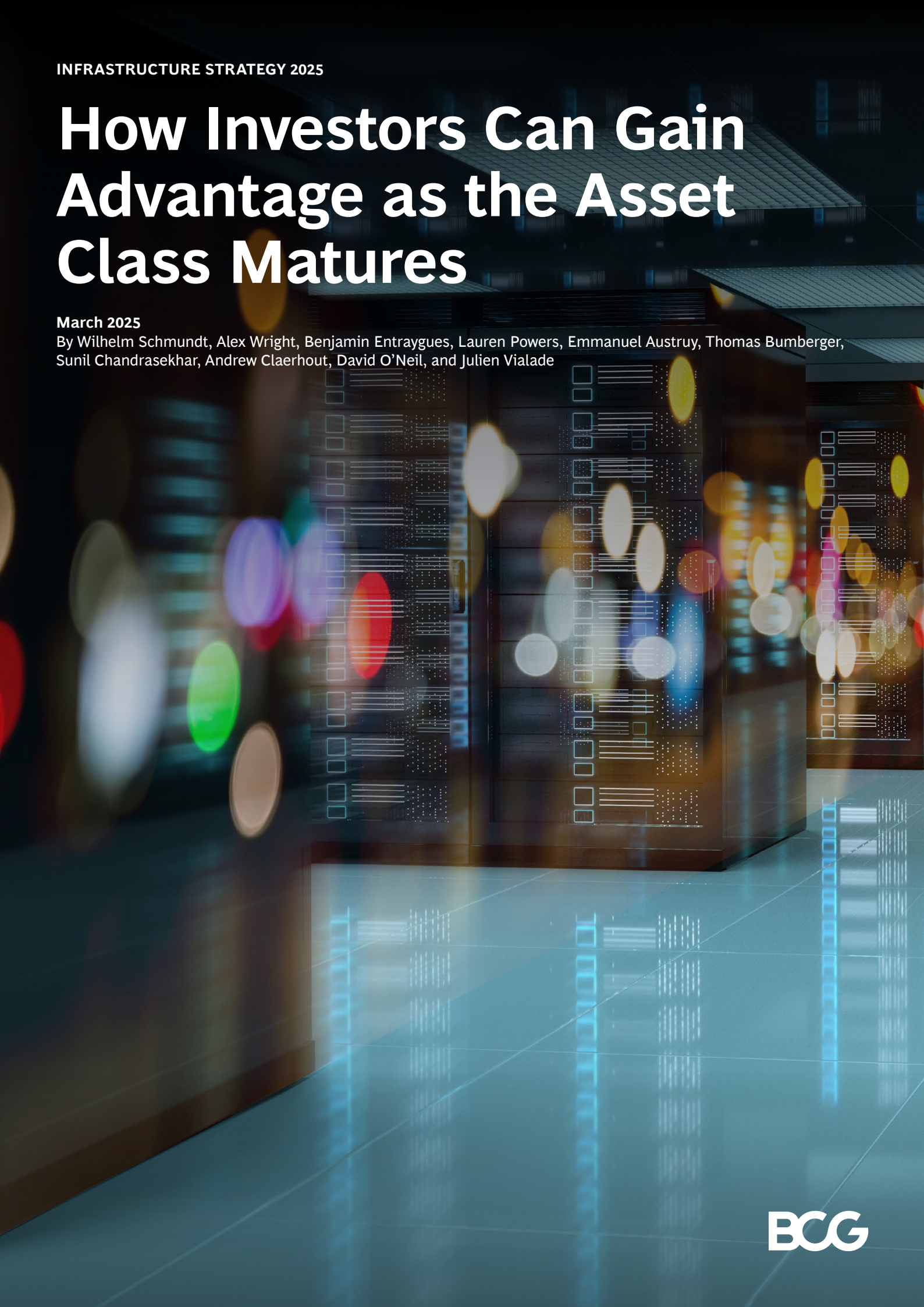
INFRASTRUCTURE STRATEGY 2025

How Investors Can Gain Advantage as the Asset Class Matures



March 2025

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BCG

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Introduction

Over the past two decades, private infrastructure investment has delivered a reliable stream of steady returns and served as a major source of capital for the roads, seaports, airports, energy generation and transmission, broadband systems, data centers, and more on which our global society and global economy depend. In the past ten years alone, private infrastructure assets under management (AuM) have more than quadrupled, to $1.3 trillion.

But as this year's report on the state of private infrastructure investing shows, while infrastructure assets under management continue to grow, deal volume declined in 2024 compared to the previous year, and fundraising is still down 43% from 2022's peak, despite growing 14% year-over-year.

Moreover, the overall geopolitical situation remains unstable, even as interest rates have stabilized after falling from their recent peaks. The highly uncertain macroeconomic environment remains a concern as well, especially following the recent elections in the US. The new administration is engaged in a major revamping of the country's administration and budget, which is likely to create unforeseen changes in multiple areas related to government and regulation, with as yet unclear impacts on global trade. The situation is kinetic and is generating considerable uncertainty for investors of all kinds.

Despite the headwinds, however, we believe that the near-term prospects for private investment in infrastructure assets has improved since last year's report. We see indications of further momentum in both investment and dealmaking. We also believe that high-level data does not fully reveal an underlying shift in how investors are approaching the infrastructure asset class. The industry is maturing, its mandate is changing, and both general partners (GPs) and limited partners (LPs) are responding in ways that will positively affect performance. Firms are consolidating to build scale or specialize, expanding their investment options, and improving their operational capabilities, resulting in offerings that are more carefully tuned to the current and future investment environment than ever.

In this year's report, we provide both the data needed to better understand the current state of private infrastructure investing and an in-depth analysis of how the industry is upping its game in an increasingly complex environment.



The State of the Industry

The past two years have been challenging for private investments overall, including private infrastructure. High interest rates, inflation, and widespread economic uncertainty have weighed on fundraising, deal volume, and valuations. After reaching record highs in 2022, valuations slid in 2023 before beginning to recover in mid-2024 as the interest rate environment in some regions of the world started to cool. Despite these challenges, LPs remain firmly committed to the infrastructure asset class, and expectations for new fundraising remain high. Private infrastructure continues to be a highly attractive investment, offering long-term stability and inflation protection even in volatile markets.

Infrastructure AuM

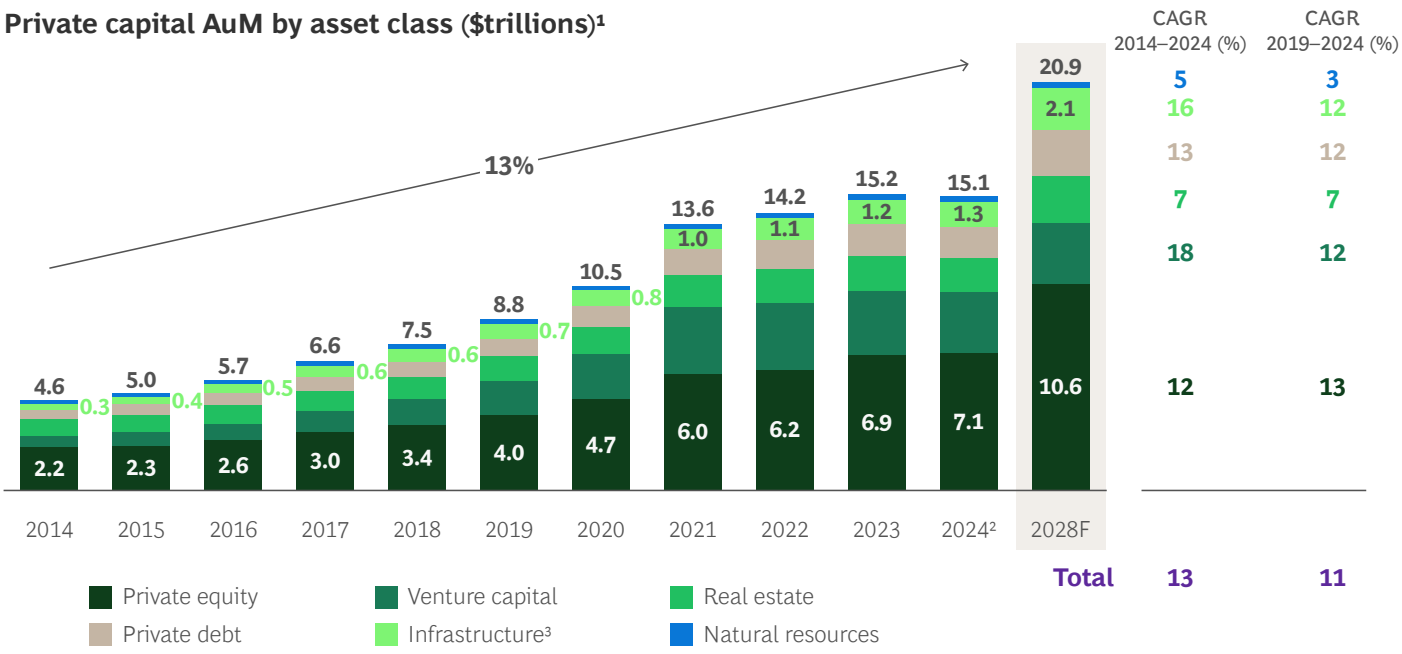
Infrastructure AuM has grown significantly over the past ten years—by an average of 16% per year from 2014 to 2024, versus average growth of 13% for all private capital over the same period. Despite the slowdown in fundraising from 2022 to 2024, the latest available data on infrastructure AuM puts it at an all-time high of $1.3 trillion as of June 2024. **(See Exhibit 1.)**

The industry's growth over the past ten years has trailed only that of venture capital. The stable and predictable cash flows that these assets offer and their resilience to economic cycles make infrastructure AuM an appealing defensive investment in volatile markets. The essential services that these assets provide—such as energy, transportation, and communications—remain in demand regardless of economic conditions.

More than two-thirds of infrastructure AuM are held in core and core-plus strategy funds. Clearly, many investors still prefer lower-risk, income-generating assets, even though the gap between these investments and the yield from infrastructure debt has narrowed recently. In fact, funds that pursue higher-risk, value-added strategies have grown steadily, reaching $312 billion in June 2024. This suggests that many investors are gradually moving up the risk curve, diversifying and increasing their exposure to infrastructure assets that may have considerable growth potential, offer opportunities for incremental large-scale capex deployment, or can be de-risked and repositioned as core or core-plus assets.

EXHIBIT 1

Infrastructure AuM Has Quadrupled over the Past Decade



Sources: Preqin; BCG analysis.
Note: AuM = assets under management; CAGR = compound annual growth rate.
¹Data for 2014–2024 consists of actuals from Preqin's Charts tool. Data for 2028F is a forward projection from Preqin. In all cases, data is global.
²Latest AuM data available is as of June 2024.
³Infrastructure fundraising includes four fund strategies: core, core-plus, value-added, and opportunistic.

Still, infrastructure investors' new appetite for risk goes only so far. AuM at the riskiest opportunistic funds has experienced relatively slow growth over the past decade—a compound annual growth rate (CAGR) of just 6.8% compared to a CAGR of 16.2% for core funds, signaling that GPs prefer to maintain a balanced portfolio with respect to risk, in response to widespread LP investor demand for stable, broadly diversified assets across investment strategies.

Fundraising

Infrastructure funds raised a total of $87 billion in 2024, a 14% increase over the $76 billion raised in 2023 but still down 43% relative to 2022. **(See Exhibit 2.)** In addition to the negative impact of the interest rate environment and ongoing geopolitical concerns, fundraising continues to be affected by the slowdown in distributions to LPs, as funds hold investments longer than they did in the past. Net capital distributed back to LPs from infrastructure funds was negative $19.7 billion in 2023 and negative $28.7 billion in 2022. The lack of capital returned constrains the ability of LPs to recycle cash distributions into new-vintage funds that are currently raising money.

Further affecting the slowdown in fundraising are the sheer size of many infrastructure funds and the time it takes them to reach their fundraising targets in an increasingly competitive fundraising environment. The fully funded size of the average closed-end fund grew 92% from 2014 to 2024, and larger funds generally take longer to reach their final close. The average time to close a fund, which was 20 months just a decade ago, reached 31 months in 2024. **(See Exhibit 3.)**

Still, the year-over-year increase in fundraising in 2024, offers grounds for optimism.

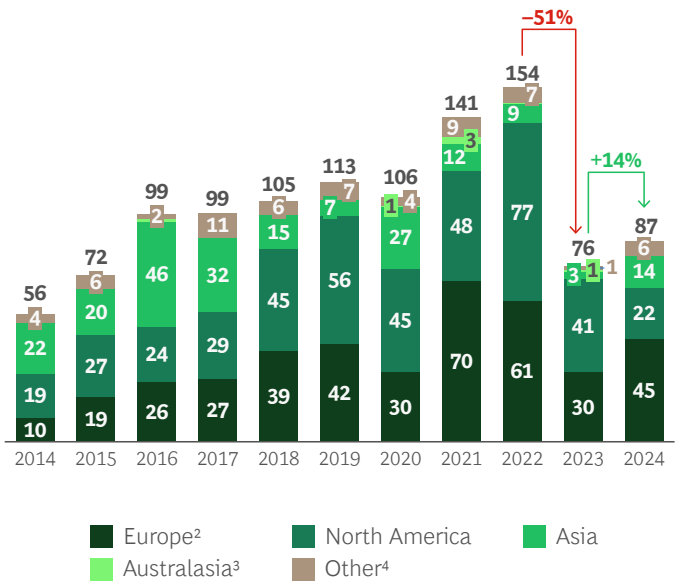
Dry Powder

With the slowdown in fundraising and continued capital deployment—albeit at a reduced level—dry powder as of June 2024 was down 9% from the end of 2023. **(See Exhibit 4.)** As fundraising accelerates, we expect to see dry powder rebound commensurately.

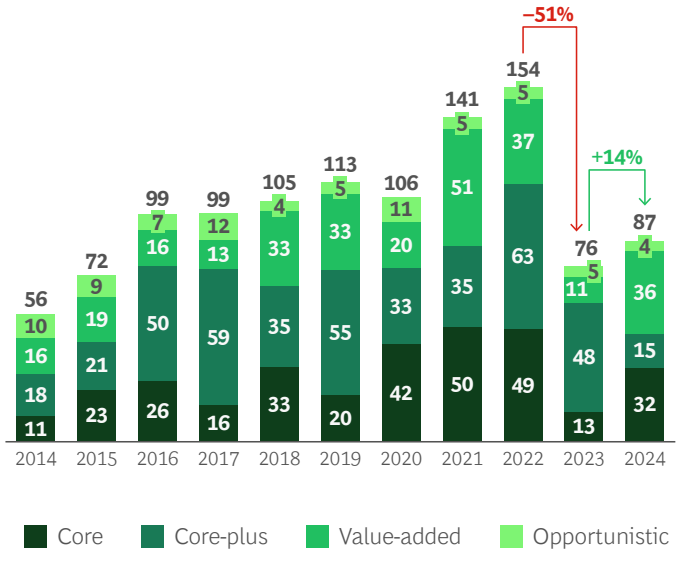
EXHIBIT 2

Fundraising Increased by 14% from the Low in 2023, Suggesting Increased Momentum Going into 2025

Global infrastructure fundraising by primary region focus ($billions)[1]



Global infrastructure fundraising by fund strategy ($billions)[1]



Sources: Preqin; BCG analysis.
Note: Because of rounding, not all bar segment totals equal the sum given above each bar.
[1]Data as of December 31, 2024. Infrastructure fundraising includes four fund strategies: core, core-plus, value-added, and opportunistic.
[2]Including Russia.
[3]Includes Australia, New Zealand, Papua New Guinea, and various Pacific islands.
[4]Includes Africa, the Middle East, and Latin American and the Caribbean, as well as diversified multiregional funds.

