year to around €62 per MWh on Middle East supply disruption. This divergence matters greatly for gas-fired economics on either side of the Atlantic. The listed exposure spans gas-turbine and power-equipment manufacturers, contracted LNG infrastructure, and independent power producers whose dispatchable fleets command a scarcity premium in a congested grid. The producers are the more interesting value setup today: they trade at roughly 8x EV/EBITDA after a drawdown of about 30% from their 2024–25 peaks, against about 18x forward earnings for the regulated utilities.

Nuclear is the long-term destination rather than a near-term fix. The capital cycle is vast, with up to $3–4 trillion in fission investment over 2025–2050 to reach net-zero, and it is already being deployed: approximately 78 GW is under construction across 15 countries, about half of it in China, against an operating fleet of about 420 GW. Timing is the critical caveat. Licensing runs five to ten years, and construction typically six to eight; historical cost overruns have averaged 3x original estimates, and the most recent U.S. large-reactor project came in at 2.6x its original budget. All announced corporate nuclear procurement amounts to up to 13 GW into the mid-2030s, or about 102 TWh a year, less than a fifth of projected data center demand. The investable ecosystem spans uranium mining and enrichment, reactor engineering and the operators of existing fleets; we treat the technology developers as optionality rather than core exposure.

Renewables remain the fastest-growing source of generation. The IEA expects roughly 1,000 TWh of annual renewable growth over 2026–2030, more than 600 TWh of it from solar, though tariffs, trade fragmentation and project delays temper the pace. For a global value investor, the attraction lies less in the developers than in incumbent European utilities, where tightening power markets meet heavily depreciated asset bases, and in regulated network operators as the lower-volatility expression of the same theme.

The Grid & Electrical Equipment: The Real Bottleneck

The grid and the equipment that builds it likely provide the most defensible margin pool in the chain, because the associated lead times, backlogs and pricing power are structural rather than cyclical. Global grid investment runs at approximately $400 billion a year on the IEA's measure and needs to rise by roughly half by 2030; the European Commission projects €584 billion of grid investment required by 2030; and U.S. investor-owned utilities are projected to invest a record $239 billion in 2026, within roughly $1.4 trillion of planned spending through 2030. This is mandatory capital spending against a regulated or contracted return, not a demand forecast, and with transformer capacity additions arriving only in phases to 2028 and beyond, the shortage and the margin it confers persist.

The opportunity set is broad and far from U.S.-only: the North American electrical, power-management and thermal-management suppliers; the European and Japanese electrification majors, high-voltage cable makers, and transformer manufacturers; and the transmission-and-distribution equipment makers of China, Korea, and India, which frequently trade at a substantial discount to Western peers on similar or better order growth. Electrical equipment backlogs stand at about 1.7x their 2017–19 average, with book-to-bill ratios still above 1.0. Where the grid cannot connect load quickly enough, fuel-cell and distributed-generation suppliers have won multi-gigawatt offtake agreements from large technology buyers—tangible evidence that speed-to-power, not levelized cost, is what the marginal buyer is paying for.

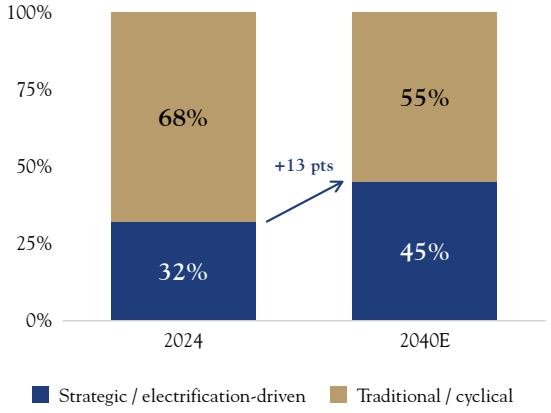
Critical Materials: Copper, Uranium, Lithium, Aluminum

Copper is the conviction commodity of the theme, and the key shift is in the character of its demand rather than its level. In China, the electrical network is already the largest end-use, accounting for 39% of consumption, and grid spending has risen from 32% of national copper use in 2011 to 38% today, while construction has fallen from 26% to 14%. That rotation signals that strategic end-uses are growing at mid-single-digit percentages per year, compared with roughly 1.6% for core economic uses.

