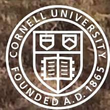
2023 Institutional Infrastructure Allocations Monitor

HODES WEILL & ASSOCIATES



Cornell Brooks Public Policy

CPIP

Dear Industry Friends,

Cornell University's Program in Infrastructure Policy ("CPIP") and Hodes Weill & Associates are pleased to present the findings of the inaugural 2023 Institutional Infrastructure Allocations Monitor (the "**2023 Infrastructure Allocations Monitor**"). The 2023 Infrastructure Allocations Monitor focuses on the role of infrastructure in institutional portfolios, and the impact of institutional allocation trends on the investment management industry. This inaugural report builds upon the success of the Institutional Real Estate Allocations Monitor, an annual report published by Cornell University's Baker Program in Real Estate and Hodes Weill & Associates. Launched in 2013, The Real Estate Allocations Monitor is a comprehensive annual assessment of institutions' allocations to, and objectives in, real estate investments.

The 2023 Infrastructure Allocations Monitor includes research collected from 63 institutional investors in 16 countries. All survey responses are maintained as confidential by Cornell University. The 2023 Participants hold total assets under management ("**AUM**") exceeding US$6.8 trillion and have portfolio investments in infrastructure totaling approximately US$325 billion. Our Survey consisted of 21 questions concerning portfolio allocations to the asset class, current and future investments in infrastructure, investor conviction, investment management trends and the role of various investment strategies and vehicles within the context of the infrastructure allocation (e.g., direct investments, joint ventures and private funds). We also included questions regarding historical and target returns as well as environmental, social and governance ("**ESG**") policies.

The primary conclusion of the 2023 Infrastructure Allocations Monitor is that institutions are poised to continue allocating a significant amount of capital to new infrastructure investments.

Key Findings of the 2023 Infrastructure Allocations Monitor

1. **Globally, institutions are under-invested in infrastructure by an average of 98 bps versus target allocations.** This under-allocation is particularly pronounced in The Americas, where institutions are currently 152 bps under-invested, with many expected to further increase their target allocations in 2024. Private pensions have the largest gap to close in terms of current infrastructure allocation versus target portfolio allocation – private pensions are 66% of the way to target allocations.
2. **The 3-year average return across all institutions (~10.7%) exceeded target return levels (~9.3%) by 141 bps**. When evaluating performance based on size of institution, there was a marginal difference in the actual 3-year average return, which demonstrates the resiliency and role infrastructure can play as a portfolio stabilizer for institutional investors of all sizes.
3. **Globally, institutions continue to gravitate to higher risk, higher return Core+ and Value-Add strategies**. Institutions are favoring higher return strategies as portfolios mature, and a rising rate environment impacts the relative attractiveness of SuperCore and Core strategies.
4. **Institutional investors globally are planning to grow allocations to North American infrastructure opportunities more than any other geographic region**. Growth in North America is expected to be driven by the Inflation Reduction Act of 2022 (the "IRA"), which is a first-of-its-kind legislation and the single largest investment in climate and energy in U.S. history.
5. **Investors cited interest rates and market volatility as their top concerns for infrastructure investing**. With rising interest rates, appetite for infrastructure credit strategies is growing, specifically for institutions based in APAC.
6. **Institutions are most likely to increase capital investments in Digital Infrastructure among the four major infrastructure verticals**. On the opposite end of sectoral interest spectrum, demand for social infrastructure was the weakest out of the four major categories.
7. **Appetite for Energy Transition is robust and expected to grow over the next several years**. Roughly 40% of respondents indicated that they plan to increase allocations to renewable energy and storage, which was more than any other Energy subsegment. "New Energy Transition", which encompasses asset types including green hydrogen and carbon capture, is the second most popular investment strategy at 39%.

(8) **Institutions continue to show preference for established managers, with appetite for first-time funds and emerging managers remaining limited.** Approximately 71% of institutions surveyed indicated that they are either very unlikely or somewhat unlikely to invest in a first-time fund or with an emerging manager.

The 2023 Infrastructure Allocations Monitor leverages the academic resources of Cornell University and the global institutional relationships and infrastructure expertise of Hodes Weill & Associates. We hope this report provides unique insight into the institutional investment industry, and serves as a valuable tool for institutional investors in the development of portfolio allocation strategies and peer benchmarking of returns, and for investment managers in business planning and product development. The inaugural Infrastructure Allocations Monitor Survey also provides a baseline of responses, against which we will be able to measure annual changes from year to year. Going forward, this should allow us to identify shifts in investor allocations, sentiment and intentions. We look forward to developing the content of the Institutional Infrastructure Allocations Monitor over the coming years. With this goal in mind, please feel free to contact us with any questions, comments or suggestions.

We look forward to sharing additional insights and our perspective on the industry with you more directly in the near future. Again, we would like to express sincere appreciation to all of the Survey Participants for their support on this initiative. We would also like to extend our thanks to Nina Borja, an Infrastructure Policy Management and Finance Fellow and recent Master of Regional Planning graduate of Cornell University. Nina interned with us throughout the spring semester and made a significant contribution to the success of our report.

We are already looking forward to next year's Survey.

Regards,

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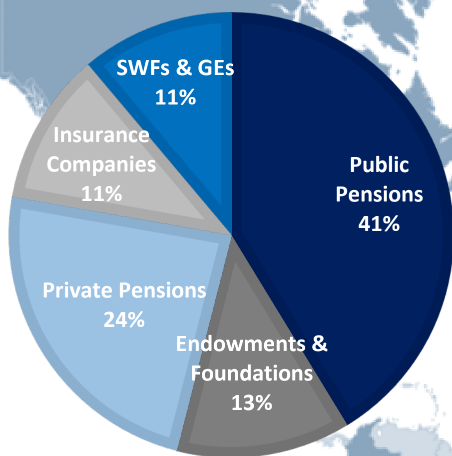
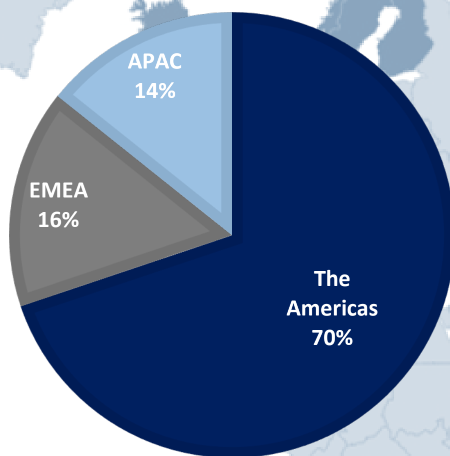
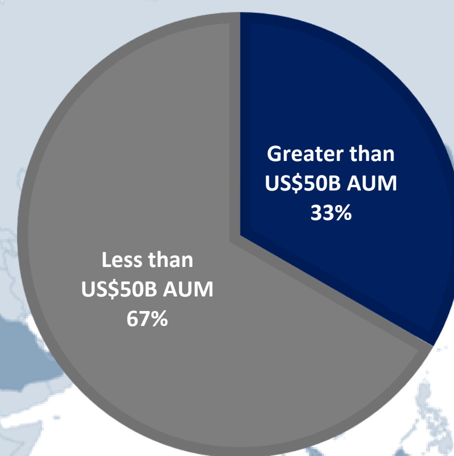
Global Institutional Participants

63 participants in 16 countries representing US$6.8 trillion in AUM and US$325 billion in infrastructure investments.







List of Participating Institutions

Alaska Permanent Fund Corporation
APG – All Pensions Group
Arkansas Teachers' Retirement System
Canada Post Pension Plan
Drexel University Endowment
HRM Pension Plan
Investment Management Company of Ontario (IMCO)
*Maine Public Employees' Retirement System**
Merseyside Pension Fund
*New Jersey Division of Investment**
Public Employees' Retirement Association of New Mexico
Sacramento County Employees' Retirement System
Toronto Transit Commission Pension Plan
*Virginia Retirement System**
And 49 anonymous participants (including eight Founding Participants)

Founding Participant

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Participation & Methodology

In the early stages of developing the Survey, we contacted a number of institutions to solicit their support and feedback on our approach and the content of the Survey (the "***Founding Participants***"). Their insight was very valuable in developing the Survey and is greatly appreciated. The Founding Participants included Maine Public Employees' Retirement System, New Jersey Division of Investment, Virginia Retirement System, and eight anonymous institutions.