EXHIBIT 3

Fundraising Times Have Increased over the Past Decade to an All-Time High of 31 Months

Average time to final close for infrastructure funds, 2014–2024 (months)[1]

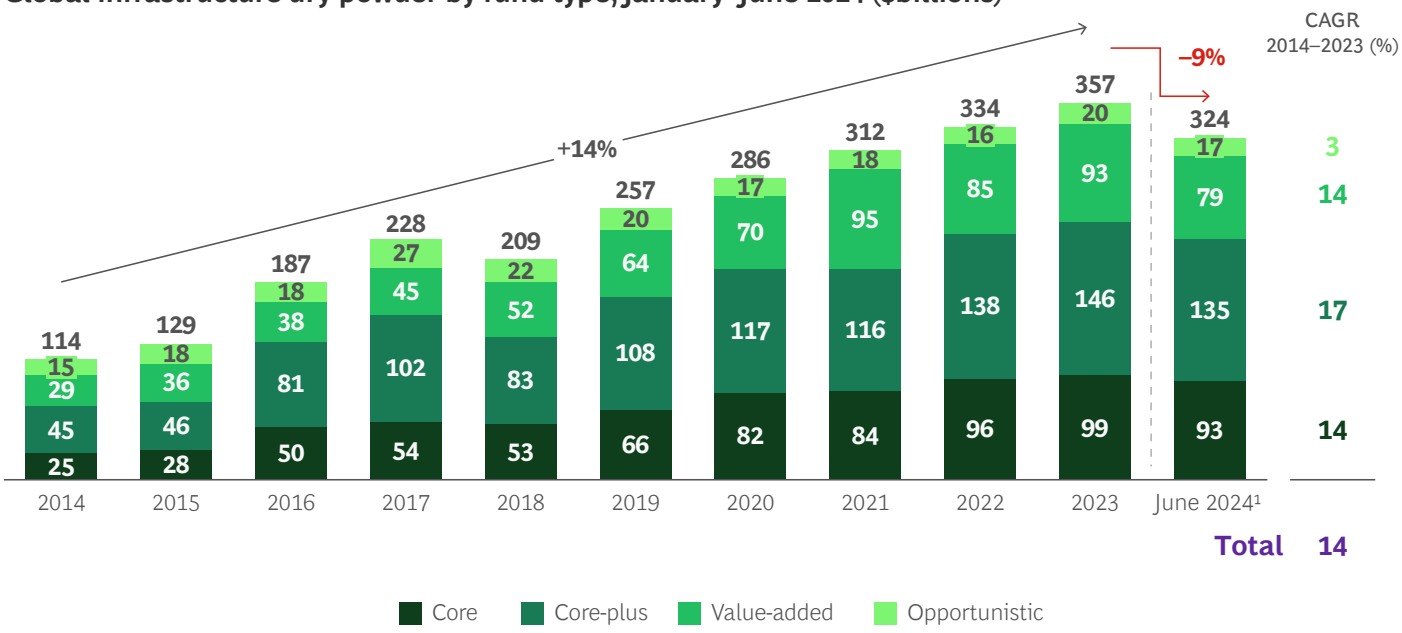


Sources: Preqin; BCG analysis.
[1]Data as of December 31, 2024. Infrastructure fundraising includes four fund strategies: core, core-plus, value-added, and opportunistic.
[2]Includes only final close for closed–end fund sizes.

EXHIBIT 4

After Rising by 14% Annually over the Past Decade, Dry Powder Declined by 9% in the First Half of 2024 but Is Expected to Pick Up as Interest Rates Decline

Global infrastructure dry powder by fund type, January–June 2024 ($billions)



Source: Preqin.
Note: Because of rounding, not all bar segment totals equal the sum given above the bar. CAGR = compound annual growth rate.
[1]Infrastructure dry powder as of June 2024. Infrastructure fundraising includes four fund strategies: core, core-plus, value-added, and opportunistic.

Limited Partner Allocations

Despite the slowdown in fundraising and capital returned to investors, the average allocation to infrastructure across all types of LPs rose from 1.3% in 2019 to 2.1% in 2023, suggesting that LPs remained committed to allocating an increasing proportion of their funds to infrastructure. This reflects growing confidence in the asset class, especially during periods of market volatility. Overall, 31% of LPs plan to increase their allocation to infrastructure, the third most among all asset classes, and only 24% plan to decrease it. **(See Exhibit 5.)**

Deal Volume

In keeping with the trends governing fundraising, the number of infrastructure deals completed in 2024 declined by 8%, following a 19% decline in 2023. The average deal size, too, is trending below the 2023 mark and is 40% below the peak in 2021. **(See Exhibit 6.)**

Several factors are contributing to the ongoing decline in deal activity. First, GPs bought some assets at relatively high valuations. But now, as multiples return to pre-COVID-19 levels, owners are holding them longer and waiting for a more favorable selling climate. **(See Exhibit 7.)** Meanwhile, some sponsors have resorted to more creative exit options, such as divesting pieces of assets, considering IPOs, and moving assets into continuation vehicles.

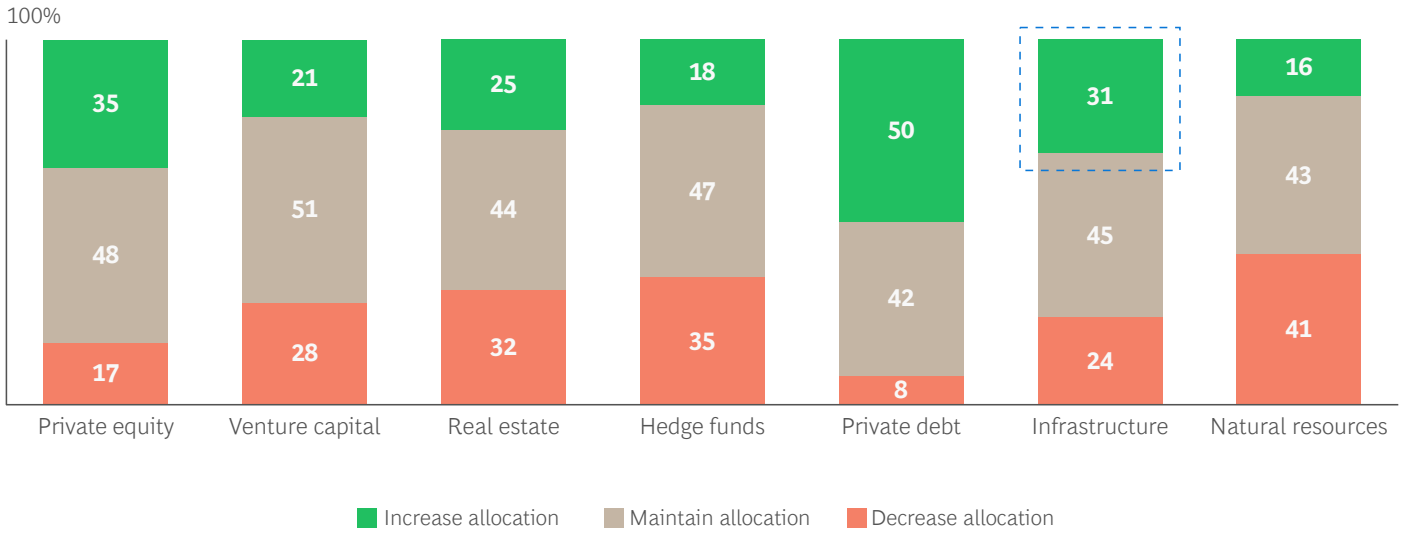
Second, as investors look to complete more core-plus and value-added deals, ongoing valuation mismatches and a slower recovery in sponsor-to-sponsor transactions are constraining deal flow and contributing to smaller transaction sizes. Still, some very large transactions have recently taken place, suggesting a continuing focus on asset quality and scale. These include KKR Infrastructure's acquisition of Telecom Italia's network business for around $20 billion and Blackstone's and CPP's acquisition of AirTrunk for $16 billion.

Yet there is reason for optimism here as well, thanks largely to the need for sponsors to exit investments and return capital to LPs. Importantly, demand for infrastructure investment has not slowed—if anything, it is growing. Private investors remain keen on identifying opportunities in high-growth sectors such as data centers and the energy transition, while governments worldwide are actively courting private capital to help fund public infrastructure projects.

EXHIBIT 5

Over 30% of LPs Plan to Increase Their Allocation to Infrastructure, the Third Most of Any Asset Class

Capital allocation plans of LPs, 2024 (% of respondents)

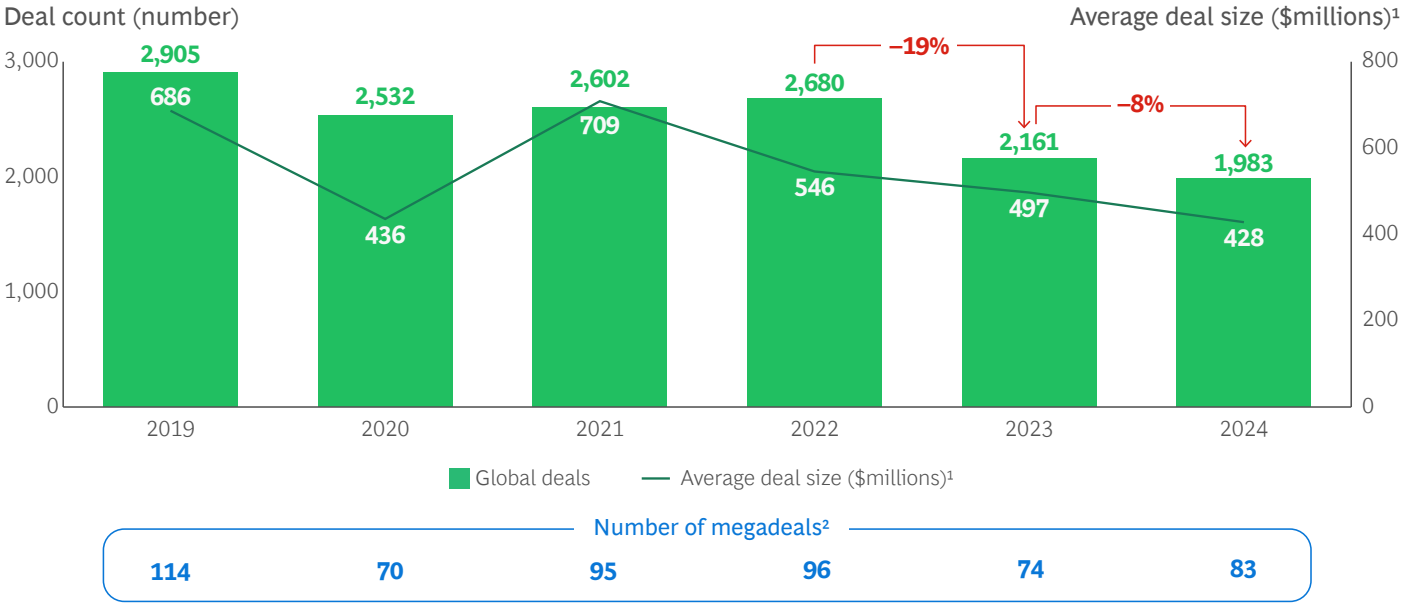


Sources: Preqin; BCG analysis.
Note: Results are in response to the following survey question: "How much capital do you plan to invest in the next 12 months compared with the previous 12?" LP = limited partner. Because of rounding, not all bar segment percentages add up to 100%.

EXHIBIT 6

The Number of Infrastructure Deals Declined Again in 2024, as Did Average Deal Size

Infrastructure global deal count and average deal size, 2019–2024

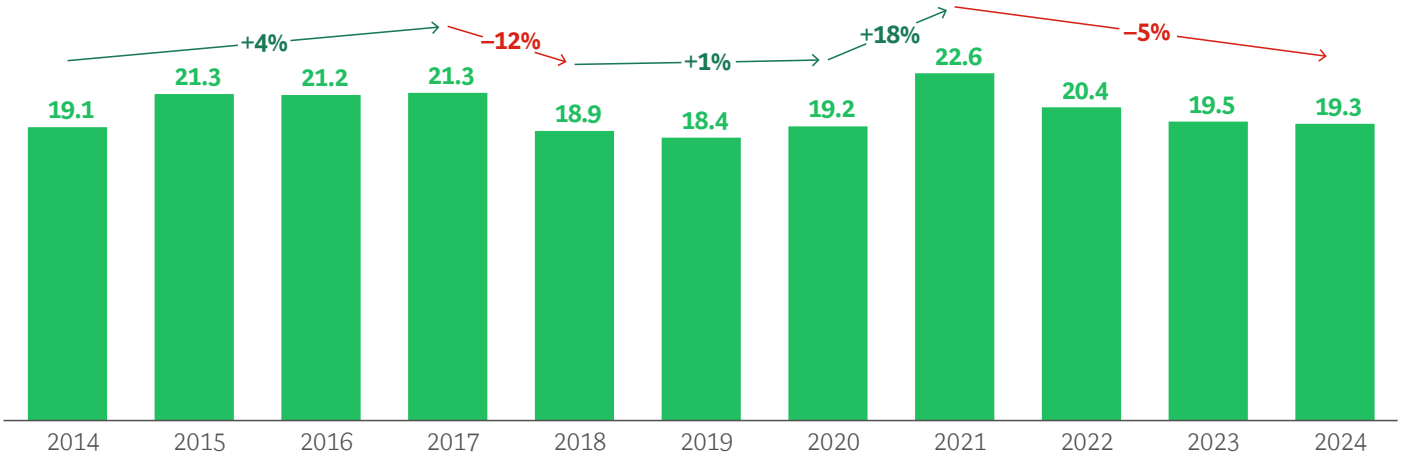


Sources: Preqin; BCG analysis.
¹Average deal size calculated based on a subset of ~30% of global deals, per available data.
²Megadeals are defined as deals with a value of $1 billion or more.

EXHIBIT 7

Public Infrastructure Company Multiples Have Decreased Since 2021

Public infrastructure multiples, 2014–2024[1]



Sources: CapIQ; Pitchbook; BCG analysis.
[1]Multiples for each year are calculated as total enterprise value divided by EBITDA for the previous twelve months at year's end. Average of 9,144 publicly listed infrastructure companies—including companies in the energy, transportation, telecommunications, and utilities sectors—globally.



