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Investing in Infrastructure

Why the Time Is Right and What Investors Should Know

A WHITEPAPER
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Executive Summary

This primer explores the investment opportunity and strategic importance of infrastructure investing in today's rapidly evolving global landscape. It highlights the explosive growth of digital infrastructure, particularly data centers, driven by AI and cloud computing. It also examines the surging demand for electricity, the convergence of data and power, and the investment implications across energy, transmission, and global markets.

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Introduction

Infrastructure is the backbone of any modern economy. It includes physical systems such as transportation networks, energy grids, water supply, and digital connectivity. Traditionally funded by governments, infrastructure is increasingly being financed and operated by private investors through public-private partnerships, direct ownership, and specialized funds. As global demand for reliable and modern infrastructure grows, so too does the opportunity for investors.

We believe infrastructure investing is at a pivotal moment. Structural trends, such as increased demand for electricity, aging assets in developed markets, urbanization in emerging economies, the clean energy transition, and the digital revolution, are converging with a favorable macroeconomic and political climate. But like any asset class, infrastructure carries risks that must be evaluated carefully.

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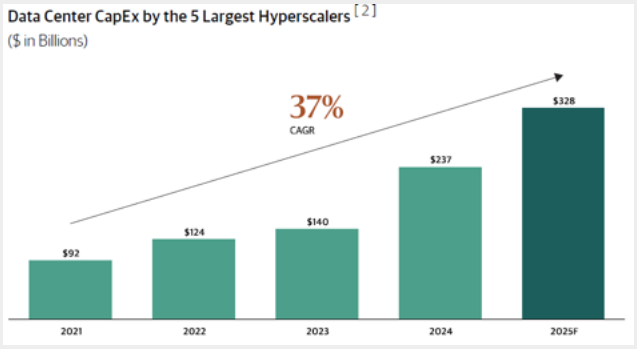
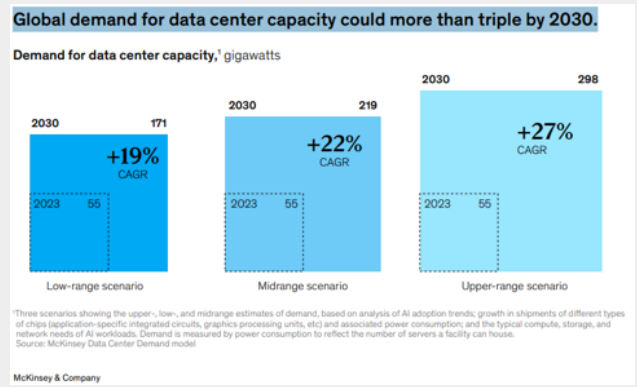
Why Infrastructure — and Why Now

1. The Digital Infrastructure Boom

AI and cloud computing are fueling unprecedented data growth. Over the past 15 years, global data usage has surged 100-fold, with more data generated in the last three years than in all prior history.[1] AI workloads are especially power-intensive: a single ChatGPT query consumes 10x the energy of a Google search,[2] while AI-driven video generation can require up to 10,000x more.[3] In 2024 alone, the U.S. added 5,000 MW of new data center capacity—enough to power 2.7 million people.[4]

Often referred to as hyperscalers, large-scale cloud service providers like Amazon Web Services, Microsoft Azure, and Google Cloud operate massive global data centers and are projected to expand significantly. Capital expenditures from the 5 largest hyperscalers is projected to grow by 37% to $328B by the end of 2025, and McKinsey & Company estimates that global demand for data center capacity could more than triple by 2030.





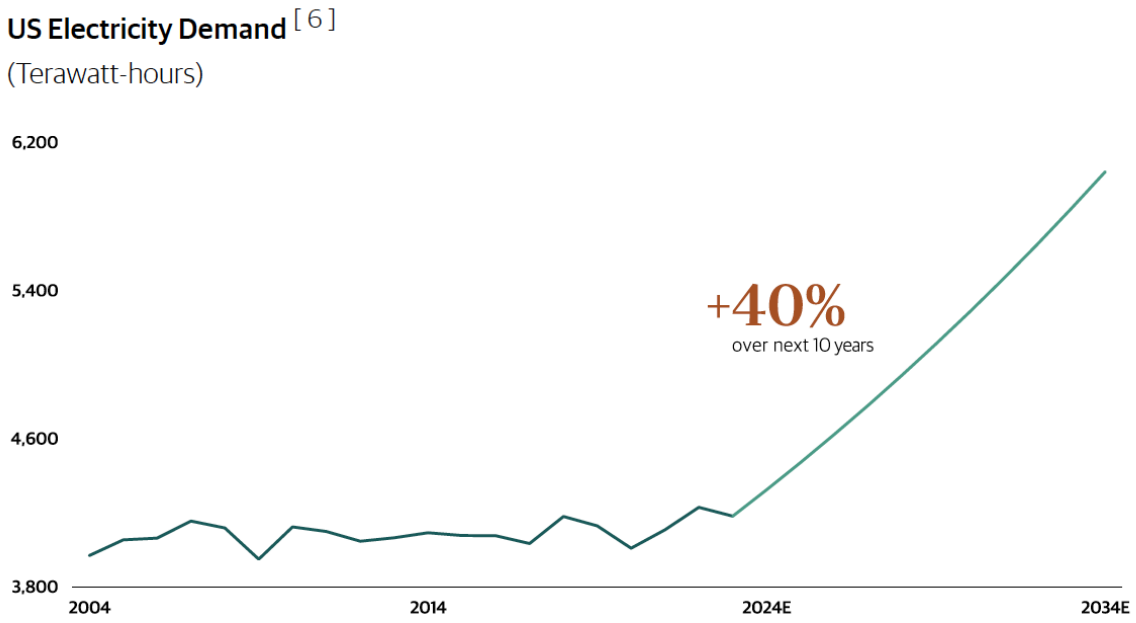
2. Aging Infrastructure in Developed Economies