We wish to thank the 63 institutional investors that participated in the inaugural Infrastructure Allocations Monitor Survey. The Survey Participants are from 16 countries and represent institutions with approximately US$6.8 trillion in total assets and infrastructure assets exceeding US$325 billion.

We distributed the Survey to approximately 1,250 institutional investors. Our Survey includes only primary allocators to investments, such as pension plans, insurance companies, sovereign wealth funds, and endowments and foundations.

Notes to readers regarding methodology:

- We conducted the Survey over an approximately two-month period from March 2023 to May 2023.
- Target and estimated future allocations, actual allocations and the margin between target and actual allocations are presented on a weighted average basis by total AUM. We believe this provides the most relevant presentation of the quantum and directional trend of investable capital.
- Unless otherwise stated, all other figures are based on straight averages by number of participants, including figures for investment activity and intentions, target returns and risk/return objectives.

Definitions Guide

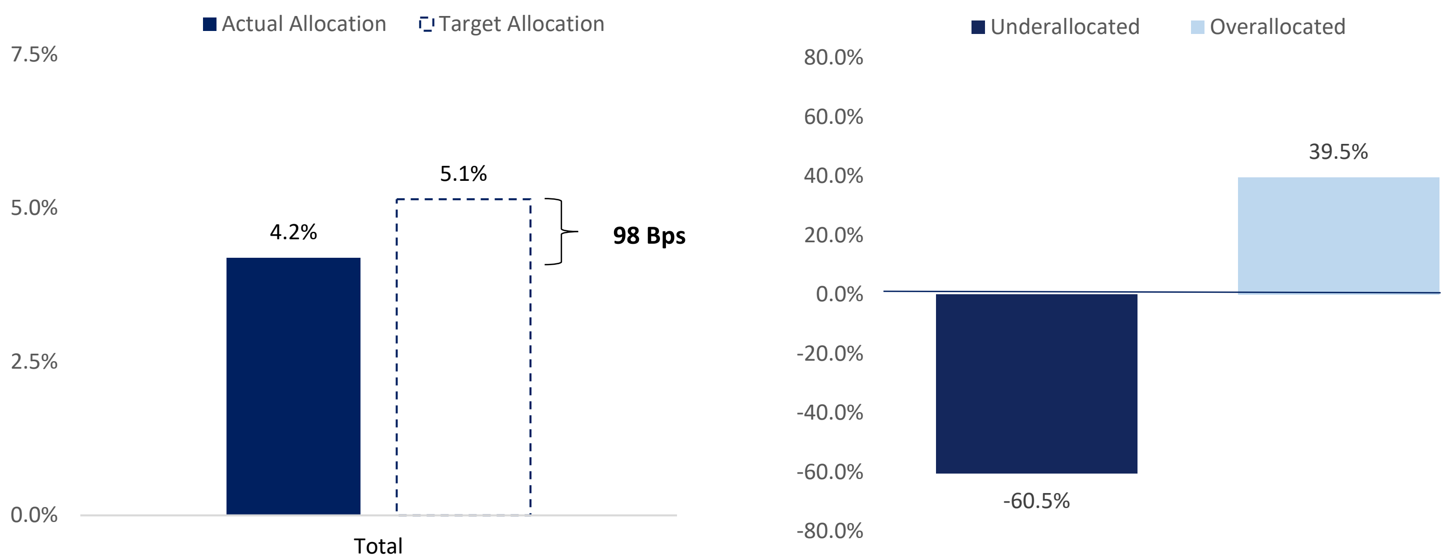
"**APAC**" refers to Asia Pacific and includes institutions located in Asia, The Caucasus and Australia
"**EMEA**" includes institutions located in Europe, the Middle East and Africa
"**ESG**" refers to environmental, social and governance
"**SWFs & G.E.s**" refers to sovereign wealth funds and government-owned entities
"**The Americas**" includes institutions located in North and South America
"**Large Institutions**" includes institutions with AUM greater than US$50 billion
"**Small Institutions**" includes institutions with AUM less than US$50 billion

Target Allocations to Infrastructure

Despite the worst Q1 for private infrastructure fundraising since 2009[2], institutions remain significantly under-invested in infrastructure, which is expected to continue to drive capital flows into the sector. Given the need for investors to meet target allocations, the pace of annual investments is likely to continue to accelerate over the next several years.

While institutions have become increasingly cautious over the past several quarters in the face of heightened market volatility and denominator effect concerns, sentiment towards private infrastructure is relatively strong and allocators are still trailing infrastructure target allocations. Globally, institutions are under-invested in infrastructure by an average 98 bps versus target allocation. Many institutions have been forced to reassess their allocation plans in 2023, as the strong performance of infrastructure portfolios coupled with the underperformance of public equities, fixed income and other alternatives has brought investors closer to target allocations. Despite denominator effects reducing the overall under-allocation to the asset class, infrastructure remains a particularly favored asset class for institutional investors. Inflationary risks affecting other asset classes have driven institutions towards infrastructure as a safe haven, as asset owners can often pass through rising costs to consumers, demonstrating resilience in the face of slowing economic growth. Given resilient performance of the infrastructure asset class through the pandemic, institutional investors continue to seek out increased exposure to the asset class to reduce portfolio volatility through challenging market environments.

Exhibit 1: Actual vs. Weighted Average Target Allocations, All Institutions



This under-allocation is particularly pronounced in The Americas, where institutions are currently 152 bps under-invested, with many expected to further increase their target allocations in 2024. Despite denominator issues, institutions in other regions are meaningfully under-allocated (~82 bps in EMEA and ~42bps in the Asia Pacific region). Globally, under-allocation could be driven, in part, by the nascency of the asset class relative to other private markets asset classes, such as private equity and real estate. Overall, approximately 60% of respondents are under-allocated to infrastructure. Even with sizeable infrastructure programs like the Inflation Reduction Act ("IRA") and the Infrastructure Investment and Jobs Act ("IIJA") signed into law in the U.S., governments across the globe remain limited in their ability to close what has been an increasingly widening infrastructure investment gap. Consequently, a growing opportunity for private sector involvement aligns well with the under-allocation of institutions globally.

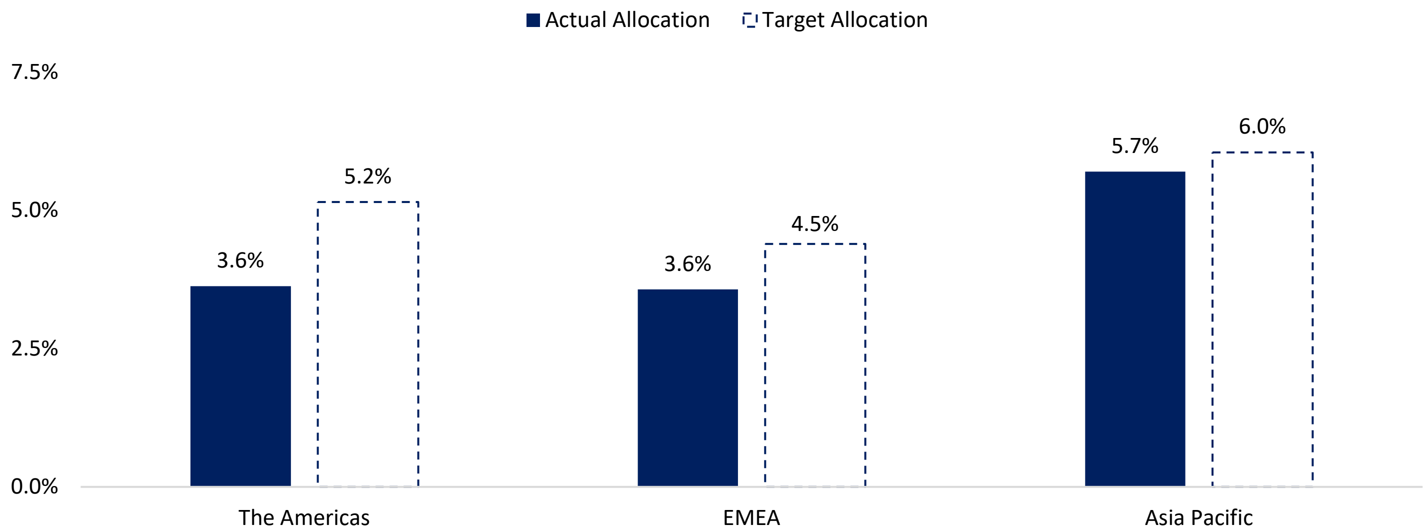
[2] Infrastructure Investor. Fundraising Report, Q1 2023.

