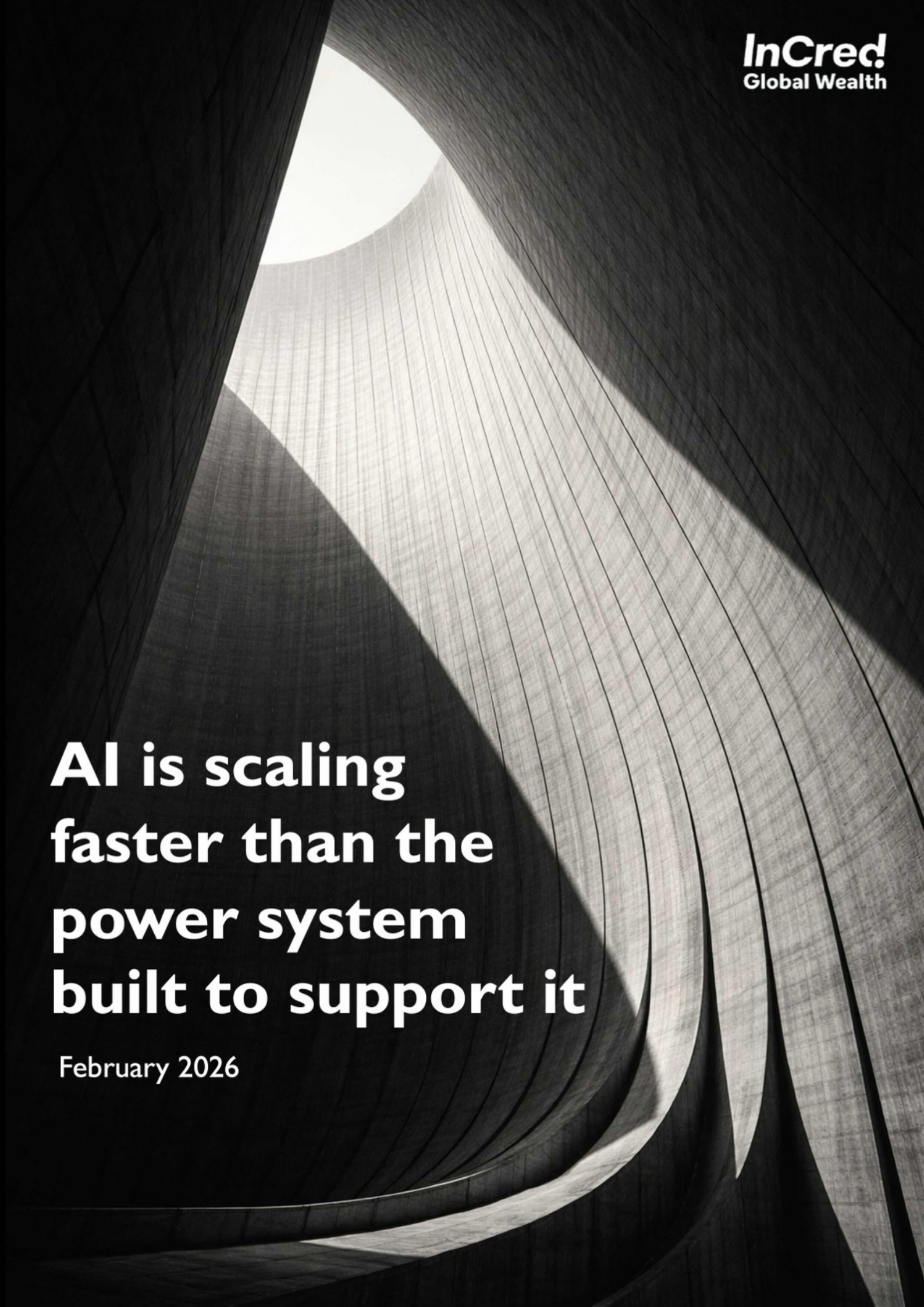


InCred
Global Wealth

AI is scaling faster than the power system built to support it

February 2026

InCred Insights

AI is scaling faster than the power system built to support it

Executive summary

- **AI and data centres are pushing electricity demand into a regime the system was not built for.** After a decade of flat consumption, power demand in the United States and Europe is now growing at roughly 3 percent per year, while global data centre electricity demand is on track to increase by ~150 percent by 2030, with AI accounting for a quarter of that load in central scenarios.
- **The constraint is not generation but grid delivery.** In the most exposed regions, projects waiting to connect to the grid exceed existing installed capacity, with connection timelines stretching to four–five years, forcing rationing through regulation and capacity pricing rather than market abundance.
- **Power infrastructure has shifted from utility to strategic asset.** Grid reinforcement, interconnection, and system stability require sustained capital investment into assets with long-duration, often inflation-linked cash flows.
- **For long-term capital, the opportunity is in enabling the system.** Exposure sits in listed grid enablers, private infrastructure funds and structures, and selective system-edge investments, offering diversification away from growth-equity cycles toward assets driven by physical necessity.

13 February 2026

Artificial intelligence is moving from experiment to infrastructure at unusual speed. Capital is abundant. Chips are scaling, albeit unevenly. Talent remains mobile. What is quietly becoming the binding constraint is electricity.

This is not yet how AI is discussed. The conversation still centres on models, compute, data, and valuation. But at scale, AI behaves less like software and more like heavy industry. It requires dense, continuous, highly reliable power, delivered in specific places, with very limited tolerance for interruption.