Building for the Future

Although the past two years have seen a considerable slowdown in fundraising and deal volume, we believe that the situation will return to historical patterns. Beyond improving macroeconomic conditions—including stabilizing or declining interest rates in some regions—the fundamental need for infrastructure remains significant across the globe. Core sectors such as energy, transport, and logistics continue to require major investments if they are to support economic growth, modernization, and resilience. By 2040, according to the G20's Global Infrastructure Hub, the gap between required infrastructure investment and current spending trends will stand at $15 trillion and will continue to widen as the world's population grows, urbanization increases, and further economic development occurs.

Moreover, the rapid expansion of digital infrastructure—driven by surging demand for data processing, cloud computing, and AI—has created a pressing need for additional investments in data centers, fiber networks, and next-generation connectivity solutions. Together, these dynamics present substantial opportunities for investors seeking exposure to essential infrastructure assets that can serve long-term growth and demand.

Further investment will also be necessary to help global society adapt to climate change. But the rise of generative AI and the resulting increase in demand for connectivity are spurring the greatest interest, accelerating the need for high-capacity data infrastructure and fiber networks. Meanwhile, in developing economies, rising industrial activity, economic expansion, and population growth are sharpening the need for large-scale investment in roads, rail, and other transportation infrastructure to support trade, mobility, and supply chains.

We see large opportunities to update aging infrastructure, too. In North America alone, the American Society of Civil Engineers anticipates an infrastructure investment gap of around $4 trillion through 2033, including $1 trillion in surface transportation and $60 billion in energy. Outside North America, significant investment is essential to modernize road networks, upgrade fiber-optic cables, expand mobile towers, and build electric vehicle (EV) charging infrastructure and smart meters. The world's power grids alone will require 8 million kilometers of upgrades, according to the International Energy Agency (IEA).

Governments alone cannot meet these needs. Closing the infrastructure gap by 2040 will necessitate strategic partnerships between the public and private sectors. Policies such as the European Green Deal, China's Belt and Road Investment, and the US's Infrastructure Investment and Jobs Act have injected much-needed funds into infrastructure, but private investment will still be crucial. To meet this demand, investors have increasingly been engaging in joint ventures, soliciting co-investments from LPs, and employing public-private partnerships (PPPs).

For example, government planners adopted a design-build-finance-maintain mode to construct the replacement of the Goethals Bridge between the US state of New Jersey and Staten Island in New York. Begun in 2014 and completed in 2018, the project was structured as a PPP between the Port Authority of New York and New Jersey and a private consortium led by Macquarie and Kiewit Development. Similarly, the UK's $5.3 billion Thames Tideway Tunnel was funded entirely by private investors, led by Bazalgette Tunnel Ltd, a private consortium backed by Allianz Capital Partners, Dalmore Capital, IFM Investors, Amber Infrastructure Group, and Swiss Life Asset Managers.

To truly spur long-term investment in public infrastructure, however, regulators must do more to create investment frameworks that enable private investors to recapture their cost of capital predictably and sustainably. One step in the right direction is the UK's National Wealth Fund (NWF), which is using public capital to de-risk infrastructure projects and attract institutional investors. With £5.8 billion in initial public funding and a goal of unlocking £70 billion in private investment, the NWF focuses on key sectors such as green hydrogen, gigafactories, and carbon capture and storage (CCS), demonstrating how government-backed co-investment can help bridge the infrastructure financing gap.

In short, we believe that momentum for increased private-sector investment in infrastructure will continue to build in the coming years.



Geographic and Sector Analysis

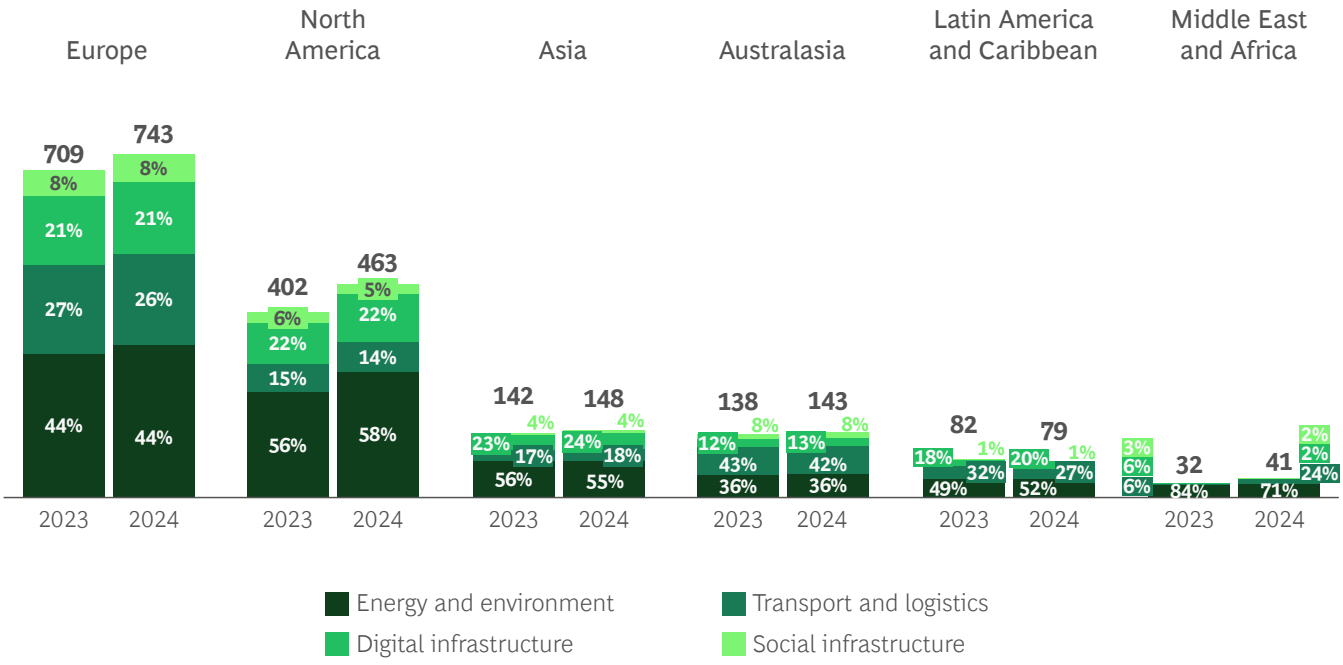
Today, most infrastructure activity remains concentrated in developed markets in Europe and North America, where 75% of the 932 portfolio companies held by the 58 largest infrastructure investors are located. **(See Exhibit 8.)** Faced with the challenges extending across the private infrastructure landscape in 2024, deal volume and deal size fell in almost every region and sector.

Average deal size in 2024 was flat or down compared to 2023 across all regions. As was the case last year, Australia had the highest average deal size in 2024, at approximately $900 million, while Asia had the lowest, at approximately $200 million. North America and Australia have the highest average deal size over the past five years, at $900 million, with Europe next, at $500 million. Deal size also declined across each of the four sectors analyzed, except for digital infrastructure, which saw an average deal size of $900 million in 2024. **(See Exhibit 9.)**

EXHIBIT 8

Most Infrastructure Activity Is Concentrated in Europe and North America

Portfolio companies by geography and sector, 2023 and 2024 (total number)



Source: BCG analysis.
Note: Includes only portfolio investments made by 58 key infrastructure investors, representing more than 75% of all infrastructure assets under management. Because of rounding, not all bar segment percentages add up to 100%.

EXHIBIT 9

Average Deal Size in 2024 Remained Relatively Flat Across Most Sectors and Regions

Average infrastructure deal value by region and sector, 2019–2024 ($millions)[1]



Sources: Preqin; BCG analysis.
[1]Average deal value based on primary assets and direct project investment across all infrastructure investors, where deal value is reported.
[2]Includes Africa, the Middle East, and Latin America and the Caribbean.

Despite the slowdown, investors remained active in many key sectors. Our analysis of the year's shifts in investment indicates that investors are looking at a range of new and exciting investment spaces within traditional infrastructure sectors—and increasing activity in some entirely new sectors. **(See Exhibit 10.)**

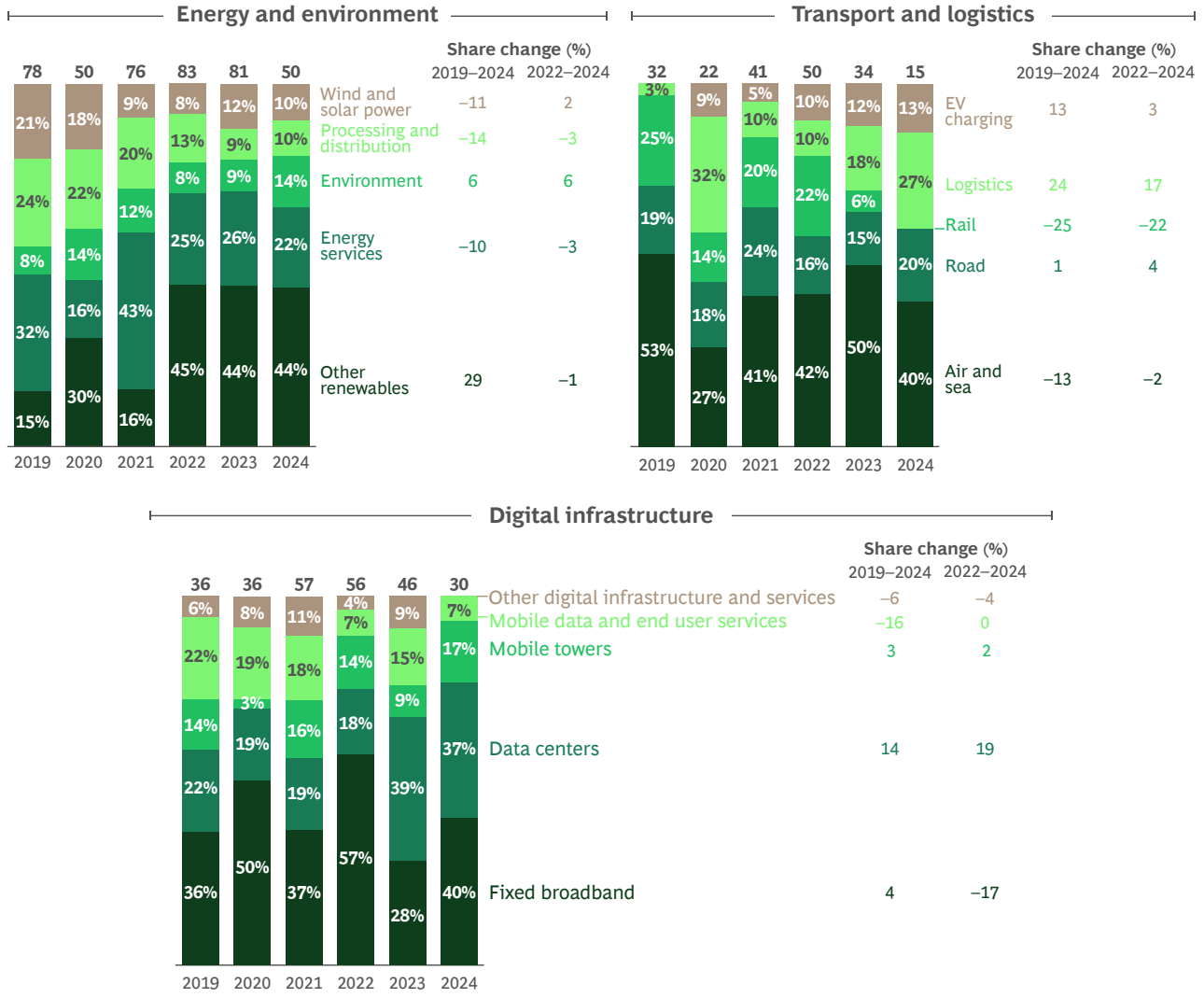
Energy and Environment

The energy and environment sector remains the largest infrastructure asset class, comprising 50% of infrastructure portfolio assets held in 2024 by the top 58 infrastructure investors we analyzed and accounting for the majority of infrastructure deal volume. This category consists of two main segments: energy infrastructure, including power generation, renewables, utilities, storage, and midstream assets; and environmental infrastructure, including waste management, water utilities, and industrial sustainability solutions. Although these two segments differ in scope, both are shaped by regulatory pressures, emissions reduction targets, and evolving market demands, and as a result they are increasingly intertwined investment areas.

EXHIBIT 10

Although Deal Volume Has Slowed Since 2022 Across Sectors, Several Critical Subsectors Have Gained Momentum

Infrastructure primary asset investment volume by sector and subsector (number of deals)



Sources: Preqin; BCG analysis.
Note: Includes only three sectors: energy and environment, transport and logistics, and digital infrastructure. Social infrastructure is not included, due to a lack of deals. Includes only primary portfolio investments made by 58 key infrastructure investors, representing more than 75% of all infrastructure assets under management. EV = electric vehicle. Because of rounding, not all bar segment percentages add up to 100%.

Investor interest in energy and the environment remains strong, but deal activity declined by 38% from 2023 to 2024. Most transactions in this segment occurred in North America and Europe, both of which saw a continued focus on expanding energy access in rural and remote regions, from both renewable and nonrenewable sources. **(See Exhibit 11.)** North America's deal volume remained relatively flat in 2024, but policy changes may now tip the balance in favor of traditional energy investments.

In contrast, Europe's continued focus on renewables could create a widening divergence in the two regions, as they take increasingly different approaches to the energy transition and fossil fuel infrastructure. Meanwhile, investment volume in Asia-Pacific remained steady, with a strong focus on wind and solar projects.

The future of each of these three key investment subsectors will depend on a mix of public and private demand, policy and regulatory changes, and the rise of new energy-related technologies.

Traditional Energy

Traditional energy processing and distribution remain critical infrastructure assets, particularly in midstream oil and gas, fuel distribution, and downstream processing. These assets continue to play a key role in global energy markets, particularly in regions where fossil fuels are still dominant.