"The target allocation hasn't changed in the past 12 months, but actual NAV has increased due to additional deployment activity and rise in valuations."

– Public Pension, Americas

Interestingly, target allocations for North America were greater than EMEA. One potential explanation for the level of North American target allocations could be the overweighting of large Canadian institutions with significant infrastructure programs.

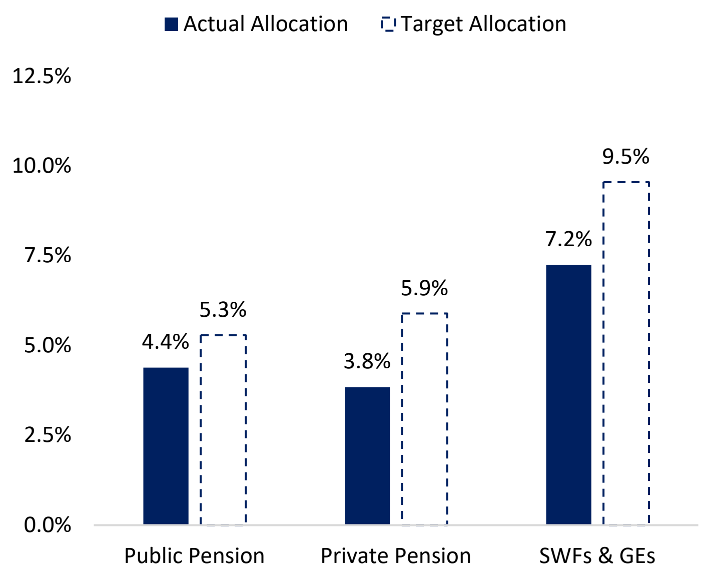
Exhibit 2: Weighted Average Target Allocation, By Location of Institution



Target Allocations by Type of Institution

SWFs and G.E.'s have the highest target allocation to infrastructure at 9.5%. Private pensions have the largest gap to close in terms of current infrastructure allocation versus target portfolio allocation – private pensions are 66% of the way to target allocations compared to public pensions (~83%) and SWFs and G.E.'s (~76%). While allocations are moving closer to target given a combination of public market volatility (i.e., denominator effect) and steady deployment to the asset class, this is being offset at the same time as institutions are continuing to increase target allocations to infrastructure. As public equities have recently rebounded, and the pace of deployment to infrastructure has decelerated year-to-date, it can be expected that the gap between actual and target allocations may widen over the next 12 months. Another factor that could lead to further actual and target allocation dispersion is the announcement of dedicated infrastructure target allocations from institutions with little to no prior infrastructure exposure.

Exhibit 3: Weighted Average Target Allocation, By Type of Institution



"[The] new 5-year SAA implemented by our board in Q4 2022 [raised] the benchmark weight from 2% to 9% for infrastructure. We were already at 5% NAV in infrastructure. 9% breakdown is 6% private infrastructure, 3% publicly listed infrastructure."

– Public Pension, The Americas

Target Allocations by Size of Institution

Institutions with less than $50 billion in AUM have allocated, on average, a larger percentage of their portfolios to infrastructure than those with an AUM of greater than $50 billion. However, given the resiliency of performance and low volatility the asset class has shown in recent years, it is possible that larger institutions may begin to bridge the gap as newer asset allocation studies are conducted. Several institutions indicated that they are in the process of undergoing asset allocation studies, and as they are completed and new allocations are made available, the deployment of capital could potentially accelerate compared to the deceleration in capital flows over the last 12 months, with institutions needing to keep up with pacing models. One additional observation was that the delta between actual and target allocations is smaller for larger institutions than institutions with less than $50 billion of AUM; one can reasonably assume that the quantum of capital to be invested in bridging this gap will be significant over the near term.

Exhibit 4: Weighted Average Target Allocation, By Size of Institution

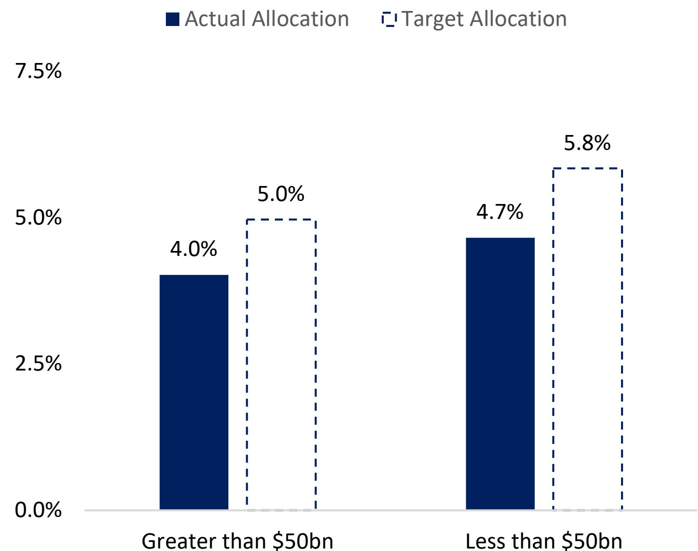


Exhibit 5: Notable Increases / Decreases to Target Infrastructure Allocations (Trailing 12 Months)[3]

Institution	AUM (bn)	Target Allocation		Change
		Prior	New	
State of Connecticut Retirement Plans & Trust Funds	$44.9	4.0%	7.0%	↑300 bps
AP-Fonden 7	$79.1	0.0%	2.5%	↑250 bps
District of Columbia Retirement Board	$10.1	3.8%	6.0%	↑220 bps
New York City Employees' Retirement System (NYCERS)	$77.7	2.0%	4.0%	↑200 bps
Los Angeles County Employees' Retirement Association (LACERA)	$72.5	2.0%	3.0%	↑100 bps
San Diego City Employees' Retirement System	$10.3	3.0%	4.0%	↑100 bps
Oregon Investment Council (OIC)	$95.9	6.0%	3.0%	↓300 bps
Dallas Police and Fire Pension System	$1.8	3.0%	0.0%	↓300 bps

[3] Based on public disclosures.

Expected Change in Target Allocations

Looking forward to the next 12 months, 43% of institutions report that they expect to increase target allocations to infrastructure. For many institutions, there is not a dedicated target allocation to infrastructure. Rather, they have a broader real assets target allocation that includes infrastructure. While there may not appear to be a dramatic change in target allocations to infrastructure, allocations to infrastructure could grow in tandem with directional increases to real assets targets if infrastructure commands a higher percent of the real asset allocation over time. This would be consistent with the market sentiment for infrastructure exceeding sentiment for real estate.[4] The relative attractiveness of real estate compared to infrastructure, as measured by investor sentiment/conviction, could be a function of allocations to infrastructure being less mature than real estate.

As mentioned in a previous section, some institutions are just now beginning to explore allocations to infrastructure and formally set allocation targets. Given this, the 43% of institutions reporting an expected increase in infrastructure exposure could be a conservative data point, especially if performance within the asset class continues to hold up throughout 2023.