Much of the infrastructure in developed markets was built in the mid-20th century and is now outdated or deteriorating. The American Society of Civil Engineers estimates a multi-trillion-dollar investment gap in the U.S. alone over the next decade. Roads, bridges, water systems, and the power grid all require substantial modernization. While federal initiatives like the Infrastructure Investment and Jobs Act (IIJA) are injecting capital, public funding alone is insufficient, creating opportunities for private investment in rebuilding critical systems.

Why Infrastructure — and Why Now

3. Climate Transition and the Energy Shift

The global push toward low-carbon economies is driving demand for renewable energy, electric vehicle infrastructure, energy storage, and grid modernization. Capital-intensive projects like wind farms, solar arrays, green hydrogen facilities, and electric vehicle (EV) charging networks require long-term financing. Infrastructure investors are increasingly vital in laying the foundation for a sustainable future.



4. Reindustrialization and Electrification

U.S. electricity demand is expected to almost double over the next 10 years, propelled by data centers, EV adoption, and domestic manufacturing.[5] Greg Blank at Blackstone estimates that EVs alone can increase household power consumption by ~40%. Meanwhile, over $500 billion is being invested in reindustrialization efforts, further amplifying the need for robust infrastructure.[6]

Why Infrastructure — and Why Now

5. Global Opportunity

Asia, home to two-thirds of the world's population, accounts for just 15% of global data center leasing, highlighting significant untapped potential.[7] Emerging markets across Asia, Africa, and Latin America present compelling opportunities for infrastructure development and investment.

6. Attractive Characteristics for Investors

Infrastructure assets offer a unique blend of financial and strategic benefits:

- **Stable, long-term cash flows** backed by contracts, concessions, or regulated returns
- **Inflation protection,** with revenues often indexed to inflation
- **Low correlation** to traditional equity and fixed-income markets
- **Defensive qualities** during economic downturns

In a macro environment marked by uncertain growth and persistent inflation, these characteristics make infrastructure an especially appealing asset class.

Types of Infrastructure Investments

Infrastructure investing encompasses a broad spectrum of strategies, each defined by its risk profile, return potential, and stage of asset maturity. These strategies are commonly grouped into three categories: core, core-plus, and value-add/opportunistic.

Core infrastructure represents the foundation of the asset class. These are mature, essential services, such as toll roads, water utilities, and electricity transmission lines, that typically operate under regulated frameworks or long-term contracts. Their predictable cash flows and low volatility make them especially attractive to investors seeking stability. For example, an airport operating under a long-term concession or a regulated power grid would fall into this category.

Core-plus infrastructure introduces a modest increase in risk and return potential. These assets may be partially exposed to market dynamics or demand fluctuations, such as merchant power plants or early-stage renewable energy projects. While they still offer relatively stable performance, they often require more active management and may be in the early phases of revenue generation.

At the higher end of the risk-return spectrum lies **value-add and opportunistic infrastructure.** These investments involve development-stage projects, operational turnarounds, or assets located in emerging markets. They are typically more complex, both operationally and financially, and may require innovative structuring or hands-on oversight. Examples include greenfield renewable energy developments, privatized infrastructure in developing economies, or next-generation digital platforms supporting smart cities.

How to Invest in Infrastructure

Investors can access infrastructure through a range of investment vehicles, each offering distinct advantages in terms of liquidity, control, and exposure. The choice of strategy depends on the investor's goals, time horizon, and tolerance for complexity.

Listed infrastructure funds and ETFs are the most accessible options, offering daily liquidity and broad diversification. These publicly traded vehicles, such as the iShares Global Infrastructure ETF (IGF) and the Global X U.S. Infrastructure Development ETF (PAVE), provide exposure to infrastructure-related equities. However, they tend to be more correlated with broader equity markets, which can reduce some of the asset class's defensive and inflation-protected characteristics.