We would keep data centers in proportion: only 1.4–1.8% of copper demand today and perhaps 3.2–3.9% by 2030. The investable claim is a durable mix shift, not an AI story.

FIG. 10

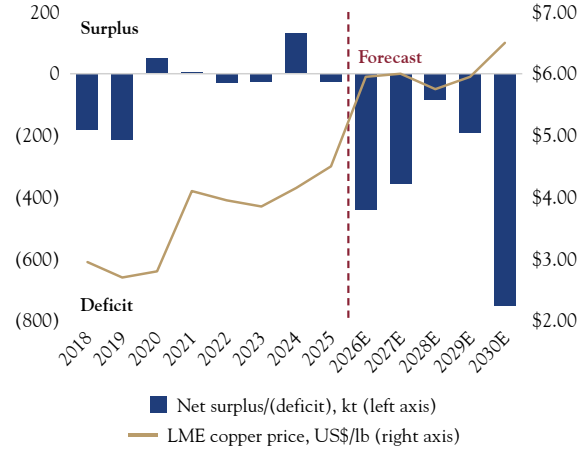
Copper Demand Is Becoming More Strategic and Less Cyclical



Source: Sprott; S&P Global. Strategic = energy transition, AI/data centers, defense.

FIG. 11

Copper Market Tightening Despite Weak Demand



Source: Wood Mackenzie; Bloomberg; Scotiabank GBM estimates. Price deck as at mid-2026; spot copper has since traded above the forecast path.

The market has begun to price it: LME copper set successive records through late August and September, peaking near $14,875 a tonne, with COMEX futures above $6.70 a pound. The physical evidence of tightness is unusually clear. Over two-thirds of exchange-monitored stocks sit in U.S. warehouses ahead of a still-pending U.S. tariff decision. The Commerce Secretary has recommended a 15% duty on refined copper from January 2027, rising to 30% in 2028. The inventory situation now leaves roughly 94% of global demand outside the U.S., with only a thin supply, and global spot treatment and refining charges reached an unprecedented negative $215 per tonne in July. Supply continues to disappoint: Chilean output, roughly 23% of global supply, fell 6.6% in the first half, and the state producer has abandoned its 2030 production target. Scotiabank forecasts refined deficits of 435,000 tonnes in 2026, widening to 750,000 tonnes by 2030 based on conservative demand growth. The listed exposure sits in the few remaining copper-focused producers and the diversified majors with meaningful copper leverage.

Uranium offers a tighter, more concentrated version of the same supply-deficit story. The long-term contract price reached $97 per pound at the end of June 2026, the highest in more than 18 years, and held around $96 per pound in September, a premium of roughly $6–10 to spot. A term price that leads spot is precisely what one would expect if utilities were contracting ahead of a structural shortfall. Two-thirds of production originates in Kazakhstan, Canada, and Australia, a concentration that is both a risk and a moat for incumbents.

Lithium is where the demand mix is shifting fastest, and where volatility is greatest. Battery-grade lithium carbonate in China fell from about $62,800 per tonne in 2022 to near $10,400 per tonne in 2025, before roughly doubling in the first half of 2026. Demand is projected to reach 2.8 million tonnes LCE by 2030, a 14% compound rate, with energy storage the fastest-growing segment at 25% a year, and Scotiabank's base-case balance turns to a deficit in 2026. We nonetheless treat lithium with the most caution of the four materials: in our judgement, a commodity that has fallen more than 80% from its peak and then doubled inside three years is better held as higher-beta optionality than as a core position, and we have yet to be convinced of the industry's supply discipline.