Exhibit 6: Percent of Institutions Planning to Increase Target Allocations in 2023-2024, All Institutions

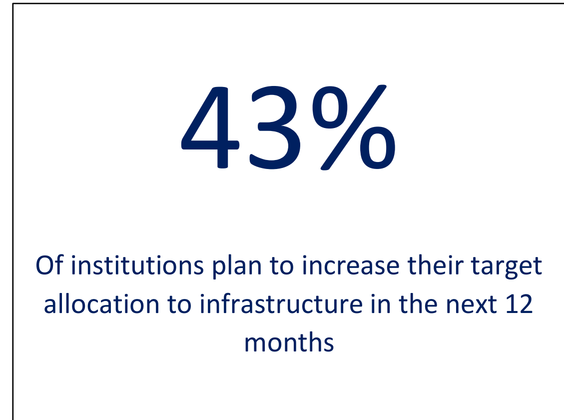
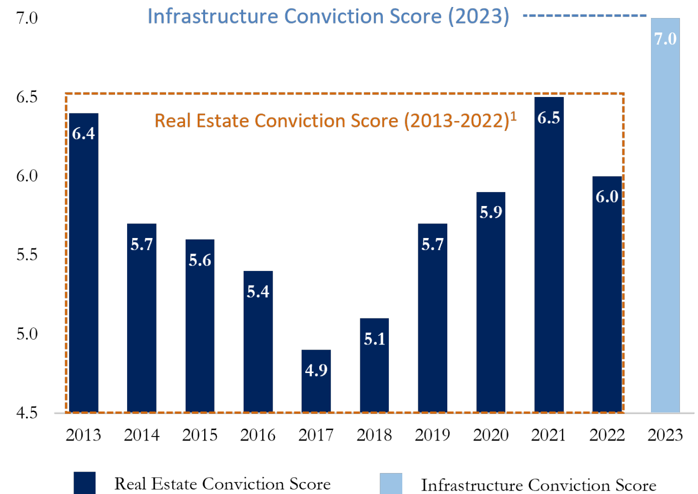


Exhibit 7: Real Estate and Infrastructure Allocations Monitor Conviction Indexes (2013-2023)[5]



[4] Cornell University's Baker Program in Real Estate & Hodes Weill & Associates. 2022 Institutional Real Estate Allocations Monitor, Conviction Index.
[5] Ibid.

Historical & Target Returns

Institutional portfolios have significantly outperformed target returns on a trailing 3-year basis

	Target Return	Actual 3-Year Average	Actual 2022	Actual 2021	Actual 2020	Actual 2019
All Institutions	9.3%	10.7%	14.4%	6.9 %	10.9%	10.6%
By Type						
Public Pension	8.6%	9.8%	14.8%	4.7%	9.9%	12.2%
Private Pension	8.4%	12.6%	16.4%	12.2%	9.2%	10.5%
Insurance Company	11.0%	11.3%	11.7%	6.4%	15.9%	4.5%
SWFs & GEs	9.2%	10.3%	16.7%	4.3%	10.0%	12.3%
By Region						
The Americas	9.4%	11.0%	14.7%	7.3%	11.0%	10.6%
EMEA	6.9%	11.8%	16.6%	7.0%	11.7%	11.0%
Asia Pacific	11.2%	8.5%	11.1%	4.6%	9.6%	10.1%
By Size						
Greater than US$50 billion	9.1%	10.8%	16.3%	3.1%	13.0%	10.5%
Less than US$50 billion	9.4%	10.6%	13.4%	9.2%	9.3%	10.7%

Infrastructure portfolios generated an average investment return of 14.4% in 2022, representing a significant rebound from performance in 2021 of 6.9%. Cash flows from infrastructure assets are often adjusted for inflation and tied to indices, such as CPI, to hedge against future price changes. In 2022, inflation closed with a 6.5% reading as measured by CPI – the highest annual inflation rate since the early 1980s.[6] Inflation is only part of the equation, and while M&A was down in 2022, valuations were resilient compared to other private markets asset classes due to an expanding buyer universe that included strategics and financial players that have been willing to pay for access to the asset class. Auction processes have also been competitive given this expanded buyer universe and sellers have opportunistically divested of assets earlier than expected due to the lofty valuations being paid.[7]

More telling than recent 2022 annual performance is the fact that the 3-year average return across all institutions (~10.7%) exceeded target return levels (~9.3%). This is a meaningful data point because it reflects both the criticality and resiliency of infrastructure in what has been a turbulent three years, when factoring a combination of the world contending with COVID-19-related stay-at-home orders, rising inflation and interest rates, heightened geopolitical tensions, and supply chain pressures. Digging deeper into the data, the actual 3-year average return for private infrastructure exceeded target returns for all institutional investor types by 141 bps. Across regions, trailing 3-year returns exceeded investors' target returns, with the greatest outperformance reported by institutions based in the EMEA region, where institutions generated an 11.8% trailing 3-year return versus a return target of 6.9% in the region.

[6] U.S. Bureau of Labor Statistics' consumer price index. Data published Jan. 12, 2023

[7] Ropes & Gray. Private Equity Industry Insights (Issue No. 10). Calm in the Storm: Investing in Infrastructure. May 2023.

When evaluating performance based on size of institution, there was a marginal difference in the actual 3-year average return, which demonstrates the resiliency and role infrastructure can play as a portfolio stabilizer for institutional investors of all sizes. Lastly, returns in APAC are noticeably lower than what is represented in The Americas and EMEA. A possible explanation could be a smaller sample size representing the region. A larger sample set in next year's report could show different results or increase conviction in the return profile reflected below.

Exhibit 8: Target vs. Actual Returns, By Type of Institution

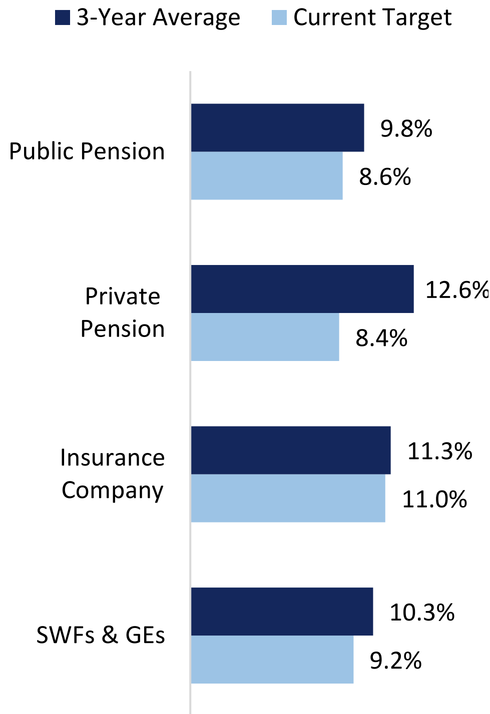


Exhibit 9: Target vs. Actual Returns, By Region of Institution

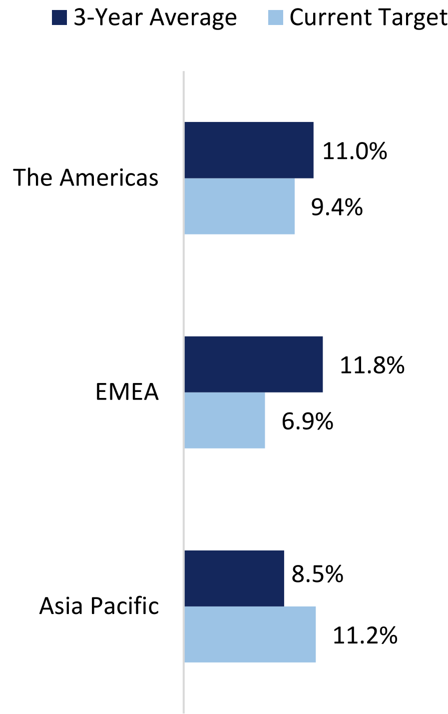
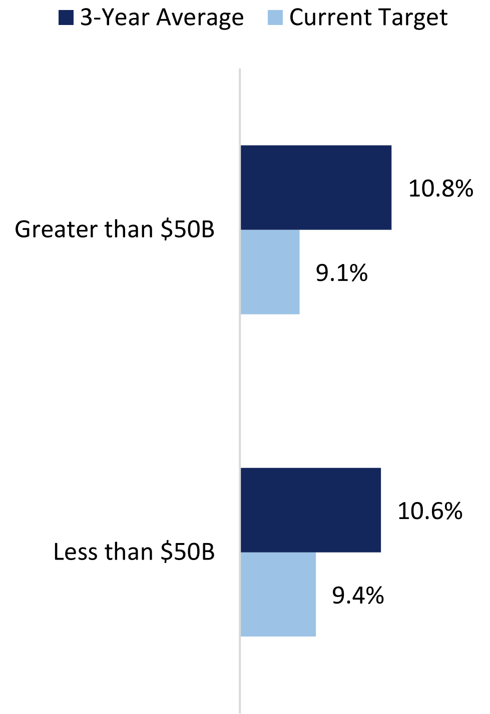