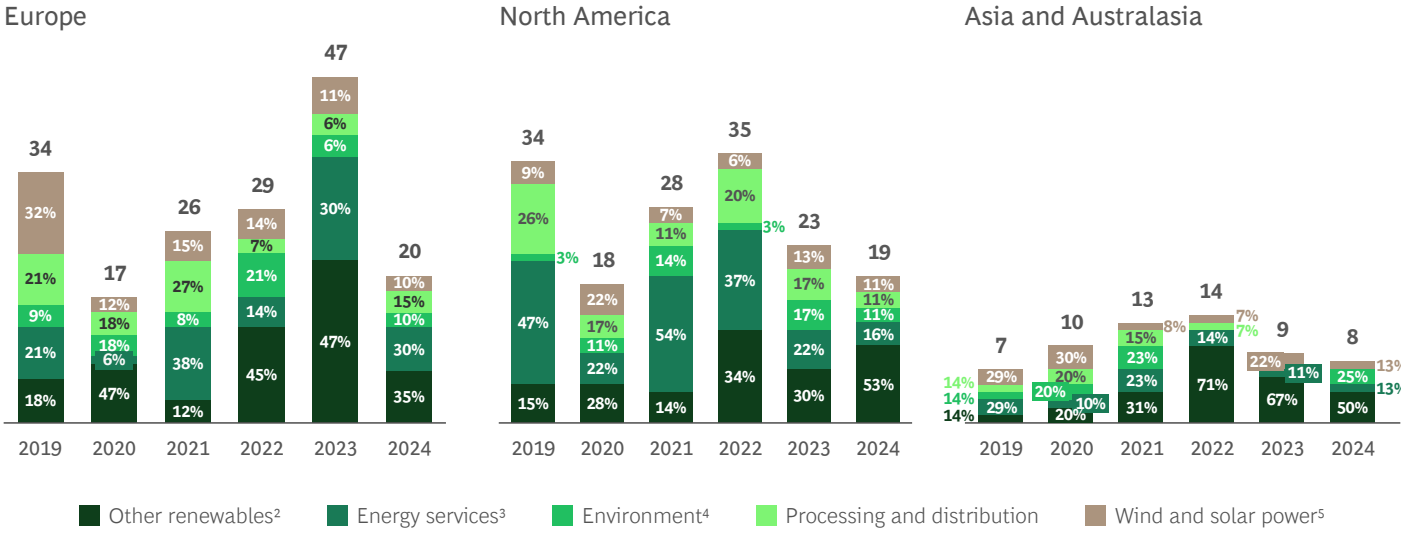
In the US, recent political rhetoric has emphasized expanding domestic oil and gas production through increased drilling, expedited LNG export approvals, and reduced regulatory barriers. Nevertheless, stable oil prices and a global surplus of crude make it unclear how much production will change.

Only time will tell whether producers increase capacity in response to these policy efforts. Meanwhile, midstream and downstream investments such as deepwater oil exports continue to progress. The push for fossil fuel expansion introduces policy-driven volatility, however, as regulatory priorities remain subject to political shifts. To navigate this dynamic environment effectively, infrastructure investors should closely monitor evolving policies and market responses.

EXHIBIT 11

Deal Activity in the Energy and Environment Sector Slowed in 2024, and Renewables Continued to Drive Most Investment

Energy and environment primary asset investment volume (number of deals)[1]



Sources: Preqin; BCG analysis.
Note: Includes only portfolio investments made by 58 key infrastructure investors, representing more than 75% of all infrastructure assets under management. Because of rounding, not all bar segment percentages add up to 100%.
[1]Includes only investments in primary assets, not investments in individual infrastructure projects.
[2]Hydrogen, biomass, low-carbon solutions, and hybrid wind and solar assets.
[3]Includes heating, conventional power, utilities, industrial parks, and other energy services.
[4]Includes investments in waste, water, and environmental services sectors.
[5]Includes assets that Preqin marked as solar or wind; does not include hybrid renewables assets.

The Energy Transition

With energy production and consumption responsible for 75% of global greenhouse gas emissions, investment in renewables, energy efficiency, and energy storage continues to accelerate. **(See Exhibit 12.)** Renewables—including wind, solar, and other renewable sources—accounted for more than 50% of all energy deals in 2024, with investors concentrating on solar farms and energy storage, and more than a third of portfolio companies were engaged in wind, solar, and other renewable sources. **(See Exhibit 13.)** Growing demand for battery energy storage systems and alternative energy sources such as renewable natural gas and sustainable aviation fuel reflects a broader push toward decarbonizing industrial processes and improving grid stability.

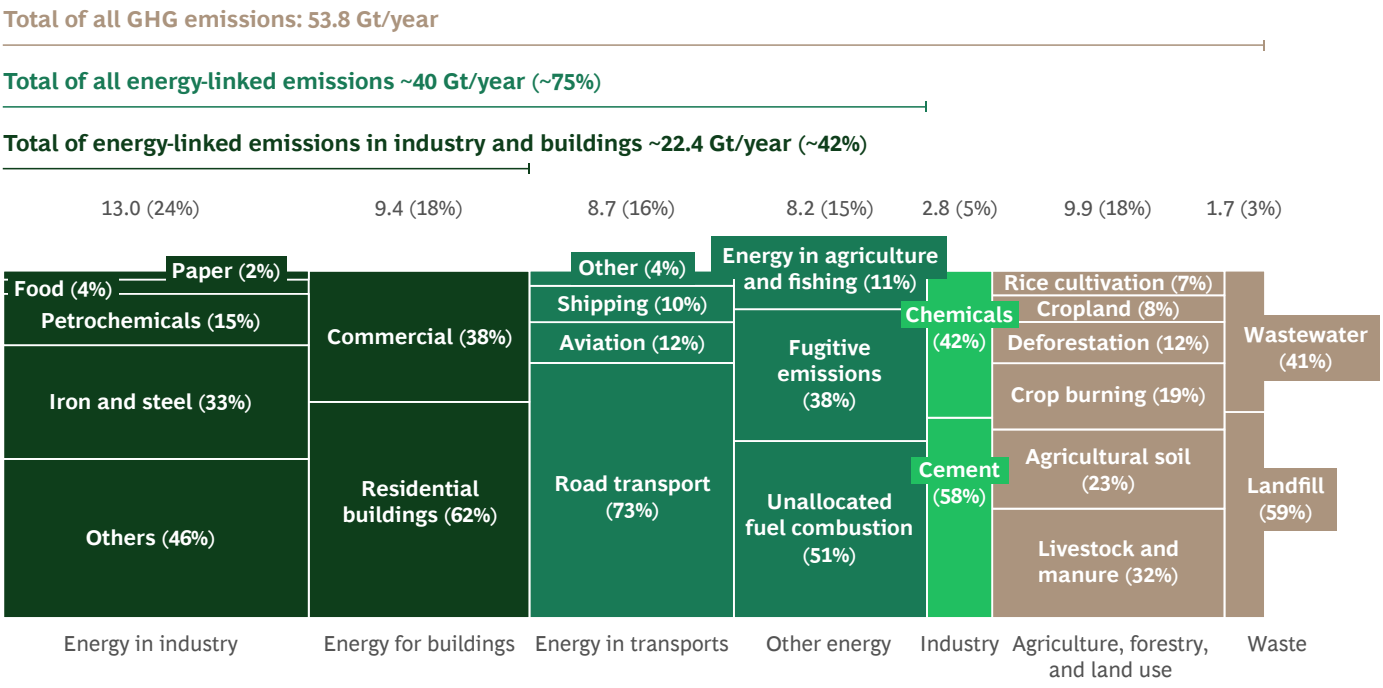
Investors are addressing this sector with dedicated funds that are increasingly popular among LPs, including TPG Rise, and transition funds from KKR, Brookfield, and EQT. One recent deal in this area was BlackRock and ADIA's investment in JSW Energy, which generates power using gas produced from steel plants, demonstrating investor interest in projects that integrate emissions reduction with industrial energy production.

Beyond renewables, energy efficiency is becoming an increasingly important investment focus, particularly in technologies related to district heating, smart grids, and waste heat recovery. At the same time, investors are expanding into CCS projects, which, while still an emerging asset class, are gaining traction due to regulatory incentives and rising corporate net-zero commitments.

EXHIBIT 12

The Energy Sector Is Responsible for 75% of GHG Emissions, Primarily from Industry and Buildings

GHG emissions per year by segment (billions of tons of CO_2e per year)

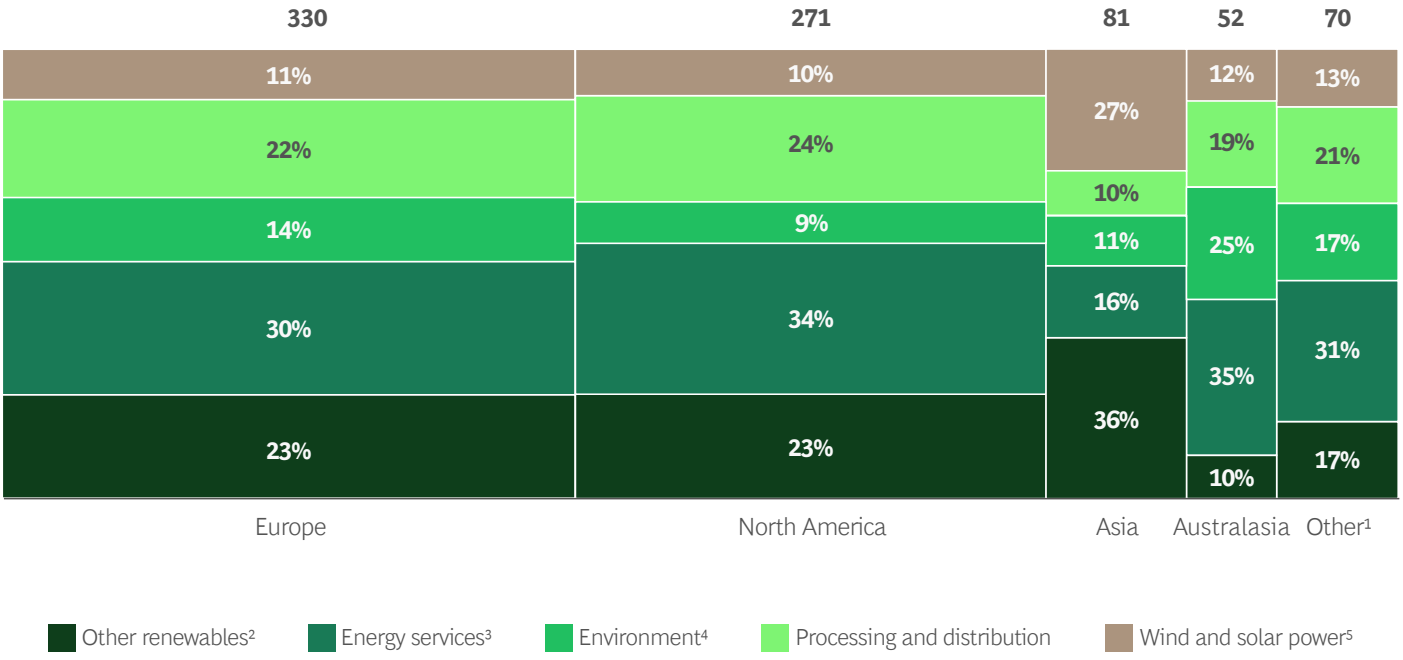


Sources: European Environmental Agency; Edgar 5.0 GHG Inventory; World Resources Institute CAIT database; International Energy Agency; Food and Agriculture Organization of the UN; BCG analysis.
Note: CO_2e = carbon dioxide equivalent; GHG = greenhouse gas; Gt = gigaton. Because of rounding, not all bar segment percentages add up to 100%.

EXHIBIT 13

More Than a Third of Companies Active in Energy and Environment Focus on Renewables, and 75% Are Based in Europe and North America

Energy and environment portfolio companies by geography and subsector, 2024 (number of companies)



Sources: Preqin; BCG analysis.
Note: Includes only portfolio investments made by 58 key infrastructure investors, representing more than 75% of all infrastructure assets under management. Because of rounding, not all bar segment percentages add up to 100%.
[1]Africa, the Middle East, and Latin American and the Caribbean.
[2]Hydrogen, biomass, low-carbon solutions, and hybrid wind and solar assets.
[3]Includes heating, conventional power, utilities, industrial parks, and other energy services.
[4]Includes investments in waste, water, and environmental services sectors.
[5]Includes assets that Preqin marked as solar or wind; does not include hybrid renewables assets.

Environmental

Alongside the energy transition, investment in environmental infrastructure—primarily waste management and water assets—is gaining momentum, with activity across Europe, North America, Australia, and Asia accounting for most of the environmental deals in 2024. These assets have attractive infrastructure characteristics when assessed on a standalone basis, and they benefit from regulatory and corporate commitments in many geographies.

Waste management and water infrastructure offer strong investment opportunities, particularly in light of the tailwinds from global construction and manufacturing activity. Activity is especially strong in developed parts of Asia, such as South Korea, and Australia. Specialized waste management assets—particularly those that focus on hazardous waste and liquid waste removal—are seeing increased differentiation, making them attractive investment targets. Waste collection, while not a traditional part of infrastructure portfolios, has caught investors' interest, especially where linked to long-term contracts.

Meanwhile, water-related assets are drawing more investor attention as industries such as data centers and semiconductor manufacturing face growing scrutiny over their water-intensive processes. Investors are also targeting opportunities for privatizing water utilities outside the US, where regulatory frameworks permit private-sector participation in essential services.

Despite the decline in infrastructure deals, total global investment in energy is projected to have exceeded $3 trillion for the first time in 2024, according to the IEA, underscoring the sector's long-term importance. As energy demand continues to rise, investment will likely remain bifurcated, with ongoing capital flows into both energy transition assets and fossil fuel infrastructure, shaped by evolving policy, market demand, and emission reduction imperatives. Environmental infrastructure investment is expected to follow a similar trajectory, driven by tighter regulatory requirements, growing demand for industrial sustainability, and the rising need for waste and water solutions globally.

Transport and Logistics

Investments in primary transport and logistics assets have declined substantially since 2022. Activity slowed considerably in 2024 across virtually all of the sector's key investment areas, including over-the-road logistics, warehousing, port operations, bus and rail operators, and EV charging. **(See Exhibit 14.)**

Europe and North America currently control around 65% of privately held transportation and logistics assets. **(See Exhibit 15.)** Among the top 58 investment firms, however, investments in the sector are down 44% globally. Europe and North America have seen a disproportionate slowdown in deal volume, too, with both down approximately 40%. And no transport-sector-specific fund raised any new capital through the first half of 2024.