Aluminum is the quiet beneficiary of grid build, as utilities substitute it for copper in high-voltage transmission. Bank of America expects the market to move into deficit in 2026 and widen in 2027 as Chinese output runs against its 45-million-tonne cap, and the metal traded around $3,250 a tonne in mid-August, up roughly 25% year over year. Not all electrification metals have moved together. Nickel has been essentially flat in 2026 and remains in contango as the market waits to be convinced that Indonesian supply will be controlled.

Energy Storage & Behind-the-Meter Enablers

Storage economics improved fast enough in 2025 to begin turning it from a policy-driven add-on into an investable asset class. Turnkey system costs are down about 31% in 2025 to $117 per kWh, while the IEA, measuring project costs, reports a roughly 40% fall in 2024. Global additions exceeded 100 GW for the first time in 2025, and annual installations are forecast to rise from about 262 GWh to 822 GWh by 2030. Two cautions belong here. Costs reversed in 2026 due to tariffs, a near-doubling of lithium carbonate prices, and higher component prices, so the 2025 decline

should not be extrapolated. And our research base does not support the common claim that solar paired with storage now undercuts gas peaking: Bank of America puts natural gas at $103 per MWh, compared with $141 for solar with four-hour battery firming.

Storage is also gated by the same multi-year interconnection queues that throttle the rest of the system. For our strategies, dedicated storage and the broader behind-the-meter complex are areas of active research rather than current conviction; the economics are compelling and improving, but a value mandate argues for patience on entry rather than chasing the deployment curve.

Valuation & The Value-Investor's Edge

The differentiated return does not come from identifying the trend; it comes from buying the cash-generative core of the chain while it is still priced below its own history, and from declining to pay growth multiples for a pipeline that may not materialize. The market has capitalized on the theme very unevenly, and the dispersion is where the opportunity now sits.

Copper producers make the case most cleanly. At the end of August 2026, with copper near record highs, the mid- and large-capitalization producers traded at spot EV/EBITDA multiples of roughly 8.6x, 6.5x and 5.8x across 2026E–28E, and below 1.1x price-to-net-asset-value against a three-year average of 1.4x. Most telling, the group priced in copper at about the spot price, versus roughly a 17% premium to spot over the past three years and about 9% since 2018. The equities are not extrapolating the supply deficit, let alone incentive pricing, even as EBITDA margins approach 50%, and the metal has moved higher since. The diversified miners have traded between 0.7x and 1.4x net present value through the cycle, toward the lower end since the financial crisis, so a value entry can target the trough band just as the demand mix turns structurally less cyclical.

The most useful valuation observation for a global investor is that the market has paid up for the equipment, not the electrons. On MSCI data at 31 July 2026, global industrials—home to the electrical equipment manufacturers—traded at roughly 23x forward earnings against about 19x for the world index; the S&P 500 industrials sector, at around 25x, was the most expensive of the 11 U.S. sectors and some 40% above its twenty-year average, having traded near 16x as recently as late 2022. The other end of the chain has not participated. Global utilities traded at about 17x, with a 3.2% dividend yield, against 1.5% for the index, and have underperformed the world index over one, three, five, and ten years. Global materials, at about 15x, stood at an approximate 18% discount.

Positioning corroborates the point. In Bank of America's mid-2026 fund manager surveys, the most crowded trade was long semiconductors, cited by a record 80% of respondents, while power and electrification did not feature at all. Interestingly, U.S. contractor backlog fell to 8.0 months in July, with data center-exposed contractors at 11.4 months against 7.5 months for the rest. Growth is narrowing to a single end market. And financing conditions have tightened: hyperscaler bond cover ratios fell from roughly 5x in February to below 2x by July.