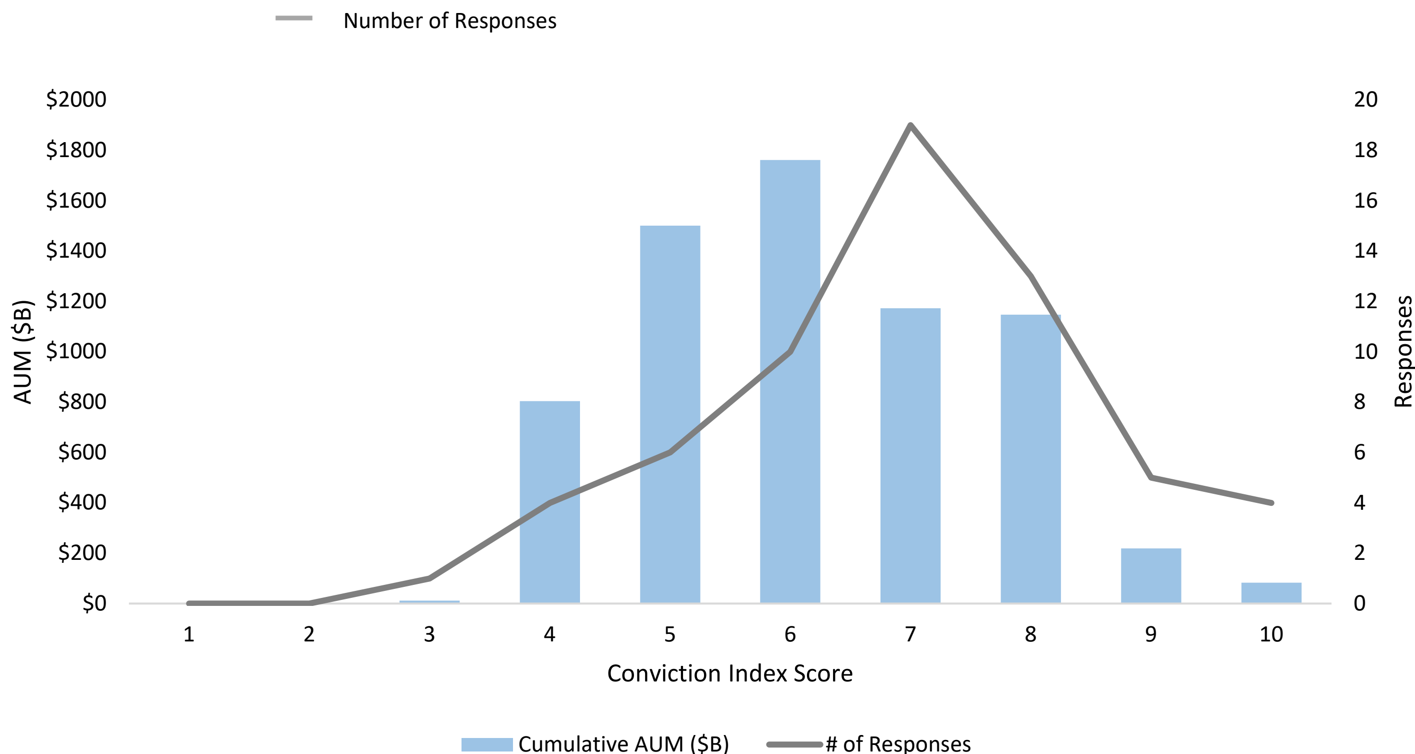
Exhibit 10: Target vs. Actual Returns, By Size of Institution



Conviction Index

Although institutions became increasingly cautious over the past several quarters in the face of heightened market volatility and denominator effect concerns, sentiment towards private infrastructure continues to be strong

Exhibit 11: Range of Conviction Index by Cumulative AUM, Number of Responses, All Institutions

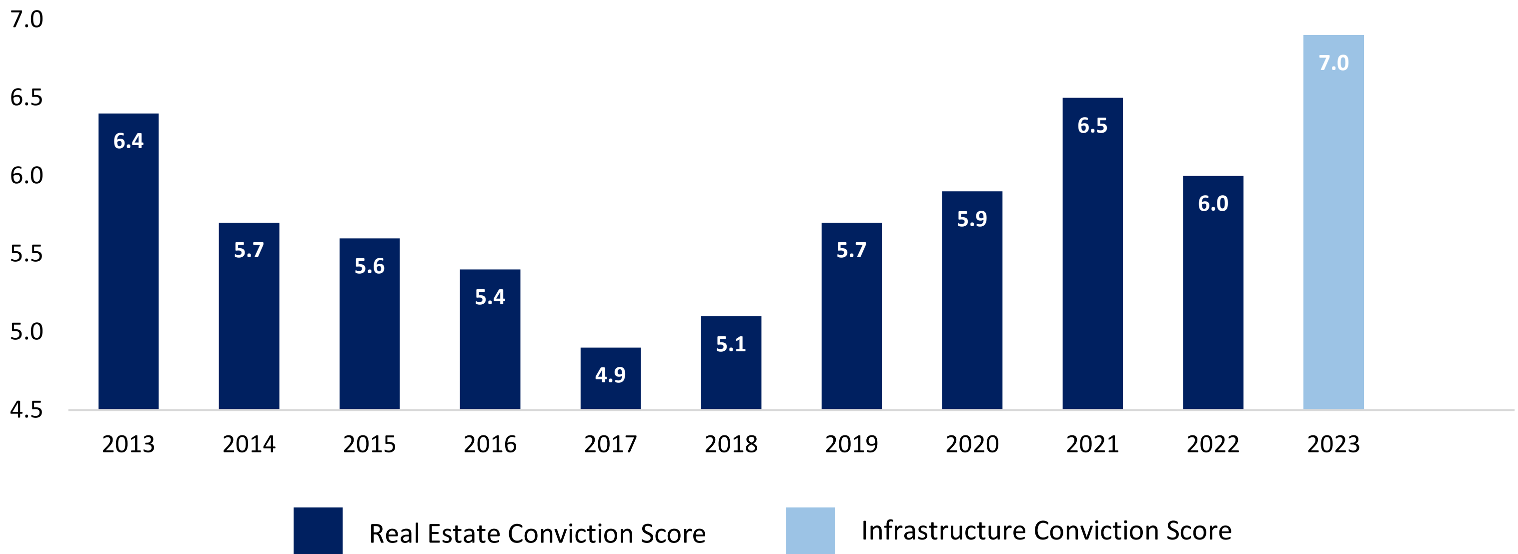


The Allocations Monitor asks investors to rate on a scale of one to ten their view of the investment opportunity in infrastructure from a risk/return perspective (one being the least favorable, ten being the most favorable). When evaluating the responses in isolation, given there is no year-over-year reference point, investors of size (i.e.,>$50 billion) appear more cautious about the opportunity set than smaller allocators, as shown in the chart above. That said, the line in the chart above demonstrates the right-biased distribution of positive conviction scores among institutions. Note the average conviction score of 7.0 exceeds the highest conviction score recorded in real estate over the ten-year period since the inception of the Real Estate Allocations Monitor.