At scale, AI behaves less like software and more like heavy industry. It requires dense, continuous, highly reliable power.

That power must come from an electricity system that was not built for this purpose. The result is that AI is colliding with physical constraints that capital alone cannot resolve. This collision is already reshaping power markets, regulation, and capital allocation. It also explains why power demand has re-emerged as a critical investment theme after decades in which it barely mattered.

Power demand has already inflected, and this is not cyclical

For roughly a decade after 2010, electricity demand in the United States and Europe was broadly flat. Efficiency gains offset economic growth. Data workloads expanded rapidly, yet electricity consumption barely moved. That regime has ended.

In the **United States**, weather-adjusted electricity demand growth in 2024–25 has been in the range of roughly 2.5–3.0 percent per year, the fastest pace in over twenty years.[i] Forward-looking projections from grid operators and utilities point to sustained growth through the late 2020s. In **Europe**, forecasts imply approximately 3–4 percent annual electricity demand growth into the early 2030s, versus near-zero growth for most of the previous decade.[ii]

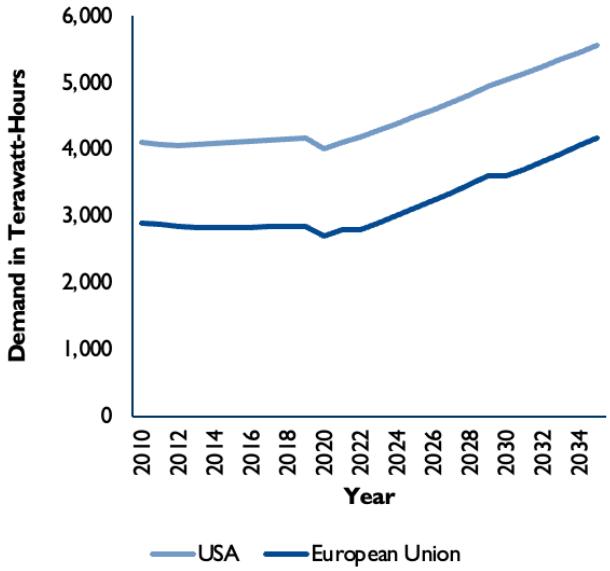


Figure 1: USA and EU overall electricity demand 2010 (actual) to 2035 (estimate)
Source: Goldman Sachs, BlackRock

This is not a rebound from pandemic distortions. It reflects a structural shift. Three forces are acting simultaneously:

- Electrification of transport, heating, and parts of industry
- Reshoring, defence, and energy-security-driven industrial capacity
- Rapid expansion of data centres, increasingly driven by AI workloads

Efficiency gains continue, but they are no longer large enough to neutralise demand growth. The system is now absorbing multiple structural demand drivers at once.