Generation offers the same proven-cash-flow-versus-priced-in-pipeline contrast. Independent power producers have de-rated to about 8x EV/EBITDA on asset-mix optics and affordability-related policy risk, despite owning scarcity-valued dispatchable fleets, a classic setup for patient capital, provided the policy risk is underwritten rather than ignored. European utilities embody a durable version of the same disconnect: the market reflexively applies low multiples to commodity-exposed generators, yet German power prices up 65% year over year can drive earnings upgrades and free cash flow from heavily depreciated fleets. Underpinning this is supply discipline: producers that have been slow to add capacity channel cash toward shareholder returns instead of value-destructive growth. Disciplined supply, structural demand, and entry multiples below mid-cycle in parts of the chain are the combination at the heart of the case.

Portfolio Implications

We weight the links by conviction and valuation rather than headline growth. The core, characterized as durable, lower-beta, and cheap on its own history, sits in grid equipment and in regulated or independent power generation, where pricing power, order backlogs, and mandatory capital spending can be bought at below mid-cycle multiples. Satellite positions, which are higher-beta and deficit-driven, are copper and uranium producers trading below 1.0x price-to-net-asset-value or replacement value, alongside selected storage and enabler industries. Optionality, represented by small-modular-reactor and nuclear-fuel developers, behind-the-meter power and grid software, is underwritten rather than paid for, with small position sizes and a refusal to capitalize full pipeline value; the 45–80% drawdown in listed nuclear developers this year is a live illustration of why.

Several tilts follow from the value lens. We favour firm, dispatchable generation where reliability is the attribute being priced, the bottleneck equipment and materials the system cannot do without, and supply discipline rather than growth capital as the driver of free cash flow. The breadth of the theme, spanning materials, industrials, utilities, and technology, is itself an advantage for a value mandate, offering real-asset-linked, inflation-aware exposure with secular demand behind it and self-funding cash returns ahead.

Finally, candour about where positioning is light. Pure-play uranium and nuclear fuel, dedicated energy storage, and behind-the-meter power sit largely outside the portfolios today and are areas of active research rather than current views. Each is early in its cycle and acutely valuation-sensitive, and each warrants a disciplined entry rather than a reach for exposure.

Risks & What Would Change Our Mind

Some of the risks below are genuine threats to the thesis; others threaten mainly those who overpay for it. Distinguishing the two is itself part of the value discipline.

The first risk is that demand disappoints. Efficiency held data center electricity use nearly flat through the 2010s; more efficient chips and models could compress the curve again, and utility load forecasts have a long record of overestimating demand. There is direct evidence of moderation ahead: UBS expects hyperscaler capital expenditure growth to slow from roughly 76% in 2026 to 25% in 2027 and 6% in 2028, and the Bank for International Settlements has warned that disappointing returns could trigger a sudden pullback in financing. An investor who underwrites the high case is exposed; one who buys assets priced closer to the low case is not.

A broader macro shock would hit demand through a different channel. McKinsey estimates that a recession in which global growth dips to zero in 2027 could lower global GDP by as much as 6%, or roughly $7 trillion, by 2035 and reduce final energy consumption by up to 4%. Electricity has decoupled from GDP at the margin, but it has not divorced itself from it.

On the supply side, the risk runs toward overbuild and late delivery rather than failed demand. Independent data suggest that 30–50% of the U.S. data center capacity scheduled for 2026 is likely to be deferred (only about 5 of roughly 16 GW is under construction) for supply-side reasons: power and grid constraints, construction bottlenecks, skilled labour shortages, and local opposition. Spending guidance is rising while gigawatts arrive late; both statements are true at once. Commodities carry their own cyclicality, as shown by lithium's round trip and the return of storage cost inflation in 2026, and even copper demand could be rationed at the margin if prices overshoot far enough.