In a higher volatility environment, it is not surprising to see greater emphasis placed on infrastructure investments. Across global markets, structural changes are redrawing the competitive landscape as the world seeks to accelerate digital capabilities, reduce dependence on fossil fuels and re-design geo-politically insulated supply chains. Investments in sustainable energy and energy security, for example, should benefit as a non-correlated inflation hedge. Essential assets such as roads, airports, and energy infrastructure can provide non-correlated, diversified returns and stable cash flows.

In a new global economic environment, the benefits of long-term cash flows, CPI-linked pricing and investment-grade counterparties can help insulate institutional portfolios from economic cycles.

Exhibit 12: Average Infrastructure (2023) and Real Estate (2013-2022) Conviction Scores, All Institutions[8]



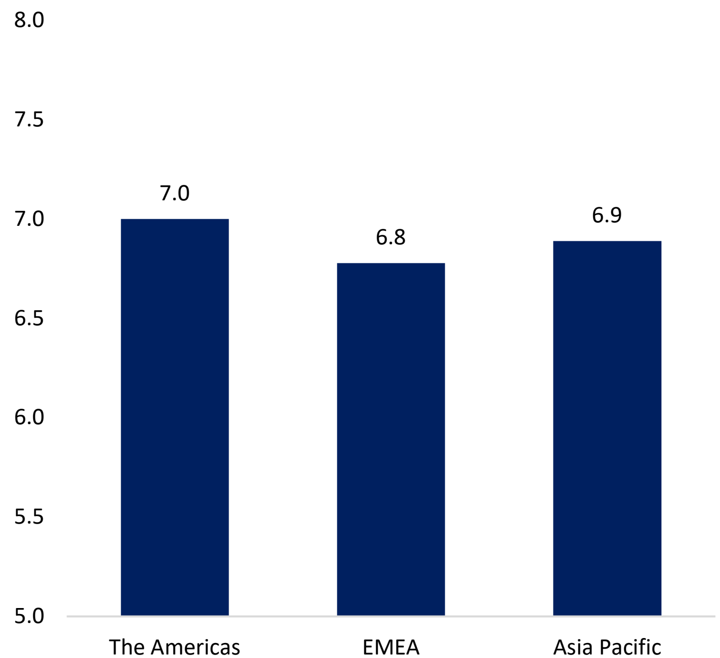
Institutional Conviction by Region

The data indicate that conviction in infrastructure as an asset class was strongest out of The Americas, with public pensions showing the most conviction. In line with that assessment, a Public Pension in The Americas cited that,

> *"Infrastructure is holding up well compared to other asset classes in our private markets portfolio. Allocating capital [to] real assets (physical assets) should be the strategy going forward. However, based on existing allocation and liquidity concerns, commitments to private markets overall is limited for 2023."*

Despite systematic risk in the form of the denominator effect plaguing private markets allocations over the last twelve months or so, sentiment towards infrastructure amongst allocators remains positive given the resiliency of performance through a rising interest rate environment, heightened geopolitical tensions, high inflation, and global supply chain challenges impacting all verticals of infrastructure.

Exhibit 13: Infrastructure Conviction, By Region of Institution, All Institutions

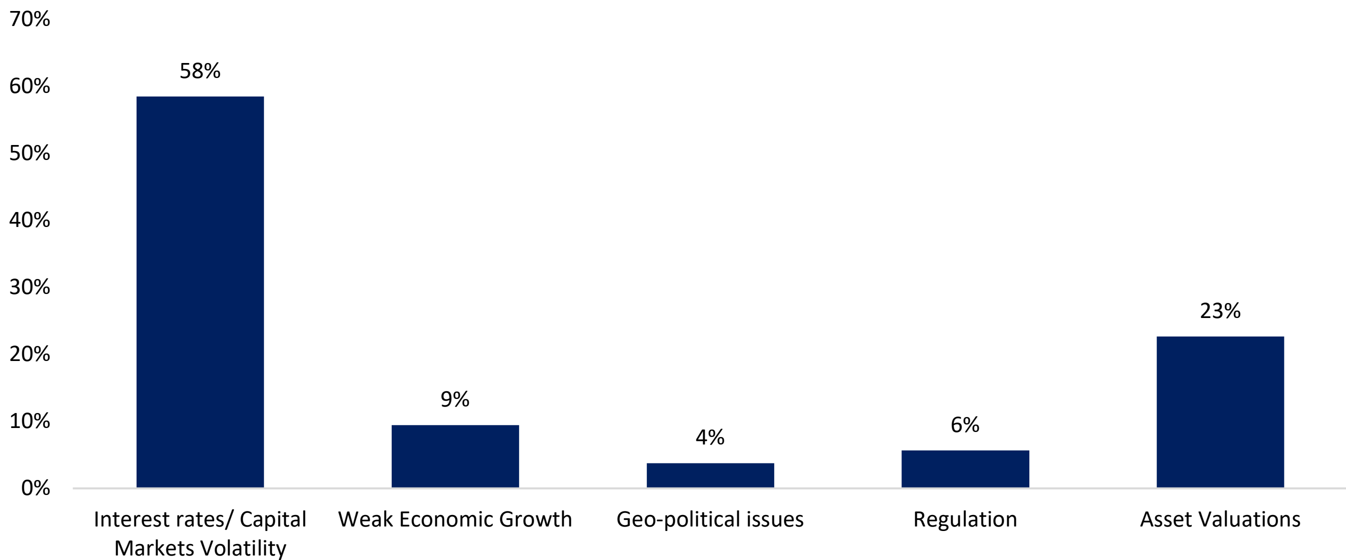


[8] Cornell University's Baker Program in Real Estate & Hodes Weill & Associates. Conviction Index. 2022 Institutional Real Estate Allocations Monitor

Infrastructure Risk Assessment

Investors cited interest rates and market volatility as their top concerns for infrastructure investing

Exhibit 14: Top Risks / Concerns for Infrastructure Investments in 2023, All Institutions



The Allocations Monitor asks investors to rank 12 different risks to infrastructure investments from 1-12, based on which they expect to have the greatest impact on infrastructure investment decisions in 2023. Most investors (58%) identified interest rates and capital markets volatility as their most significant concern. This result was consistent across geographic regions, institution types and sizes. Asset valuations with a strongly correlated, inverse relationship with higher interest rates were the top concern for nearly a quarter of respondents (23%). No other risk factors represented more than 10% of responses.

Over the last two quarters, investors have been forced to navigate a new environment defined by inflationary pressures, rising interest rates, multiple bank failures, and lagging private market asset valuations. Market volatility has pushed investors to diversify portfolios and increase allocations to infrastructure to capture stable cash flows and insulation from macroeconomic turmoil.

Key to many investors' ability to add resiliency to their portfolios is their ability to gain exposure to higher returning infrastructure strategies within their private markets allocations, generating similar returns to other alternatives, with less correlation to short-term market volatility. Still, 58% of investors cited interest rates and market volatility as their top concerns for infrastructure investing. Infrastructure projects rely heavily on long-term financing arrangements and as interest rates rise, the cost of borrowing becomes more expensive for development, and refinancing risk increases for existing assets, which will likely compromise the economic viability of projects and assets at the margin.