AI is not marginal to this shift

Data centres already account for a material share of electricity demand, particularly in developed markets. Globally, estimates place data centres at roughly 1–1.5 percent of electricity consumption today, with the United States materially higher, typically cited in the 3–4.5 percent range depending on methodology.[iii]

On current trajectories, central scenarios from major forecasters suggest the United States figure could rise to somewhere between roughly 7 percent and low double digits by the late 2020s, with Europe following a similar, if slightly lagged, path.[iv]

Globally, central scenarios suggest data centre electricity consumption could increase by roughly 150–170 percent between 2023 and 2030, depending on assumptions around efficiency gains and deployment patterns. This alone would make data centres one of the fastest-growing sources of electricity demand worldwide.

Central scenarios suggest data centre electricity consumption could increase by roughly 150–170 percent between 2023 and 2030

AI is not the whole of this increase, but it is the fastest-growing component. In central scenarios, AI-related workloads are expected to account for approximately 15–25 percent of data centre power demand by the late 2020s, with some scenarios placing the figure higher. The precise percentage matters less than the shape of the demand. AI workloads are continuous rather than interruptible. They are high density, pushing power requirements per facility higher. They scale in large, discrete steps rather than smoothly. From a grid perspective, this looks far closer to industrial infrastructure than to traditional technology demand.

Data centres concentrate the problem geographically

Electricity systems fail locally, not nationally. Data centres cluster around connectivity, talent, latency, and regulation. **As a result, power demand concentrates geographically. Northern Virginia, parts of Texas, the Mid-Atlantic, London, Frankfurt, Dublin, and Amsterdam are all examples** where local grid constraints are now more binding than national generation capacity.[v]

Northern Virginia, parts of Texas, the Mid-Atlantic, London, Frankfurt, Dublin, and Amsterdam are all examples where local grid constraints are now more binding than national generation capacity.

In the PJM Interconnection market in the United States - the country's largest regional electricity grid covering much of the Mid-Atlantic and home to the world's largest concentration of data centres - grid operators have repeatedly revised peak demand forecasts upward. At the same time, effective spare capacity has tightened materially, bringing several regions closer to traditional stress thresholds. It is worth noting that grid operators such as PJM have tightened near-term load forecasts through stricter project vetting, even as medium-term demand projections remain elevated. This reflects efforts to avoid double-counting speculative capacity rather than a reduction in underlying growth.

In Europe, transmission system operators report data centre connection requests that, if even partially realised, would represent a large fraction of existing peak demand in certain countries. Not all of these projects will be built, but the pipeline alone is enough to expose the limits of current infrastructure.

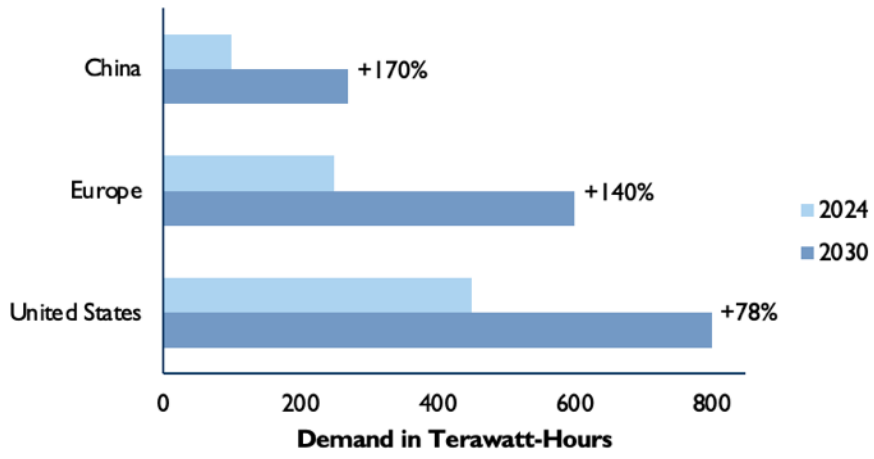


Figure 2: Electricity demand from data centres
Source: Goldman Sachs, International Energy Agency, Bloomberg