Policy and affordability are where the most material change has occurred. Real-time wholesale prices in PJM, the largest U.S. power market, averaged $136.53 per MWh in the first quarter of 2026, up 76% year over year; its independent market monitor attributes approximately $23 billion of customer cost increases substantially to data center load and expects the effects to persist at least until the end of 2028. The latest capacity auction cleared at the $325-per-MW-day cap and still fell 6,831 MW short of its reliability requirement. In September, federal regulators suspended PJM's proposed backstop procurement of up to 6.8 GW for 2028/29 until early 2027, describing it as deeply flawed. In Texas, the governor's August directive subjected some 474 GW of large-load requests, roughly 90% of them data centers, to a statewide audit; regulators have since allowed the grid operator to proceed under a stricter proof-of-readiness framework, but BloombergNEF estimates that up to 50 GW of data center capacity could be delayed. New York implemented a comparable pause in July. U.S. residential electricity prices are forecast to average 18.2 cents per kWh in 2026, rising to 18.7 cents in 2027. For investors, this cuts both ways: it threatens the rate-based capital spending on which the regulated-utility case partly depends and merchant generator margins, yet it reinforces the scarcity value of firm capacity and of the equipment that relieves the constraint. Some analyses attribute much of the PJM capacity price surge to market design rather than data center demand per se, and Texas forward prices rose only 11–17% over the same period.

The final risk is the one most within our control: paying up for the theme. The greatest danger is not that electrification fails to materialize but that an investor buys popularity—essentially capitalizing development pipelines and connection optionality at multiples that require flawless execution. The most expensive sector in the U.S. market is now the one most exposed to this build. The mitigation is not avoiding the theme, but discipline at the entry multiple: paying for proven cash flow and treating the pipeline as free optionality rather than the base case.

A recession or a demand disappointment would pressure the whole theme, and no valuation discipline fully insulates a portfolio from a genuine macro shock. But overbuild, commodity overshoot, and paying up for pipeline are principally price risks, not thesis risks. These are precisely the risks a margin of safety is designed to absorb. What would change our mind is not volatility in the names, but evidence that the decoupling of electricity from economic growth had reversed, or that the supply bottlenecks had resolved quickly enough to erode pricing power. Absent that, the discipline is to use weakness to improve the entry, not to abandon the thesis.

Conclusion

For the first time in three decades outside of a crisis, electricity demand has begun to outgrow the economy. That decoupling looks set to define the decade ahead rather than fade as an anomaly. This is not a cyclical upswing to be traded but a multi-decade supercycle. It is durable because no single policy agenda drives it. It is policy-spanning because security and reliability carry it even where the sustainability impulse cools. And it is capital-intensive because the system that must absorb the new load spent the prior decade underbuilt. Energy addition, not energy substitution, is the organizing reality.

Recognizing the theme is no longer the hard part; the edge lies in structure and in price. Weighting exposure toward the bottleneck, the grid equipment and firm generation the system cannot do without, and weighting toward strategic, price-inelastic demand where the most defensible margin accrues. Copper sits at the center of the materials case, gas funds the bridge, nuclear anchors the long-term destination, and the grid remains the constraint that confers pricing power on those who relieve it. Across all of it, the discipline is the same: pay for proven cash flow, treat pipeline as free optionality, and require a margin of safety.

That discipline is what makes this a value opportunity rather than merely a growth story, and the opportunity has become more selective, not less, over the course of 2026. The market has re-rated equipment makers to a premium, leaving the electrons behind: global industrials trade at roughly 23x forward earnings. In contrast, global utilities are near 17x, and global materials are near 15x. Copper producers no longer price in a premium to spot, merchant-exposed utilities carry the low multiples the market reflexively assigns to commodity earnings, and diversified miners trade well within their historical valuation band. These dispersions reward patience and selectivity rather than blanket exposure to a theme.

The debate over electrification has moved on from whether power demand is rising; that question is settled. What remains is who captures the margin on supplying it and, for a value investor, at what price that margin is owned. Answering both with discipline, across a chain this broad and this constrained, is where we believe the returns of the next decade will be found.

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