These challenges have further intensified a massive gap between infrastructure investment and the demand for capital, which McKinsey and Company estimates to be more than US$15 trillion through 2030.[9] In Q1 2023, fundraising challenges have no doubt increased that gap further, recording the worst private capital raising quarter in over a decade.[10]

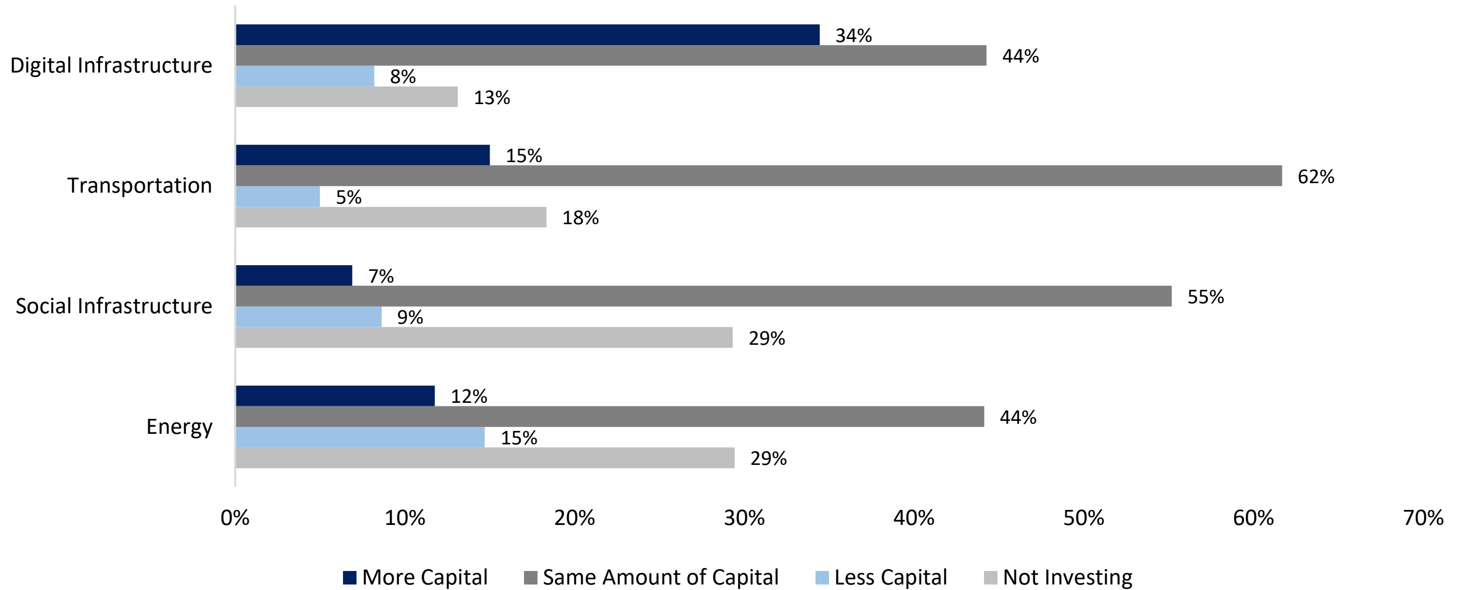
[9] McKinsey & Company. Private Markets Review 2023: Private markets turn down the volume. March 2023.
[10] Infrastructure Investor. Fundraising Report Q1 2023. May 2023.

Infrastructure Investment Intentions

Institutional investor preferences show digital infrastructure as the greatest sector of interest over the next 12 months

Exhibit 15: Investment Intentions in Infrastructure, All Institutions

Question: How much capital do you plan to invest in infrastructure in 2023 as compared to 2022 in the following sectors:



The Infrastructure Allocations Monitor asks investors to project how much capital they will invest across infrastructure sectors over the next 12 months compared to the prior 12 months, and institutions indicated that they have the most substantial appetite for digital infrastructure among the four major infrastructure verticals.

Interestingly, while digital infrastructure is top of mind for investors in 2023, the digital infrastructure vertical represented just 8% of capital raised by sector-specific funds in 2022.[11] While surprising, one potential explanation for the sentiment may be the lack of historical exposure to the asset class compared to other sectors. The lack of investment through sector-specific funds may signal that investors are comfortable accessing digital infrastructure exposure through diversified strategies.

Nonetheless, the widespread positive sentiment toward digital infrastructure is noteworthy. The proliferation of cloud computing, enterprise modernization, and mobile apps has underscored an accelerating global need for expanded digital infrastructure. Since the COVID-19 shutdown, the adoption of digital products and services has significantly outpaced expectations. In 2023, the global share of digital products and services represented 55% of all global products and services, a level previously forecast would not be reached until 2030.[12]

> *"What we saw during the covid pandemic is a pretty good indicator of how resilient and strong the sector is. Through the pandemic, we saw that many infrastructure sectors were indeed highly correlated to macroeconomic and geopolitical conditions: ports and airports were shut down; motorways were unused; boat traffic was slowed; oil and gas, electricity and water demand shifted. However, what did not slow down was digital infrastructure – we were still communicating (arguably more than ever). Video conferencing became the way for us to learn and work. People realized that digital infrastructure is probably the safest asset class because it was highly uncorrelated during this once-in-a-generation event that we all went through."*[13]

[11] Infrastructure Investor. 2022 Fundraising Report. February 2023.

[12] McKinsey & Company. The Internet of Things: Catching up to an accelerating opportunity. November 2021.

[13] Infrastructure Investor. Building the future's wireless network. June 2023.

Sentiment may also be connected to the rapid emergence of new technologies in 5G, Internet of Things, Artificial Intelligence and Edge Computing, all of which provide new tailwinds for digital infrastructure. These technologies, while nascent, continue to demonstrate the potential to reshape the digital I.T. landscape globally.

At the opposite end of the sectoral interest spectrum, demand for social infrastructure was weakest out of the four major categories, and it was the only sector that large institutions, with greater than $50bn AUM, do not plan to allocate more capital to in the near term. The only region with plans to increase social infrastructure allocations is The Americas, where 10% of respondents had a stated interest. Sentiment towards social infrastructure was weakest out of APAC, where roughly 38% of institutions plan to allocate less capital.

Exhibit 16 Investment Intentions, More Capital, Institutions with Greater than $50 Billion AUM