Generation is not the binding constraint

Public debate often focuses on generation - wind, solar, gas, nuclear – but this misses the immediate bottleneck.

Generation capacity can be planned and financed. **Transmission, interconnection, and grid stability cannot be accelerated easily.** Build-out timelines for grids are measured in years, not quarters. Permitting, land access, and political friction dominate outcomes.

In the United States, the queue of projects waiting for grid interconnection, meaning formal approval and physical connection to the power network, now exceeds the country's entire installed generation fleet in nominal capacity terms, with **median interconnection timelines in several regions approaching four to five years.** Europe faces a similar problem, compounded by declining grid inertia as thermal generation retires.

In the United States, the queue of projects waiting for grid interconnection, meaning formal approval and physical connection to the power network, now exceeds the country's entire installed generation fleet in nominal capacity terms

The result is a structural timing mismatch. AI deployment decisions are measured in quarters. Grid reinforcement is measured in regulatory cycles.

Market signals already reflect this stress

When systems tighten, prices and behaviour change first.

Capacity prices have risen sharply in constrained United States power markets, even where energy prices remain moderate. In Europe, negative power prices coexist with rising capacity and balancing costs, reflecting a shortage of flexibility rather than generation.

Capacity prices have risen sharply in constrained United States power markets, even where energy prices remain moderate. In Europe, negative power prices coexist with rising capacity and balancing costs, reflecting a shortage of flexibility rather than generation.

Regulatory behaviour is also shifting. Governments are intervening more directly in power markets. Large electricity users are increasingly required to co-fund infrastructure. Grid access, not power price, is becoming the gating factor for new projects.

These are not future risks. They are present responses to scarcity.

Behind-the-meter power is a signal, not a solution

One response to grid constraints is **behind-the-meter power**, meaning electricity that is generated or managed **on the customer's side of the utility meter**, rather than supplied entirely through the public grid. In practice, this includes onsite gas generation, battery storage, or hybrid systems that supplement or partially bypass grid supply.

Data centre operators are increasingly deploying these arrangements to secure power quickly where grid connections are delayed or uncertain.

If current grid and interconnection bottlenecks persist, central estimates suggest that roughly **20–30 percent of incremental data centre electricity demand by 2030 could be met through behind-the-meter solutions**, including onsite generation, storage, or hybrid systems. This is not because these solutions are cheaper in steady state. It is because they offer certainty and speed when grid access cannot be guaranteed.

This shift matters because it transfers risk from utilities to corporate balance sheets and fragments system planning. Behind-the-meter solutions are a rational response to constraint, but they are evidence of scarcity, not abundance.

How to think about investment exposure

This is not about identifying "AI winners". It is about understanding how constraint reshapes return profiles across asset classes.

Listed markets: equity-like infrastructure

In public equities, exposure is usually indirect but can still be meaningful. It tends to fall into four broad groups:

- companies that own and operate regulated electricity grids;
- companies that supply the equipment and systems those grids require;
- engineering and construction firms that build and upgrade power infrastructure;
- and businesses that provide flexibility, storage, or reliability services to keep the system functioning.

Return profiles here tend to resemble equity-like infrastructure. Returns are typically in the mid-single digit to low double digit range, driven by capital deployment and regulation rather than discretionary demand. Earnings tend to be durable and predictable - but political, regulatory, and execution risks always exist.