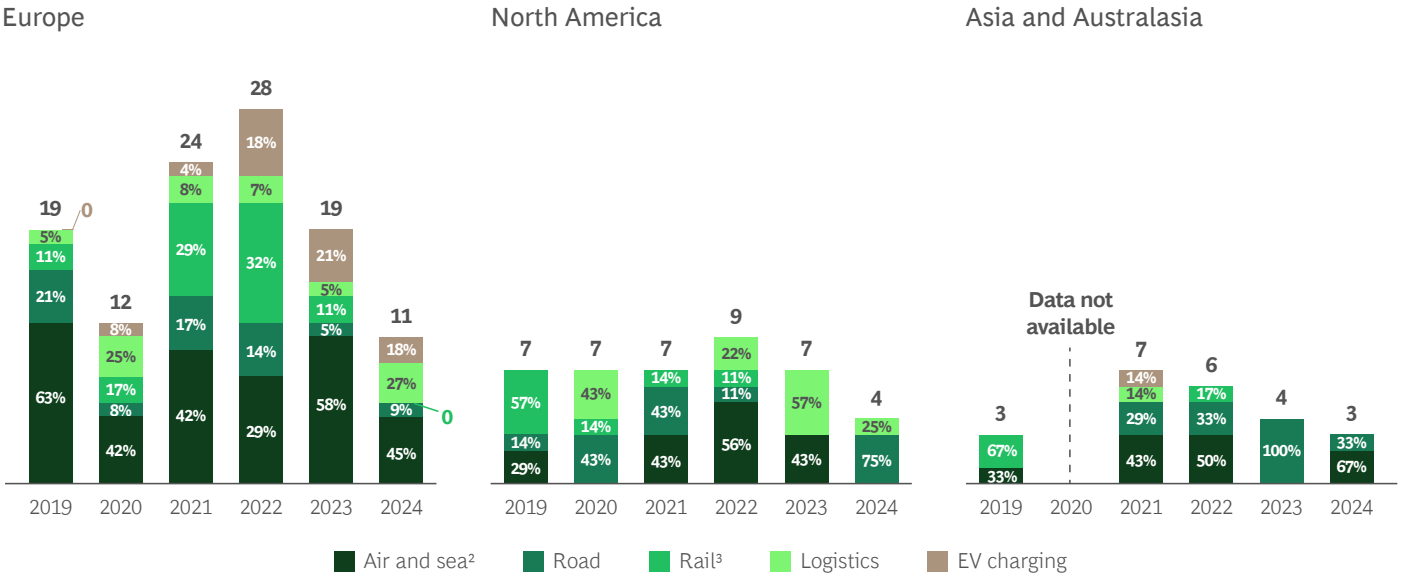
As is the case with other sectors, the decline in this sector's volume reflects the same range of economic headwinds noted above. However, it is also uniquely affected by the softer traffic and lower freight volume and prices that have prevailed since 2022, particularly in the US, limiting the near-term attractiveness of these assets given the dynamics of freight cycles. Traffic, freight volume, and rates have since stabilized, but uncertainty regarding the timing and scope of tariffs in North America may impact transportation and logistics going forward, depending on their exposure to specific commodities and trade lanes.

Several themes and specific opportunities have emerged across five key subsectors.

EXHIBIT 14

Investments in Transportation Have Declined Globally Since 2022, with Sectors Exposed to Freight Costs Hit the Hardest

Transport and logistics primary asset investment volume (number of deals)[1]

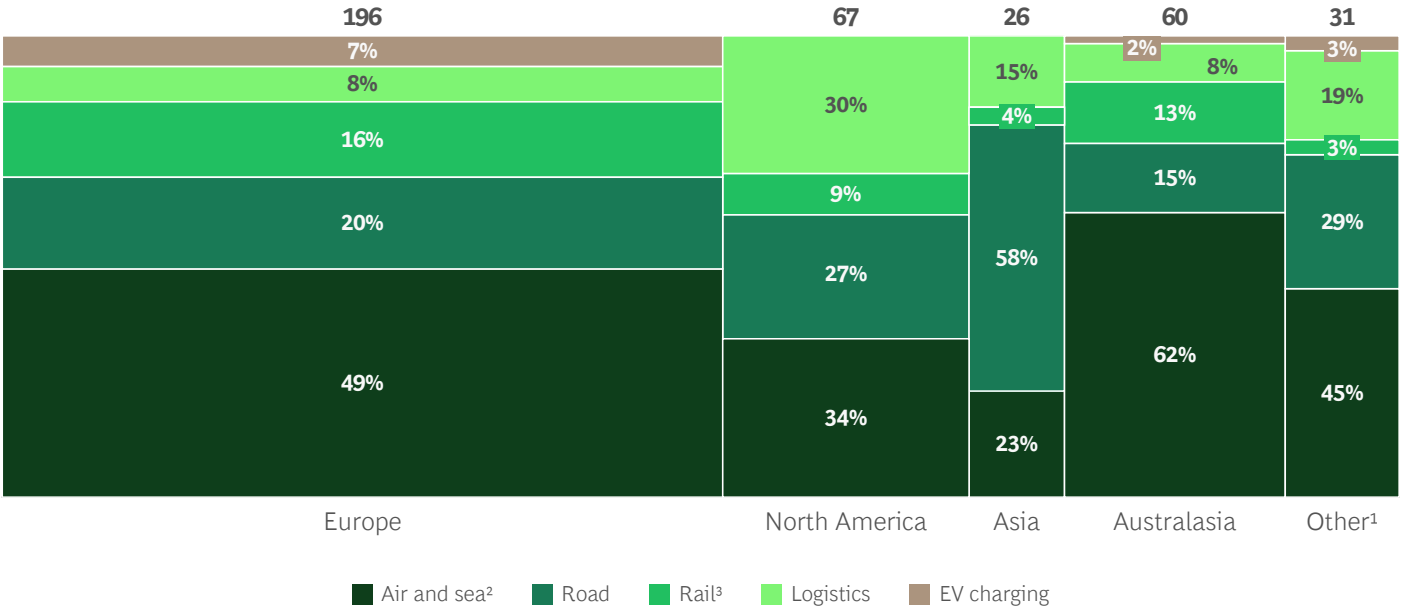


Sources: Preqin; BCG analysis.
Note: Includes only portfolio investments made by 58 key infrastructure investors, representing more than 75% of all infrastructure assets under management. EV = electric vehicle.
[1]Includes only investment in primary assets; does not include investments in individual infrastructure projects.
[2]Includes air and ship leasing, airports, and ports/terminals.
[3]Includes route-based services.

EXHIBIT 15

Two-Thirds of Privately Held Transport and Logistics Assets Are in Europe and North America

Transport and logistics portfolio companies by geography and subsector, 2024 (number of companies)



Sources: Preqin; BCG analysis.
Note: Includes only portfolio investments made by 58 key infrastructure investors, representing 75% or more of all infrastructure assets under management. EV = electric vehicle. Because of rounding, not all bar segment percentages add up to 100%.
¹Africa, the Middle East, and Latin American and the Caribbean.
²Including air and ship leasing, airports, and ports and terminals.
³ncludes route-based services.

Air and Sea

Activity in seaports has continued, especially in Europe and Asia, where operations have historically been privatized, but the prospect of US tariffs may have some adverse downstream effects on volume at ports in both regions. Although it is beginning to subside, the Red Sea crisis has created lasting uncertainties around global trade routes, indirectly affecting infrastructure investments. Meanwhile, investment risks in the maritime sector have increased, driven by concerns over inflation, the restructuring of alliance among global shipping lines, and shifting service patterns. Some port assets continue to come to market, but investor sentiment remains mixed, as many investors take a wait-and-see approach. Given these factors, investors are increasingly favoring minority stakes or joint ventures in major port assets, such as Sohar Marine Port, as a way to enhance revenue visibility and reduce risk exposure. Ports, in particular, often present attractive joint venture opportunities with private shipping companies, benefiting investors through stable returns and operators through preferred rates.

In the airport subsector, airline schedule volatility, weaker passenger revenue, and growing scrutiny into aviation's carbon footprint (around 5% of global emissions) post-COVID-19 have made airports a more challenging investment. Still, investor interest remains relatively strong. While large new airport deals remain rare, passenger volume is reaching pre-pandemic levels, and some COVID-19-delayed transactions have closed. A lot of investment activity is concentrated on ownership stake rotations in major hubs, such as London's Heathrow and Gatwick airports, as well as adjacent businesses like ground services, rather than on new acquisitions. Global Infrastructure Partners and the Abu Dhabi Investment Authority recently partnered with Malaysia's sovereign wealth fund to privatize the Kuala Lumpur International Airport, for example.

Beyond airports, interest is increasing across the aviation landscape, including in ground support equipment, MRO (maintenance, repair, and overhaul), cargo handling, and aircraft leasing. In particular, leasing has grown rapidly and now accounts for just over half of the global aircraft fleet. Recent deals in key segments include Stonepeak's take-private of Air Transport Services Group for $3.1 billion, and the sale by Chorus Aviation (previously owned by Brookfield) of Falko Regional Aircraft Limited to HPS Investment Partners for $1.9 billion. Falko followed with an additional acquisition of a portfolio of 25 regional jets from Nordic Aviation Capital to form a leading global aircraft lessor focused on smaller regional aircraft, with over 200 planes in total. We expect further growth and consolidation in aircraft leasing to continue in 2025.

Road

Despite higher freight costs and an overall slowdown in road-related assets, some opportunities remain. In developed economies, investors continue to target high-cash-flow road assets such as parking structures. In developing economies, toll roads and highway infrastructure remain attractive, particularly in Latin America and Southeast Asia, as ongoing privatization efforts create new deal flow. Europe, too, has seen some recent deals, such as I Squared Capital's acquisition of Arriva Group, a major provider of bus transport.

EV Charging

EV charging deal activity remains low, as EV adoption has been slower than projected, reducing the pace of infrastructure expansion, particularly in the US. Softening policy support for EVs in the US will further delay the expected timetable for widespread adoption, affecting investments in charging infrastructure and efforts toward fleet electrification. One factor that could help unlock transaction activity is the emergence of new financing structures to address current investment challenges. EV charging networks require significant upfront capital, yet utilization rates remain low, which makes traditional funding models less viable. If more innovative financing solutions see wider adoption, they could help utilities, oil and gas companies, and other EV investors scale EV infrastructure while attracting more private capital into the space. These developments remain to be seen, however, and momentum heading into 2025 remains limited.

Logistics and Warehousing

Logistics deal activity has been focusing more and more on specialty assets, including cold-chain storage and specialty fuel storage, rather than on traditional logistics investments. Investor demand remains strong for contract logistics and warehousing, with higher pricing power for infrastructure players. In line with this, EQT recently acquired Constellation, a European cold storage network, reflecting growing interest in specialty logistics and assets that focus on specific commodities or trade lanes in 2025.

We expect the emphasis on specialty logistics and commodity-focused assets to persist in 2025, particularly as supply chain fragmentation and nearshoring trends drive demand for localized, high-value logistics solutions. Beyond traditional logistics assets, investors show increasing interest in leasing markets, including trailers, containers, and cranes, where demand for flexible logistics solutions continues to grow. These assets offer strong pricing power and predictable cash flows, making them resilient even in volatile freight cycles.

Digital Infrastructure

Digital infrastructure—including fixed and mobile networks, fiber rollouts, mobile towers, data centers, subsea cables, and satellites—remains a key focus for infrastructure investors. As with other asset classes, however, investment activity in 2024 is far below its peak in 2022. Investors in Europe and North America, which hold most digital portfolio assets, saw a disproportionate decline in primary asset deals, with Europe down 52% and North America down 24% year-over-year. **(See Exhibits 16 and 17.)** High valuations weighed on transactions, limiting large-scale M&A and consolidation activity in the areas of fixed broadband, data centers, and mobile towers. Nevertheless, ongoing structural shifts in telecom and fiber markets, together with the expansion of AI-driven demand for new data centers and related energy security considerations, will continue to drive investor interest heading into 2025.

Investment interest is particularly strong in the digital subsectors of fixed broadband, data centers, and mobile towers. In addition, two emerging themes are likely to help shape the 2025 digital infrastructure investing environment: market restructuring and investments in resiliency.

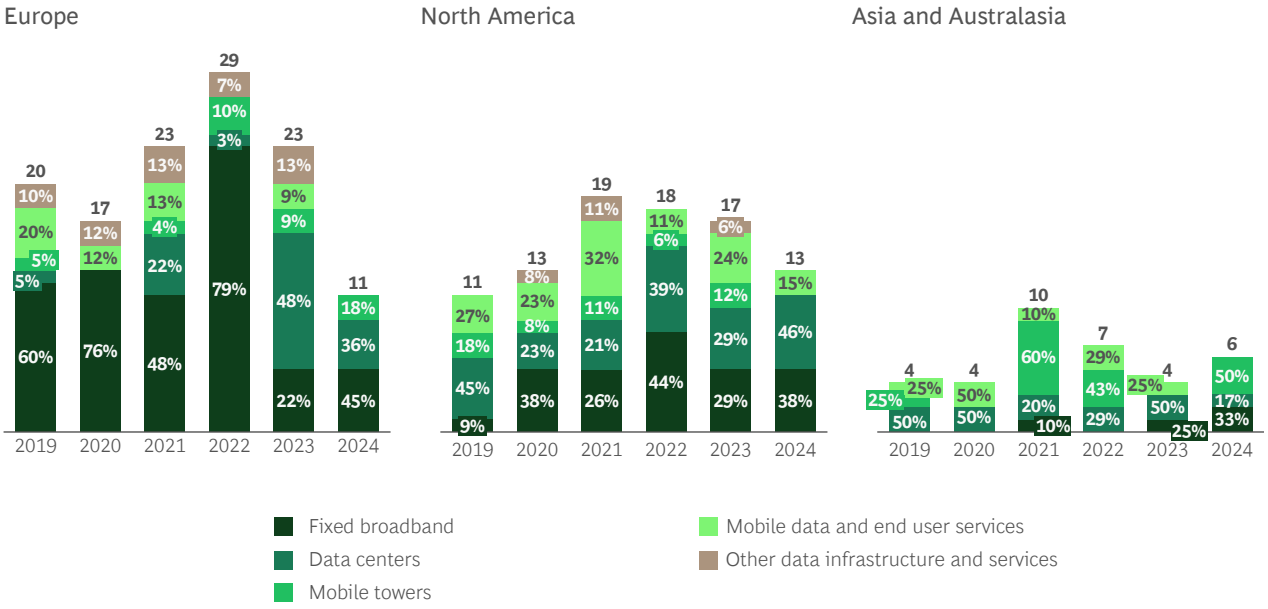
Fixed Broadband

Fiber and fixed broadband infrastructure remained a hive of investment activity, particularly for assets expanding rural broadband access and those leveraging PPPs. The trend among telecom companies to carve out their networking operations from their customer service activities and sell them off as separate companies has gained further traction, especially in mature markets where fiber relayering and buybacks are driving restructuring efforts. Retailer involvement in fiber infrastructure is increasing, too, as some companies seek to secure long-term supply through investments in networking companies. This trend signals a broader transformation in fiber strategies, where securing reliable, high-capacity infrastructure is now a priority beyond traditional telecom players.