For longer-term investors, **private infrastructure funds** offer access to unlisted assets with more stable cash flows and lower volatility. These funds typically operate on a drawdown model, where capital is committed upfront and deployed over time, with investment periods ranging from 8 to 15 years.

While they offer greater control and alignment with long-duration objectives, they are illiquid and require patience and planning.

An increasingly popular alternative is the **evergreen infrastructure fund.** Unlike drawdown funds, evergreen structures allow continuous capital inflows and outflows, offering more flexibility for investors. These funds are designed to hold assets indefinitely, reinvesting proceeds and maintaining a stable portfolio over time. Evergreen funds are particularly attractive to investors seeking ongoing exposure without the constraints of a fixed fund life. Liquidity should still be a consideration as under certain circumstances they can still restrict redemptions, and they may offer slightly lower return potential due to their more conservative capital management.

Direct investment and co-investment opportunities are typically reserved for large institutions or sophisticated investors. These approaches provide greater governance rights and customization, allowing investors to target specific sectors, geographies, or risk profiles. However, they require deep expertise in asset management, regulatory environments, and operational oversight.

How to Invest in Infrastructure

Another avenue is infrastructure debt, which involves lending to infrastructure projects rather than owning them. This strategy offers a more stable, income-oriented return profile, often with lower volatility. Infrastructure debt is gaining traction, particularly through instruments like green bonds and project finance vehicles that support sustainable development goals.

Ultimately, the method of investing in infrastructure should align with the investor's broader portfolio strategy. Whether seeking growth, income, or inflation protection, infrastructure offers a flexible and resilient set of tools—but success depends on selecting the right structure for the right purpose.

Risks of Infrastructure Investing

While infrastructure offers compelling long-term benefits, investors must carefully consider the risks inherent to the asset class. These risks vary depending on the type of investment, geographic exposure, and stage of asset development.

One of the most prominent concerns is **regulatory and political risk.** Infrastructure assets often operate under government oversight or regulatory frameworks, which can shift over time. Changes in pricing controls, environmental regulations, or even the threat of nationalization can materially affect returns. In certain regions, political instability may introduce legal uncertainties or disrupt operations altogether.

Construction and development risk is another key factor, particularly for value-add and opportunistic strategies. New infrastructure projects frequently encounter delays, cost overruns, and permitting challenges. These issues can erode projected returns and complicate timelines, especially in emerging markets where regulatory environments may be less predictable.

Demand risk also plays a role, as not all infrastructure assets guarantee consistent usage. For example, airport traffic and toll road volumes can decline during economic downturns or global disruptions like pandemics. As we saw earlier this year with the announcement of DeepSeek, even digital infrastructure, while generally resilient, is not immune to technological shifts or competitive pressures that could impact asset performance.

Risks of Infrastructure Investing

The surge of capital being allocated to infrastructure, especially in sectors like data centers, heightens the importance of disciplined underwriting. Investors must be diligent in assessing demand projections, tenant creditworthiness, lease terms, and asset-level collateral to ensure they are not overpaying in a crowded market or backing assets vulnerable to technological obsolescence.

Liquidity risk is a structural characteristic of many infrastructure investments, especially those in private markets. These assets are typically long-term and illiquid, requiring investors to commit capital for extended periods with limited exit options. This makes infrastructure better suited for investors with long-duration horizons and a tolerance for reduced flexibility.

Finally, infrastructure assets often exhibit **interest rate sensitivity,** particularly those with bond-like cash flow profiles. While the near-term environment is pointing toward rate reductions, rising interest rates can compress valuations and increase the cost of financing, potentially affecting both existing assets and new project development.

Understanding and managing these risks is essential to building a resilient infrastructure portfolio. While the asset class offers attractive defensive and inflation-protected qualities, thoughtful due diligence and strategic diversification are key to mitigating downside exposure.

Summary

Infrastructure investing is entering a transformative era, driven by powerful global trends and evolving market dynamics. The convergence of digital innovation, energy transition, and reindustrialization is creating unprecedented demand for modern infrastructure—from data centers and transmission lines to EV charging networks and renewable energy assets.

This primer outlines the strategic case for infrastructure investment, emphasizing its resilience, inflation protection, and long-term cash flow potential. It categorizes investment strategies into core, core-plus, and value-add/opportunistic, and explores the various vehicles through which investors can gain exposure, including listed funds, private equity structures, direct investments, and infrastructure debt.

Summary

While the asset class offers compelling benefits, it also carries risks—ranging from regulatory and political uncertainty to construction delays and liquidity constraints. Understanding these risks and aligning investment approaches with long-term objectives is essential for building a durable and diversified infrastructure portfolio.

As global demand accelerates and capital flows into the sector, infrastructure stands out as a critical and timely opportunity for investors seeking both impact and performance.

Sources

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3 Factorial Funds, March 2024
4 DatacenterHawk, June 2024
5 United States Department of Energy, October 2023
6 The White House, April 2024
7 DatacenterHawk, June 2024
All charts: Blackstone

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