These assets tend to behave very differently from AI or semiconductor equities. This distinction matters for portfolio construction. Power and grid-linked infrastructure tends to provide defensiveness and inflation linkage, whereas AI and semiconductor equities are more cyclical and more sensitive to interest-rate conditions.

Infrastructure and private markets: long-duration capital via private funds and structures

Private capital plays a central role in power infrastructure because electricity grids are capital intensive, slow to build, and typically unsuitable for public-market balance sheets alone. As a result, much of the investable exposure for families comes through **private infrastructure funds, co-investment structures, and long-duration private vehicles**, rather than listed equities.

These structures typically own or finance assets such as electricity transmission and distribution networks, cross-border interconnectors, grid-stability infrastructure, energy storage, and, in some cases, generation assets with contracted or regulated revenues. The common feature is not the technology, but the cash-flow profile.

Cash flows are generally **long duration**, often **explicitly or implicitly linked to inflation**, and relatively **low volatility** once assets are operational. Liquidity is limited by design, reflecting the physical and regulatory nature of the assets rather than market conditions.

Cash flows are generally long duration, often explicitly or implicitly linked to inflation, and relatively low volatility once assets are operational.

Return expectations are typically in the **high single-digit range**, with risk concentrated less in demand or utilisation and more in regulation, permitting, construction risk, and cost control. For many families, these investments function as portfolio stabilisers, providing durable, real-asset exposure that behaves very differently from growth equities or technology-driven themes.

A brief note for owners of operating businesses

For principals who own or oversee operating businesses, this shift has immediate practical implications. Power is no longer a purely variable input cost. In certain locations, it is becoming a constraint on expansion, site selection, and reliability planning. Businesses with energy-intensive processes, high uptime requirements, or plans for digital or automation upgrades may find that access to power, rather than labour or capital, becomes the limiting factor. This is not a universal condition, but it is increasingly a local one, and it merits attention alongside more familiar operational risks.

For principals who own or oversee operating businesses, this shift has immediate practical implications.

What would invalidate this thesis

Three developments would materially weaken the case. First, a sustained re-acceleration in electricity efficiency gains. Second, rapid and coordinated grid permitting reform across jurisdictions. Third, a material slowdown in AI deployment intensity. Whilst all are possible, none are yet visible or necessarily seem likely.

Closing thought

AI captures attention. Power determines outcomes.

Electricity demand has moved from background noise to binding constraint. The opportunity is not simply in AI itself, but in the infrastructure and systems required to support it.

The question for long-term capital is no longer how fast AI can grow. It is whether the physical system beneath it can keep up.

About the author

Nick Perryman is Vice Chairman at InCred Global Wealth Limited and Chairman of its Investment Committee. He has over 25 years of investment and wealth management experience, holds advanced qualifications in investment management, financial planning and psychology, and was previously a managing director at UBS where he was head of its international wealth management business in London, and before that head of investment products and services. He is a doctoral researcher at Durham University and an honorary fellow of Royal Holloway, University of London. Nick is co-author of the book, "Leadership in Wealth: Mastering the opportunities of wealth in your family, firm and society"

Nick Perryman
Vice Chairman
nick.perryman@incredwealth.uk

[i] United States Department of Energy; Electric Power Research Institute
[ii] European Network of Transmission System Operators for Electricity; International Energy Agency
[iii] International Energy Agency; United States Department of Energy; Lawrence Berkeley National Laboratory
[iv] International Energy Agency; Goldman Sachs Global Investment Research
[v] PJM Interconnection; National Grid; European transmission system operators

What our clients say about us

We are privileged to work with leading families around the world. Some have shared what working with us means to them:

"We've had a very positive experience working with the InCred team. Beyond their core investment expertise, they've added value in several important areas - from providing financial education and identifying suitable custodians, to negotiating fees and securing access to high-quality alternative investments. Their consolidated reporting across multiple institutions has been especially helpful, significantly reducing our administrative workload. We truly value the relationship."
Business owners, based in the United Arab Emirates