EXHIBIT 16

Deal Activity in Digital Infrastructure Has Softened, but Interest in Fixed Broadband and Mobile Towers Remains Strong in Europe and Asia

Digital infrastructure primary asset investment volume (number of deals)[1]

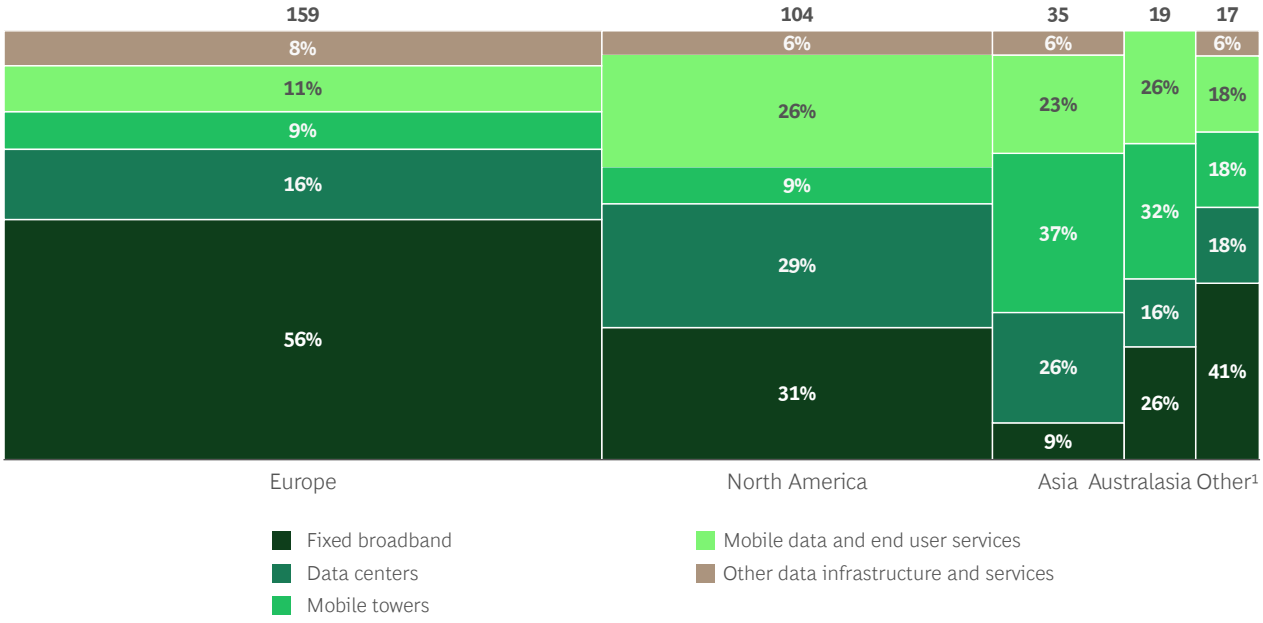


Sources: Preqin; BCG analysis.
Note: Includes only portfolio investments made by 58 key infrastructure investors, representing more than 75% of all infrastructure assets under management. Because of rounding, not all bar segment percentages add up to 100%.
[1]Includes only investment in primary assets; does not include investment in individual infrastructure projects.

EXHIBIT 17

Interest in Data Centers Is Growing Globally, but Most Digital Infrastructure Assets Are Still in Europe and North America

Digital infrastructure portfolio companies by geography and subsector, 2024 (number of companies)



Sources: Preqin; BCG analysis.
Note: Includes only portfolio investments made by 58 key infrastructure investors, representing 75% or more of all infrastructure assets under management. Because of rounding, not all bar segment percentages add up to 100%.
[1]Africa, the Middle East, and Latin American and the Caribbean.

Data Centers

Investor activity in data centers remained strong in 2024, driven by growing AI adoption and the increasing need for scalable computing infrastructure. Although demand for hyperscale and co-location facilities remains high, energy security has become a central challenge for operators, as AI workloads significantly increase power consumption. Ensuring reliable, cost-effective power access has become a priority, as operators consider onsite generation, investments in nuclear power plants, and proximity to stable energy sources. Sustainability concerns persist, but the immediate investor focus is on securing energy supplies rather than pursuing long-term green initiatives. (**See the sidebar, "The Data Center Boom."**)

Telecom Mobile Towers

With most large-scale telecom tower M&A activity completed, investors have shifted their focus from new acquisitions of tower companies to operational efficiencies and asset performance. Improving tenancy ratios remains a priority, with operators working to maximize site utilization and optimize revenue per tower. In addition, some tower companies are investigating the possibility of sharing active equipment. Digitization of tower operations has gained momentum as well, with investors deploying predictive maintenance, AI-powered forecasting models, and digital twins to improve operational efficiency. As telecom towers shift closer to a real estate investment model—through, among other things, land lease acquisitions—investors are placing greater emphasis on automation and asset performance optimization. Investors have also pursued take-private deals of underperforming regional tower units, particularly in Europe and Asia, where some telcos have divested loss-making business units. These transactions reflect growing opportunities in value-added strategies, where investors can enhance asset performance through operational improvements rather than outright expansion.

Market Restructuring

Mature digital markets are undergoing significant restructuring, creating opportunities for investors through geographic and value chain consolidation. In markets such as the UK and Spain, investors are leveraging consolidation trends to optimize assets and expand market share. Meanwhile, the trend for telcos to carve out their networking operations is driving a realignment of fiber and broadband investments. At the same time, many smaller digital infrastructure players are struggling to remain competitive, accelerating M&A activity as investors seek opportunities to acquire and consolidate underperforming assets in an evolving competitive landscape.

Resilience Investments

As governments prioritize network reliability and security and data sovereignty, digital infrastructure investors are increasingly factoring resilience into their investment strategies. Cybersecurity risks, weather-related disruptions, and capacity constraints are driving a shift toward redundancy-focused investments and infrastructure-hardening efforts. The 2024 Valencia floods, which temporarily disrupted emergency communication networks, underscored the risks associated with insufficiently resilient digital infrastructure, reinforcing the case for fail-safe networks and built-in redundancy. As digital infrastructure plays a more critical role in global economies, governments are demonstrating greater willingness to pay for reliability, which could influence investment frameworks in 2025 and beyond.

Although deal flow slowed in 2024, the long-term investment outlook for digital infrastructure remains strong, with AI-driven computing demand, high-speed broadband expansion, and telecom network resilience continuing to be key investment themes. Market restructuring, networking carve-outs, energy security, and cybersecurity risks will shape investment strategies going forward, as investors focus on expansion and infrastructure stability.

The Data Center Boom

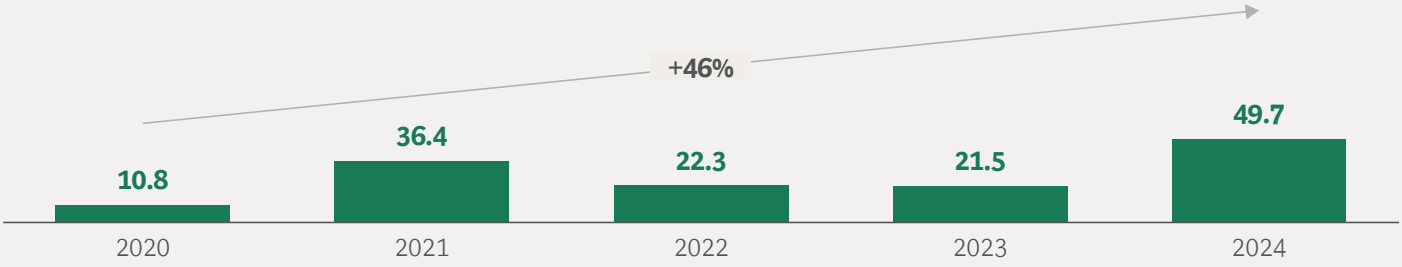
Investor interest in data centers has surged, fueled by unprecedented demand associated with AI and cloud computing. In a sign of growing private-sector involvement, 2024 saw the largest-ever data center transaction, with Blackstone and CPP acquiring AirTrunk, a network of hyperscale data centers in Asia-Pacific, for $16 billion from Macquarie Asset Management. Total investment in the sector reached $49.7 billion in 2024, up from just $10.8 billion in 2020, and average deal size grew by 19% annually over the past four years. **(See the exhibit.)** However, while data center investments are scaling rapidly, concerns about energy security, sustainability, potential overcapacity, and valuations are beginning to emerge.

Much of the data center momentum has been driven by the explosive rise of AI-related computing demand, with cloud giants such as Amazon, Google, and Microsoft spending unprecedented sums on hyperscale data centers. Hyperscalers, which historically built much of their infrastructure in-house, are now increasingly turning to leasing, creating major opportunities for private investors. At the same time, large-scale AI deployments are accelerating demand for co-location facilities, heightening the need for private capital to fund development. More than 80% of the data center investments made by top firms in 2024 have been in hyperscale assets, as investors seek exposure to high-demand, long-term lease structures backed by major tech firms.

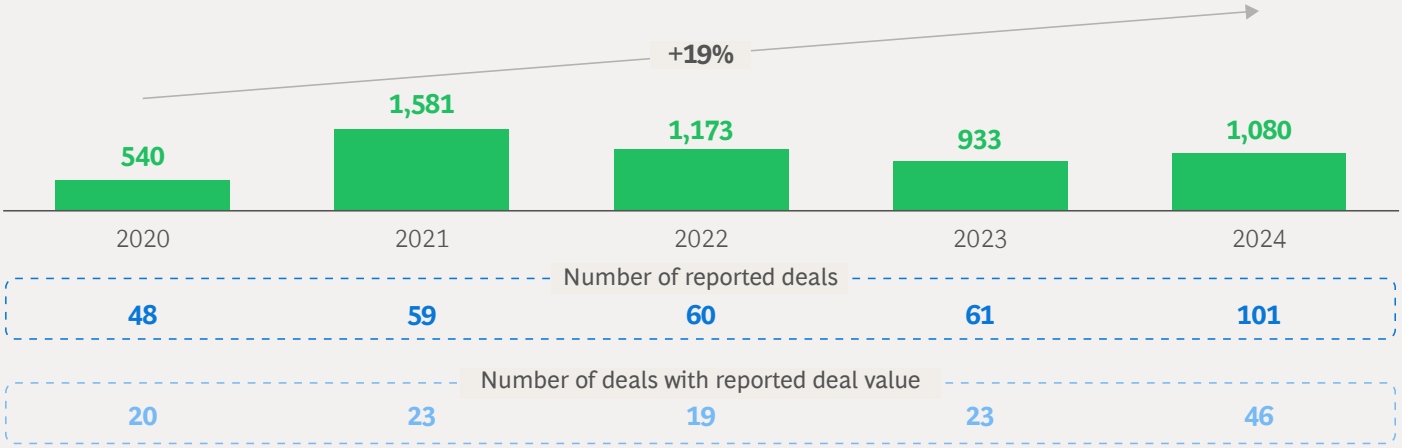
Recognizing the capital-intensive nature of the sector, investors are increasingly turning to joint ventures and co-investments to scale their exposure. In addition to the Blackstone and CPP deal, various companies have formed partnerships to expand their presence in the space, including Silver Lake and DigitalBridge; Stonepeak and ATC; and Equinix, GIC, and CPP. This shift reflects a growing recognition that private capital is essential to meeting surging demand, as hyperscalers cannot build everything on their own.

Investment in Data Centers Hit a New High in 2024 and Will Continue to Be a Key Theme for Investors in 2025 and Beyond

Total value of data center deals involving infrastructure investors, 2020–2024 ($billions)[1]



Average deal size for data center deals involving infrastructure investors, 2020–2024 ($millions)[1]



Sources: Preqin; BCG analysis.
Note: The data in this exhibit covers four types of data centers: enterprise data centers (data centers owned and operated by a single organization for internal use); edge data centers (data centers located as close to end users as possible); co-location data centers (large data centers with multiple smaller tenants); and hyperscale data centers (large data centers with one or more large anchor tenants).
[1]Total investment in data center assets includes reported deal values from greenfield, brownfield, and primary asset deals that include infrastructure investors, where deal value is reported. 42% of deals had a reported value in 2020; 39% in 2021; 32% in 2022; 38% in 2023; and 45% in 2024.

Yet this rapid expansion is not without risks. Long lead times for development mean that supply-demand imbalances could emerge, particularly if demand projections prove overly optimistic. Some investors have begun raising concerns that if hyperscale demand slows, pricing pressure could weigh on valuations, creating a more challenging investment landscape. Capacity levels have been constrained in recent years, but there are signs that this trend may begin to reverse as new capacity comes online.

Beyond expansion, the industry faces another challenge: the immense energy and resource consumption of data centers. With power demands escalating, companies are actively seeking new energy solutions to ensure long-term sustainability. In the US, Microsoft has begun investing in nuclear power to secure dedicated energy supply for its data centers. Meanwhile, in Europe, some operators are integrating their facilities into district heating systems, repurposing excess heat to warm local communities. At the same time, water consumption is receiving increased scrutiny, prompting investment in low- and no-water cooling technologies to reduce environmental impact. These trends suggest that although AI-driven demand continues to encourage investment, the long-term viability of data centers will depend in part on their energy efficiency and regulatory adaptability.

Aside from their interest in new builds, investors are exploring opportunities to repurpose existing infrastructure to support growth. Former factories and warehouses are being converted into data centers, leveraging existing power and fiber connectivity to minimize development costs and accelerate deployment timelines. Demand for supporting infrastructure and services is expanding, too, with investors eyeing opportunities in fiber connectivity, third-party maintenance, and specialty data center services. Although they are not traditional infrastructure assets, these services are critical to the operation of data centers and are typically retained for long periods, making them attractive investment opportunities that offer stable, long-term revenue streams.

Data centers remain one of the most attractive infrastructure investment opportunities, as the surge in AI-driven demand has driven record-breaking growth, but the market is approaching an inflection point. Going forward, balancing capacity expansion, energy sustainability, and long-term investment returns will be essential to ensuring the subsector's continued stability.



Social Infrastructure

As in years past, of the four key infrastructure sectors, social infrastructure saw the lowest level of activity among the 58 key infrastructure investors in 2024. This specific group of top investors signed just four major transactions—all in Europe—in 2024, down from five in 2023. Beyond this group of investors, however, investment in social infrastructure continues among a wide range of private capital sources, particularly in health care and education.

Health care infrastructure is an especially lively focus of private investment, particularly in ambulatory and outpatient care, where smaller-scale transactions often attract interest from non-infrastructure specialist funds. At the same time, larger multiunit health care investments remain viable, most notably in Europe and North America, where aging populations are driving demand for retirement homes and hospital infrastructure. In Europe, demographic shifts are rapidly outpacing the availability of elderly care facilities, creating a structural funding gap that private capital could help address. However, increased public-sector scrutiny of private health care investment is reshaping the risk profile of these assets, particularly in the case of facilities that rely heavily on government reimbursements.

Education infrastructure has seen continued interest, particularly in the K-12 sector. Much of the higher education investment activity has been concentrated in Europe and is emerging as a potential growth area in markets such as the Middle East.

Beyond health care and education, the leisure sector is beginning to show signs of renewed transaction activity. That sector has been relatively inactive in recent years, following COVID-19-related volatility and the post-pandemic peak in travel and hospitality demand. As market conditions normalize, however, more exits are expected, with investors looking to recycle capital from pandemic-era investments. New investment in leisure assets remains limited among the 58 key infrastructure investors, but the sector is likely to generate secondary transactions as owners seek to monetize stabilized assets.

Looking ahead, we expect health care and education to continue to drive social infrastructure investment, with deal flow among the 58 key investors remaining smaller than for other infrastructure asset classes. The potential for public-private partnerships remains strongest in health care, although scrutiny by governments of their health care budgets could temper the pace of investment in certain markets. Aging populations in Europe are expected to drive long-term demand for elderly care facilities and hospitals, but education infrastructure—particularly in connection with K-12 schools—is an emerging area of interest. Crucially, investment in social infrastructure extends well beyond the 58 key investors analyzed here, and broader private capital flows will continue to shape the sector's growth.



The Expanding Infrastructure Mandate

Over the past two decades, the infrastructure asset class has firmly established itself as an indispensable part of capital allocations. As it has matured, and in light of recent challenges in the fundraising environment, GPs are expanding their mandates to create differentiated avenues for their LP's commitments. In parallel, they are focusing even more deliberately on their operational approaches to sustain investment performance.

This evolution is reflected in three core trends shaping the private infrastructure space:

- An expanded investment mandate to increase scale, partly through M&A-driven consolidation
- Increased focus on innovative ways to attract new capital
- Concerted efforts to boost portfolio value creation through operational excellence

Evolving Strategies

In addition to growing AuM by increasing allocations from existing LPs and by attracting new LPs into established strategies, infrastructure GPs are actively expanding their mandates to capture a larger share of investors that seek greater and more differentiated exposure in three key areas: risk-return profiles, sectors, and geographies.

By doing so, they can accomplish two goals. The first is to establish themselves either as a "one-stop shop" for infrastructure investments across the entire asset class or as a niche specialist in areas such as digital infrastructure to create differentiated investment opportunities. The second is to fully leverage their investment platforms, from fundraising and deal sourcing to operational expertise, to grow AuM and create synergies across strategies, including efforts to gain earlier exposure to high-growth companies and emerging technologies. This rationale is driving consolidation among GPs, too, as M&A has become a key tool to reinforce both broad-based and specialist strategies, helping some GPs scale into one-stop-shops and enabling others to strengthen their niche, geographic, or sector focus.

Increased Risk Appetite

In their search for return profiles that exceed those of traditional core assets, GPs have been moving up the risk curve, launching various core-plus, value-added, and opportunistic funds. On an absolute basis, core-plus funds have attracted the most investment in recent years. In 2023, 58% of all funds raised by the 58 largest infrastructure investors were in the core-plus segment, up from 11% five years earlier. **(See Exhibit 18.)** Value-added funds, too, have grown in popularity, although fund-raising for these funds has fluctuated more on an annual basis.

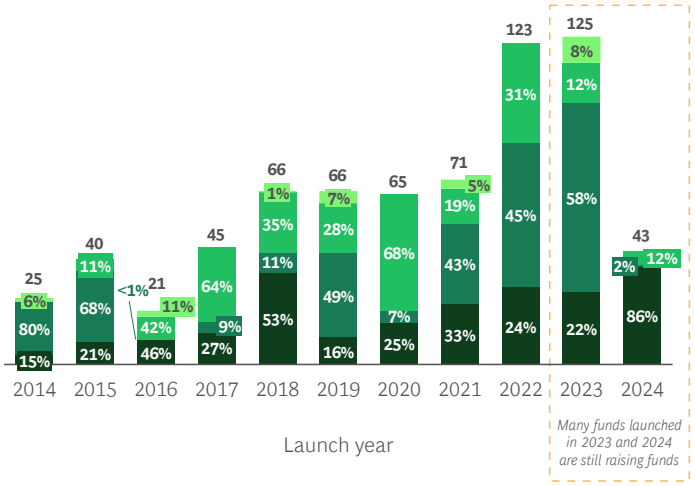
A common feature of value-added funds is the continuous expansion of the definition of *infrastructure* to include next-generation infrastructure. Increasingly, these funds invest in infrastructure-related services, such as testing, inspection, and certification services; software supporting infrastructure operations; and contract manufacturing. Rather than strictly adhering to traditional infrastructure characteristics—such as contracted revenues, asset intensity, and inflation protection—value-added funds demonstrate greater flexibility, targeting assets that are a step removed from core infrastructure. Next-generation infrastructure also includes businesses that provide critical services to traditional infrastructure sectors, such as utility service providers and digital infrastructure enablers.

EXHIBIT 18

GPs Are Moving Up the Risk Curve, Allocating More Dollars to Core-Plus Funds Since 2014

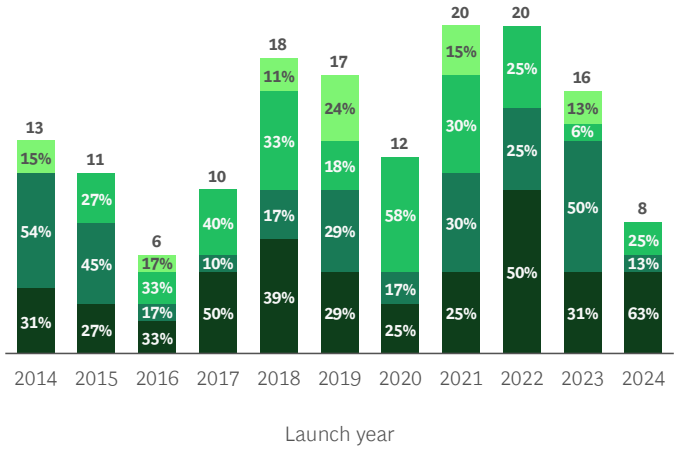
Annual closed-end funds raised by fund launch year by investment strategy for top 20 GPs by infrastructure AuM, 2014–2024[1]

Funds raised ($billions)[2]



Annual closed-end funds launched by fund launch year by investment strategy for top 20 GPs by infrastructure AuM, 2014–2024[1]

Number of funds launched



Core Core-plus Value-added Opportunistic

Sources: Infralogic; Preqin; Pitchbook; infrastructure investors; BCG analysis.
Note: AuM = assets under management; GP = general partner. Because of rounding, not all bar segment percentages add up to 100%.
[1]Year fund was launched to start raising; top 20 GPs by infrastructure AuM of the 58 largest infrastructure investors.
[2]Data for 2014–2024 is shown as funds raised since launch.

More Sector-Specific Funds

GPs are launching new sector-specific funds to tap into more thematic and localized opportunities as well. This activity comes in response to increased demand from LPs for dedicated products, especially in the energy, digital, and transport sectors, and for new fund products such as infrastructure technology. In 2023, generalist funds accounted for most of the AuM in newly launched funds. But funds focused on the energy sector in particular—including those with climate, energy transition, and renewables mandates—proved popular, too, accounting for 43% of all funds launched in 2023, up from 36% in 2021 and just 11% in 2022. **(See Exhibit 19.)** And GPs have launched various funds since 2018 that focus on digital assets, although the precise number has fluctuated from year to year.

A further reason for GPs' increased interest in sector funds is to gain more exposure to emerging technologies, and to leverage their existing sector expertise and relationships in the M&A ecosystem.

Deeper Geographic Focus

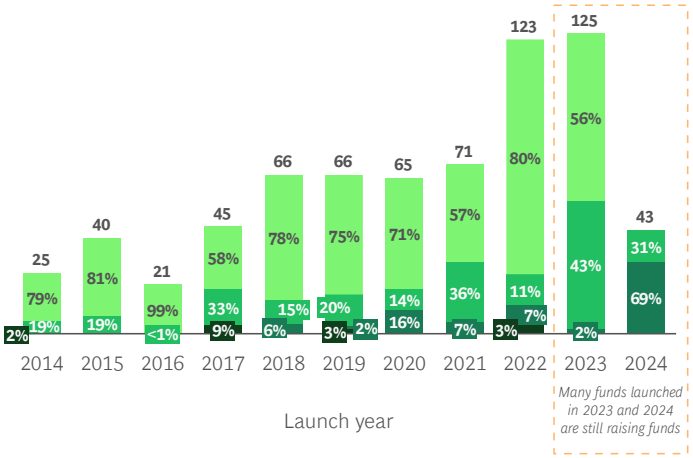
Recently we have seen diversification in sector exposure among many new funds, but there has been little change in their geographic focus. In the past several years, multicontinental funds accounted for more than 70% of all dollars raised and 50% or more of new funds launched. **(See Exhibit 20.)** Still, interest in funds with a specific focus on Asia-Pacific has grown, indicating a burgeoning desire among investors to expand beyond the traditional European and North American markets. Relevant offerings include Stonepeak's Asia Infrastructure Fund, KKR's Asian Infrastructure Fund II, and Macquarie's Asia-Pacific Infrastructure Fund 3.

EXHIBIT 19

Funds Focused on Energy Have Attracted the Most Capital Among Sector-Focused Funds Since 2014

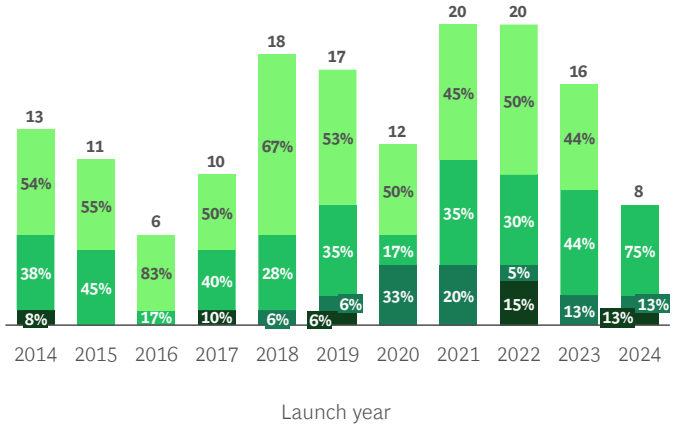
Annual closed-end funds raised by fund launch year for top 20 GPs by infrastructure AuM[1]

Funds raised ($billions)[2]



Annual closed-end funds launched by fund launch year for top 20 GPs by infrastructure AuM[1]

Number of funds launched



Transport · Digital · Energy[3] · General

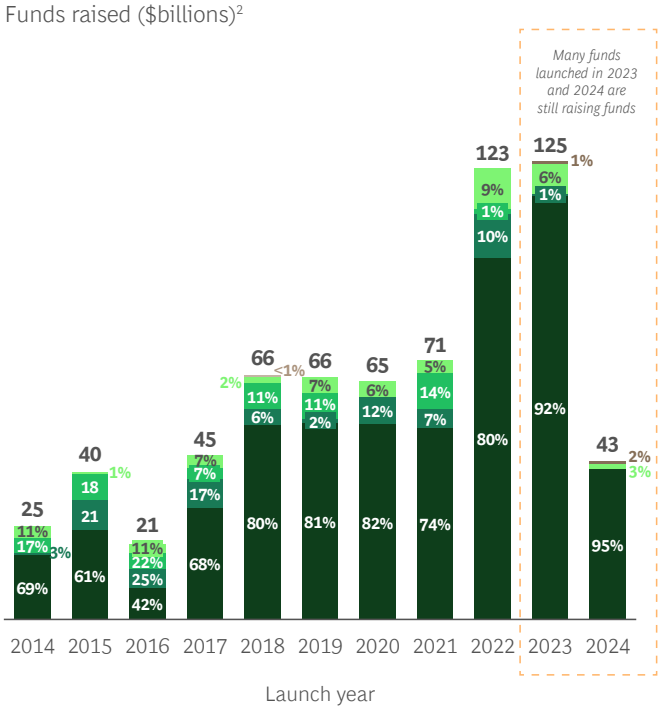
Sources: Infralogic; Preqin; Pitchbook; infrastructure investors; BCG analysis.
Note: AuM = assets under management; GP = general partner. Because of rounding, not all bar segment percentages add up to 100%.
[1]Year fund was launched to start raising; top 20 GPs by infrastructure AuM of the 58 largest infrastructure investors.
[2]Data for 2014–2024 is shown as funds raised since launch.
[3]Includes transition and renewables funds.

EXHIBIT 20

Multicontinental Funds Account for Most of the Capital Raised Since 2014, but Asia-Pacific-Focused Funds Are Gaining Interest

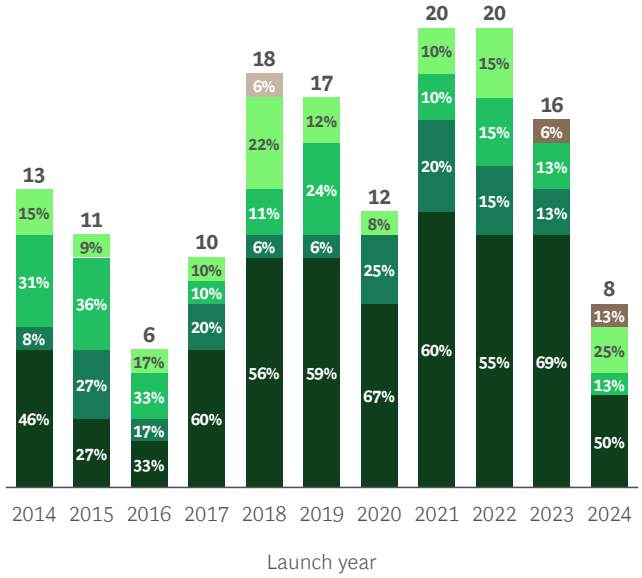
Annual closed-end funds raised by fund launch year for top 20 GPs by Infrastructure AuM[1]

Funds raised ($billions)[2]



Annual closed-end funds launched by fund launch year for top 20 GPs by Infrastructure AuM[1]

Number of funds launched





Sources: Infralogic; Preqin; Pitchbook; infrastructure investors; BCG analysis.
Note: AuM = assets under management; GP = general partner. Because of rounding, not all bar segment percentages add up to 100%.
[1]Year fund was launched to start raising; top 20 GPs by infrastructure AuM of the 58 largest infrastructure investors.
[2]Data for 2014–2024 is shown as funds raised since launch.
[3]Asia-Pacific comprises four regions: East Asia, Southeast Asia, South Asia, and Oceania.

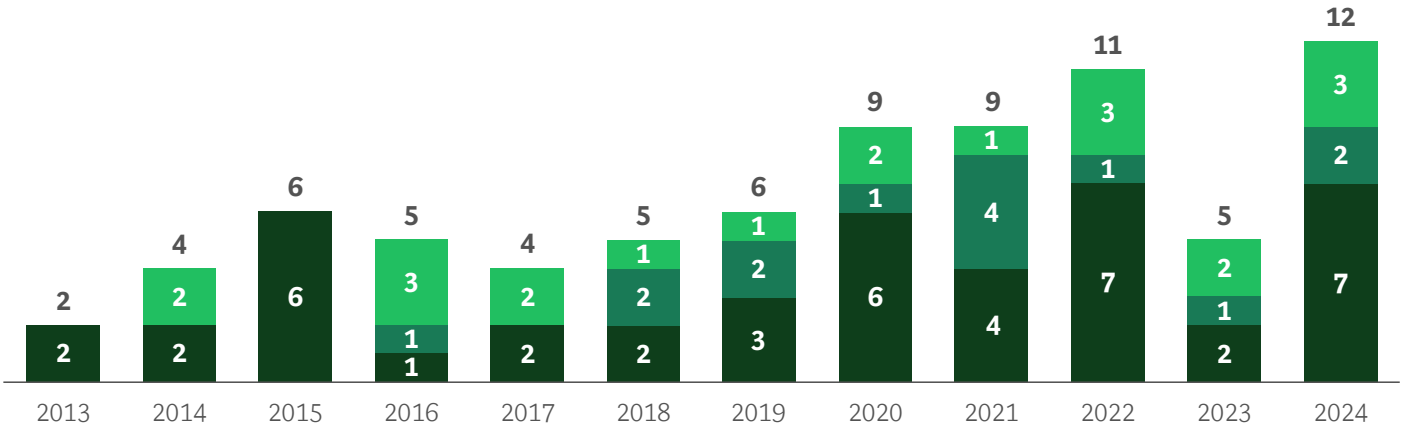
Gaining Scale Through Acquisitions

One major trend that both drives the maturation of the infrastructure asset class and reflects its changing mandate is GPs' increasing use of M&A to acquire infrastructure specialist funds. Many multiasset managers that haven't previously offered infrastructure to their LPs are entering the infrastructure sector by acquiring specialist firms. In the past 12 years, 44 infrastructure specialist firms have been acquired by other GPs, and more and more of these acquisitions are being carried out by firms that had no prior infrastructure investing capabilities. **(See Exhibit 21.)** Examples include CVC's acquisition of DIF, General Atlantic's acquisition of Actis, and Bridgepoint's acquisition of Energy Capital Partners. Entering this appealing and still fast-growing asset class provides acquiring GPs with a hedging portfolio, while also enabling them to attractively de-risk their overall portfolios and gain scale.