"Working with the InCred team has been fantastic, and more importantly a financially rewarding experience. They come up with interesting and innovative investment ideas and take the effort to meet in person to walk you through the ideas and scenarios. Also, I must compliment them for going the extra mile to ensure that I am a happy client and by responding with information that would help in the investment decision making process. "
Entrepreneur, based in the UK

"The InCred team are my strategic and trusted advisers, with a comprehensive view of my entire wealth. In addition to providing impartial and wide-ranging investment advice, they liaise with my banks and coordinate seamlessly with other service providers, including my accountants, tax advisers, and trustees. This integrated approach has simplified my life and allowed me to focus on expanding my businesses. Their professional team of investment specialists have understood my investment appetite and have made this journey rewarding, both in terms of exposure as well as profitability."
Entrepreneur, based in Africa

"I have been interacting with the team at InCred for the last few years. I have found them to be creative with investment ideas and very responsive."
Chief Executive Officer, based in the UK

"The service I have received has been excellent, very fast and with lots of information as soon as I have requested it. I am very pleased."
Investor, based in Scandinavia

"The benefit of working with InCred is not only the access to structured investment products but also the breadth of market knowledge and professional contacts that their team have. This has brought additional value to the relationship and has been invaluable to me as an investor over the years."
Business owner, based in the UK

Important information

InCred Global Wealth Limited is a Private Limited Company registered in England and Wales (Company number 14019047), authorised and regulated by the Financial Conduct Authority (FCA number 998961). Registered office: 5-10 Bolton Street, London, W1J 8BA, United Kingdom.

All information contained in this document is confidential. Redistribution or reproduction is prohibited without written permission. This document is not intended to provide personal investment advice, and it does not consider the specific investment objectives, financial situation and the particular needs of any specific person who may receive this document. Investors should seek independent financial advice regarding the suitability and/or appropriateness of making an investment or implementing the investment strategies discussed in this document and should understand that statements regarding prospects may not be realized. Past performance is not necessarily indicative of future results. This document may contain forward-looking statements or forecasts; such forecasts are not a reliable indicator of future performance.

This document is not intended to, and does not, constitute an offer or solicitation to buy and sell securities or engage in any investment activity. This document is for informational purposes only. This document is not to be construed as a recommendation with respect to any particular investor or type of investor. Investments involve risk. Securities, financial instruments or strategies mentioned herein may not be suitable for all investors and this material is not intended for any specific investor and does not consider an investor's particular investment objectives, financial situations or needs. Before acting on any recommendation in this material, you should consider whether it is suitable for your particular circumstances and, if necessary, seek professional advice. Investors should note that income from such investments, if any, may fluctuate and that the value of such investments may rise or fall. Accordingly, investors may receive back less than they originally invested. Investors should seek advice concerning any impact an investment may have on their personal tax position from their own tax advisor.

Please note the publication date of this document. It may contain specific information that is no longer current and should not be used to make an investment decision. Unless otherwise indicated, there is no intention to update this document. Without limiting the generality of the foregoing, the recipient also agrees that photocopying or other duplication of the document and the data provided without prior written consent of InCred Global Wealth Limited is strictly prohibited.

Neither InCred Global Wealth Limited, nor its shareholders, nor any of their respective officers, directors, employees, affiliates, agents, or representatives, makes any representation or warranty, expressed or implied, as to the accuracy or completeness of this document or any of its contents, and no legal liability is assumed or is to be implied against any of the aforementioned with respect thereto save as required under applicable law and regulation in the UK. Accordingly, there can be no assurance, and no representation or warranty can be or is made as to the accuracy or attainability of such estimates and projections or other forward-looking statements. InCred Global Wealth Limited does not expect to and assumes no obligation to update or otherwise revise this document or any information contained herein.

Copyright © 2026 InCred Global Wealth Limited