EXHIBIT 21

GPs Are Increasingly Acquiring Infrastructure Specialists, Reflecting the Growing Consolidation and Importance of the Infrastructure Asset Class

M&A activity of GP firms with infrastructure exposure, 2013–2024 (number of acquired firms)



Acquired company type

	Number of acquired firms			
	2002–2006	2007–2012	2013–2018	2019–2024
Real estate and infrastructure specialist[1]	0	2	8	12
General asset manager[2]	2	3	3	11
Infrastructure specialist	2	6	15	29

Sources: Infralogic; Preqin; Pitchbook; infrastructure investors; BCG analysis.
Note: Analysis run on 78 firm M&A transactions in which the acquiring or acquired firm has infrastructure focused investments. GP = general partner.
[1]Real estate and infrastructure specialists invest broadly in real assets.
[2]General asset managers with infrastructure assets under management.

Meanwhile, established infrastructure investors are further consolidating their positions, as evidenced by BlackRock's $12.5 billion acquisition of Global Infrastructure Partners in 2024, Apollo's purchase of Argo Infrastructure Partners in 2025, and others. **(See Exhibit 22.)** These moves allow GPs to diversify their offerings, increase operational scale, enhance their portfolio capabilities, and expand their infrastructure AuM. For these players, the resulting growth and consolidation allow them to reinforce their leadership as infrastructure investors.

Innovative Fundraising

Confronted with the fundraising challenges of the past several years, GPs are devising and carrying out new strategies to expand the funding base and attract new LP dollars. These include expanding their geographic presence, offering attractive co-investment structures, and providing opportunities to retail investors.

New Geographies for New LPs

Expanding their presence outside their traditional markets enables GPs to build stronger relationships with institutional investors in new markets. By establishing a local presence, infrastructure funds can engage directly with LPs, better understand their preferences, and provide tailored opportunities that align with regional market dynamics.

EXHIBIT 22

Example M&A Deals Across the Private Infrastructure Space

Select M&A activity among GP firms with infrastructure exposure

Acquirer	Acquisition	Acquisition type	Year	Press release excerpts on rationale
Amundi	Alpha Associates	General asset manager[1]	2024	"This acquisition will position Amundi as a leading European player in this space . . . [with an] enhanced multi-manager offering spanning across private debt, infrastructure, private equity and venture capital, and an enlarged client and geographical footprint."
BlackRock	Global Infrastructure Partners	Infrastructure specialist	2024	"Infrastructure represents a generational investment opportunity. Through the combination of BlackRock and GIP, we are well positioned to capitalize on the long-term structural trends that will continue to drive the growth of infrastructure."
Bridgepoint Group	Energy Capital Partners	Infrastructure specialist	2024	"Our platforms are complementary, as are our geographic footprints, and at a critical time for energy security and the global energy transition."
Commerzbank	Aquila Capital	Infrastructure specialist	2024	"With the transaction, Commerzbank accelerates its growth in the sustainability business."
EnTrust Global	OMP Capital	Infrastructure specialist	2024	"This [transaction] will enable [EnTrust's] Blue Ocean team to expand its presence in the maritime and energy industry, while tapping into key talent in Oslo, Norway."
General Atlantic	Actis	Infrastructure specialist	2024	"Actis will operate as General Atlantic's Sustainable Infrastructure business alongside its existing strategies in Growth Equity, Credit, and Climate."
Patria Investments	Nexus Capital Partners	Real estate and infrastructure specialist[2]	2024	"Nexus has a robust portfolio within the Colombian Real Estate market. . . . it will be a great addition to our real estate platform, contributing to our growth goals and strengthening our relationships with investors in Colombia and the region."
Vinci Partners	MAV Capital	Real estate and infrastructure specialist[2]	2024	"Strengthening our presence in agribusiness, [t]his transaction aligns with our long-term goals of expanding business lines and building leading franchises."
Alquity	VAM Funds	General asset manager[1]	2023	"The company aims to shake up the international advisory market ESG offering, tapping into the increasing global demand or sustainable investment strategies."
CVC Capital Partners	DIF	Real estate and infrastructure specialist[2]	2022	"This strategic acquisition provides CVC with a leading infrastructure platform, adjacent and highly complementary to its existing private equity, secondary & credit strategies."

Sources: Infralogic; Preqin; Pitchbook; infrastructure investors; BCG analysis.
Note: Analysis run on 78 firm M&A transactions in which the acquiring or acquired firm has infrastructure focused investments. ESG = environmental, social, and governance; GP = general partner; LP = limited partner.
[1]General asset managers with infrastructure assets under management.
[2]Real estate and infrastructure specialists invest broadly in real assets.

This approach is particularly evident in regions such as the Middle East, where global GPs have been creating a presence in order to build relationships with local LPs. For instance, French private equity firm Ardian opened an office in Abu Dhabi in early 2023 after forming a partnership with Mubadala Capital. Similarly, Tikehau Capital and Blue Owl Capital have established offices in the region, recognizing the growing investment opportunities and sophistication of local investors. Australian GPs, too, are seeking to get closer to sources of capital by establishing a presence in North America and Europe.

Co-investment Structures

The number of co-investment funds that allow LPs to participate directly in preferred deals has grown significantly over the past several years, a trend that we expect will continue. (**See Exhibit 23.**) Offering generous co-investment structures enables GPs not only to attract capital for specific projects but to build stronger LP relationships, potentially resulting in increased allocations.

Retail Investment Opportunities

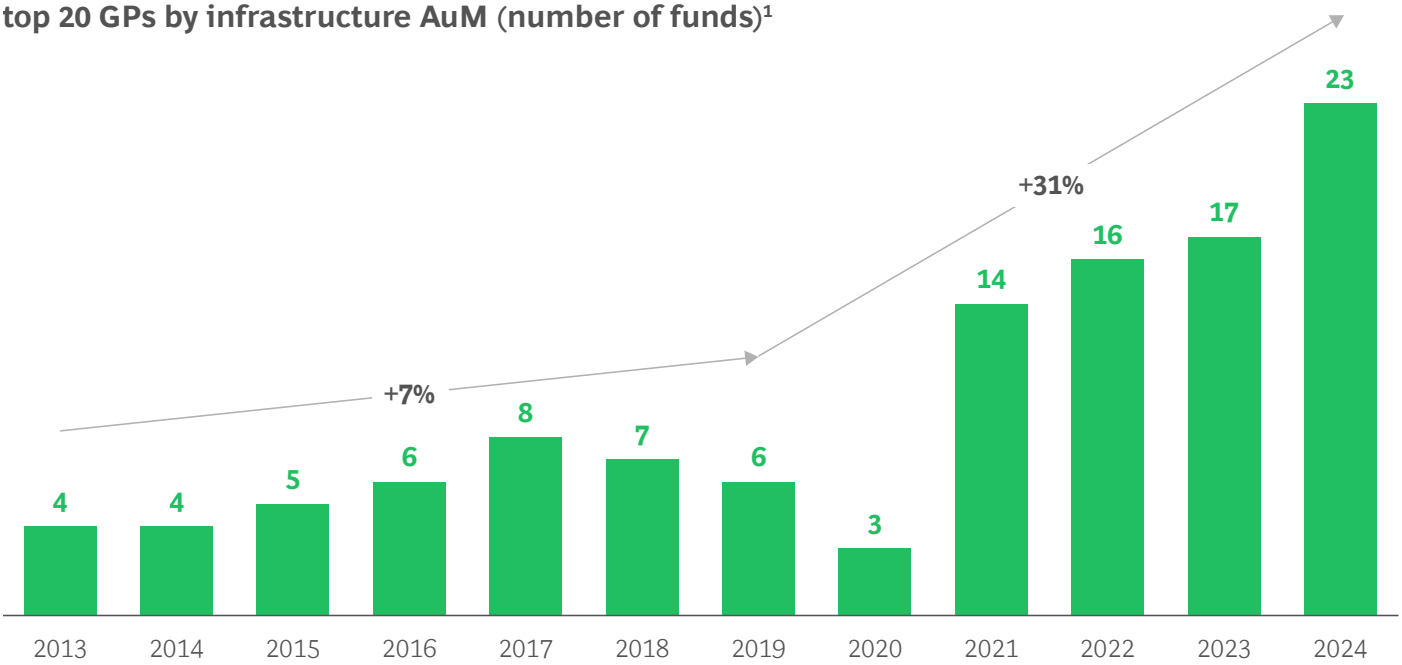
There has also been an uptick in GPs that target new funding sources such as family offices and retail investors to diversify and expand their capital base. Retail investors represent a major, largely untapped pool of potential capital. Until recently, however, few investment vehicles focused on infrastructure assets available to them.

To attract this capital, GPs are creating new vehicles for retail investors, ranging from "mass affluent" investors that have from $25,000 to $1 million in investable assets to high-net-worth individuals that have up to $30 million to invest, either individually or through family offices. In the US, enabled by Securities and Exchange Commission reforms and other regulatory changes, lower minimum investment thresholds and enhanced liquidity structures are making infrastructure investments more accessible while still offering retail investors a level of stability similar to that of traditional institutional infrastructure funds.

EXHIBIT 23

The Upward Trend in the Number of Co-investment Funds Shows LPs' Increasing Demand for These Opportunities

Annual co-investment funds by fund vintage year for top 20 GPs by infrastructure AuM (number of funds)[1]



Sources: Preqin; infrastructure investors; BCG analysis.
Note: AuM = assets under management; GP = general partner; LP = limited partner.
[1]Includes all co-investment funds tagged specifically to infrastructure industries, as well as diversified co-investment funds that include infrastructure; does not include direct co-investment in deals. Top 20 GPs by infrastructure AuM of the 58 largest infrastructure investors.

Several asset managers have already launched retail-accessible infrastructure funds. For example, Blackstone's BXINFRA targets individuals with at least $5 million in investable assets, offering a range of semi-liquid infrastructure investments. Similarly, DWS Group's DWS RREEF Global Infrastructure Fund gives retail investors exposure to diversified infrastructure assets with strong cash-yield potential. Meanwhile, Schroders Capital, through Schroders Greencoat, allows retail and intermediary investors to participate in renewable energy infrastructure.

The growing interest that retail investors are showing in infrastructure assets reflects a broader shift in the sector, where capital traditionally dominated by institutional investors is increasingly being supplemented by individual investors and alternative funding sources. This trend aligns with a wider movement toward expanding access to private market investments, as regulatory changes and innovative fund structures make infrastructure more accessible to a broader range of investors.

Value Creation Through Operational Excellence

Strengthening operational value creation remains a focus for infrastructure investment funds, as we noted **last year**. The investment playbooks of different GPs are evolving along varied paths, but firms generally tackle the task through some combination of five approaches.

Dedicated Operational Teams

GPs have been experimenting in recent years with how to up their game in operational value creation. Performance is paramount. To that end, they have institutionalized their in-house operational capabilities by hiring dedicated specialists or teams, and by formalizing agreements with industry senior advisors and other third-party experts. The task is to support portfolio company management teams with a combination of hands-on operational expertise and strategic advisory support to accelerate value creation across all aspects of the enterprise's operations. Funds are trying a range of setups, often leveraging the structures and playbooks that already prevail in private equity. Examples include KKR Capstone and Blackstone's Portfolio Operations Group.

Pull-Forward of Detailed Value Creation Plans

Before signing deals on new investments, funds are demanding increasingly detailed value creation plans (VCPs) during the due diligence stage. These plans include comprehensive benchmarks and strategic blueprints for value creation opportunities that should help to de-risk deals immediately after closing and quickly align on immediate priorities. When designing their VCPs, leading players incorporate input from all aspects of the business, including commercial, operational, finance, and IT functions.

Post-Acquisition De-risking

As GPs face a more challenging growth environment for their portfolio companies, they are doubling down on the need to boost value early on. The first 100 days post-acquisition are crucial for improving operational efficiency and financial performance. Areas of focus include immediate screening of activities—even large capex projects—with savings potential, optimization of the procurement function, and implementation of potential improvement levers to optimize the working capital position.

Target Operating Model

Leading GPs work to develop and refine a lean target operating model for the new portfolio company soon after they acquire it. This ensures that the company will deliver on critical value creation initiatives and potential efficiencies. Successful operating models include detailed guidance on any gaps in the key capabilities needed, and on the constitution of the operational team. They also show where efficiencies may be captured, such as in the optimization of selling, general, and administrative expenses. Leveraging benchmarks around common efficiency opportunities—such as nearshoring, automation through AI, function consolidation, and delayering—is becoming increasingly common.

Finance Excellence

Positive value creation will depend to a great extent on the strength of the portfolio company's finance function. To that end, leading GPs establish robust financial oversight and systems to optimize cash flow, monitor covenants, and rigorously drive profitability. In doing so, they enhance operational control, reduce inefficiencies, and improve financial discipline. Often enough, early enforcement of data quality initiatives and early establishment of standardized financial reporting are critical to providing real-time insights into a company's performance to management and investors, allowing them to identify inefficiencies, optimize operations, and actively manage risks. Optimally, the company's finance function should apply innovative planning approaches, such as zero-based budgeting.



Conclusion

The infrastructure asset class continues to demonstrate resilience in a challenging macroeconomic environment, and the sector's structural attractiveness remains strong. Investors continue to be drawn to infrastructure for its stable, long-term returns, high revenue visibility, and core value.

The critical nature of infrastructure assets ensures their continued relevance and reinforces the need for private capital investment in them. This dynamic will drive ongoing innovation in fund strategies as GPs adapt to a more complex investment landscape.

The essential role that private capital plays in addressing global challenges, from the energy transition to digital connectivity, highlights the asset class's importance. As the industry matures, infrastructure investing will remain a core allocation for investors seeking stability, long-term growth, and real-world impact.

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