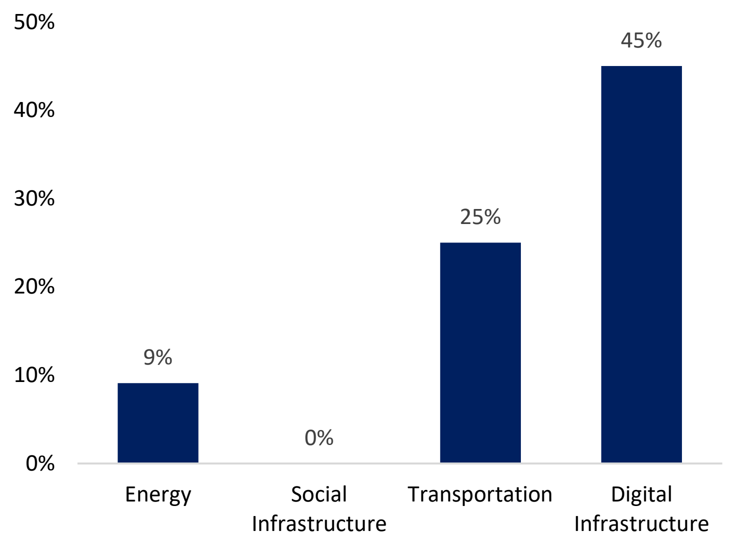
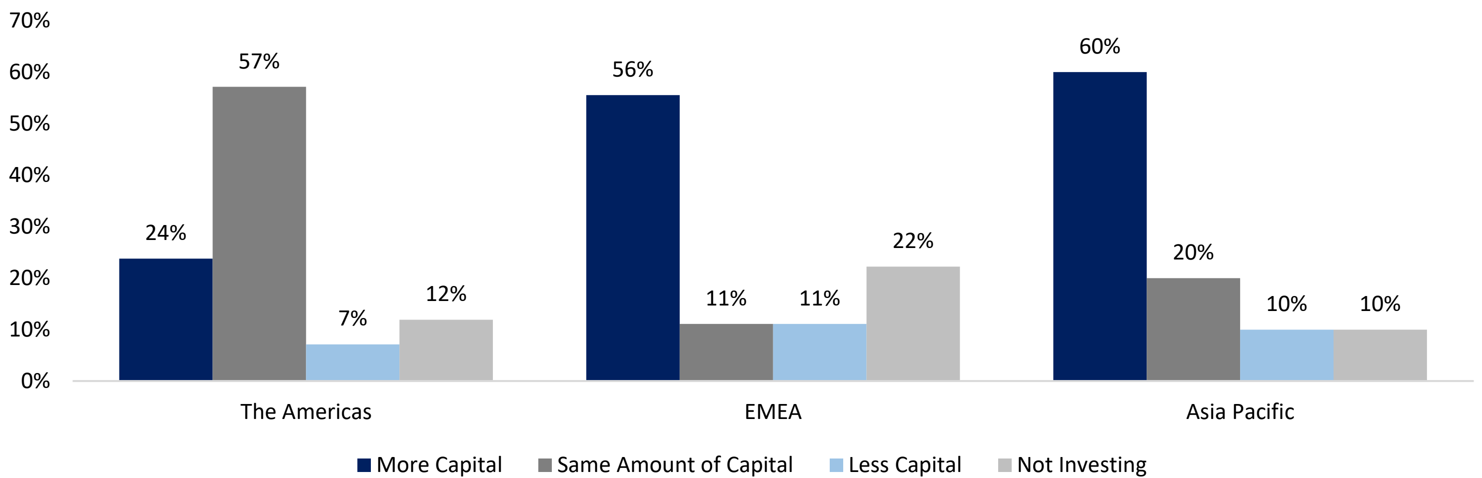
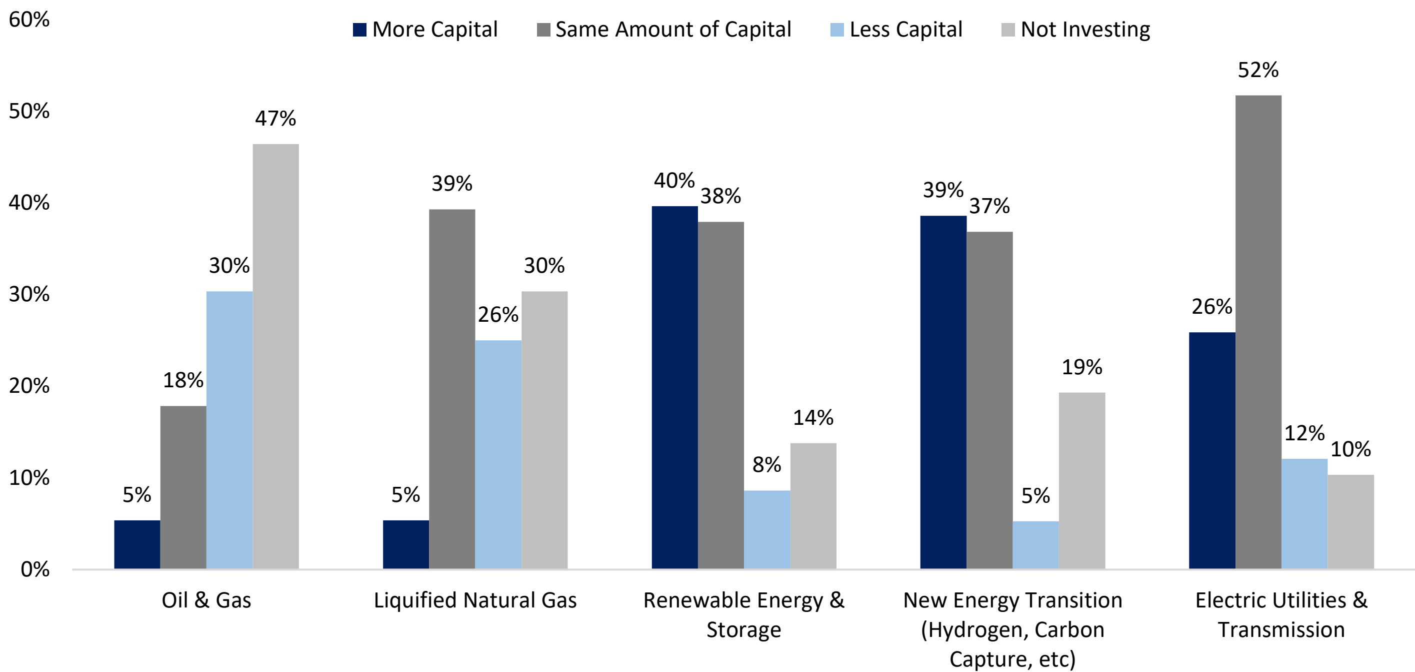


Exhibit 17: Investment Intentions in Digital Infrastructure, By Region of Institution



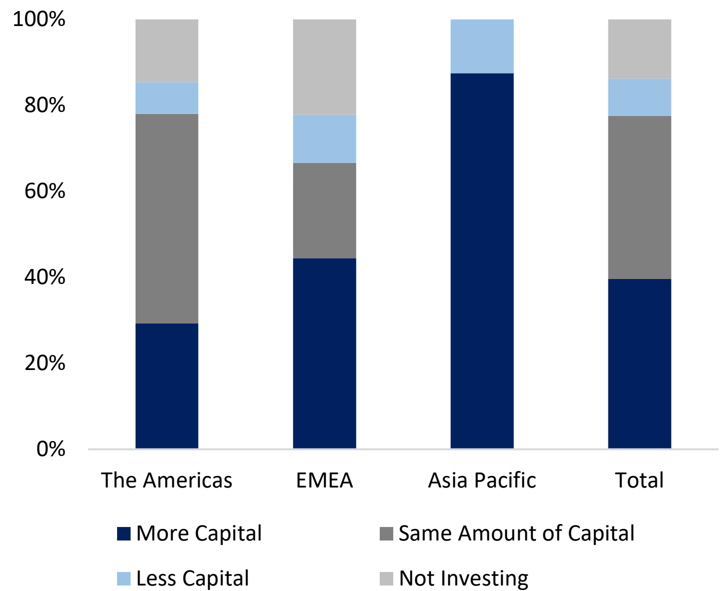
In particular, near-term interest in the digital sector is most pronounced in the Asia Pacific and EMEA regions, where the majority of institutions surveyed indicated that they intend to invest more capital in the sector over the next 12 months.

Exhibit 18: Investment Intentions in Energy Subsectors, All Institutions
How much capital do you plan to invest in infrastructure in 2023 as compared to 2022 in the following sectors:



As part of the Survey, institutional investors were asked which sub-segments of the "Energy" ecosystem they planned to allocate more, less, or the same to, and the results were consistent with recent fundraising data. Compared to 2022, 40% of respondents indicated that they plan to increase allocations to renewable energy and storage, which was more than any other Energy subsegment by a slim margin to "New Energy Transition," which encompasses asset types such as green hydrogen, carbon capture, etc. Roughly 39% of institutions surveyed indicated that they plan to invest more capital in this emerging and growing segment of the Energy Transition ecosystem. In FY 2022, there was approximately $40bn raised to sector-specific infrastructure funds, and renewables were responsible for a 55% share of capital raised – a figure that was exponentially higher than the capital raised to sector-specific digital funds.[14] Investor sentiment is strong for the energy transition ecosystem, and the data indicate investors prefer to access energy transition exposure through sector specialists rather than diversified managers.

Exhibit 19: Investment Intentions, Renewable Energy & Storage, By Region of Institution



Roughly 76% of all institutions reported that they are either not investing or investing less capital in oil & gas – the only region where investors plan to allocate more to oil & gas was in The Americas (~7%). Sentiment towards Liquified Natural Gas ("LNG") was also lukewarm, with roughly 55% of institutions either not investing or decreasing investment.

[14] Infrastructure Investor. 2022 Fundraising Report. Published February 2023.

Exhibit 20: Investment Intentions, Renewable Energy and Storage, By Type of Institution

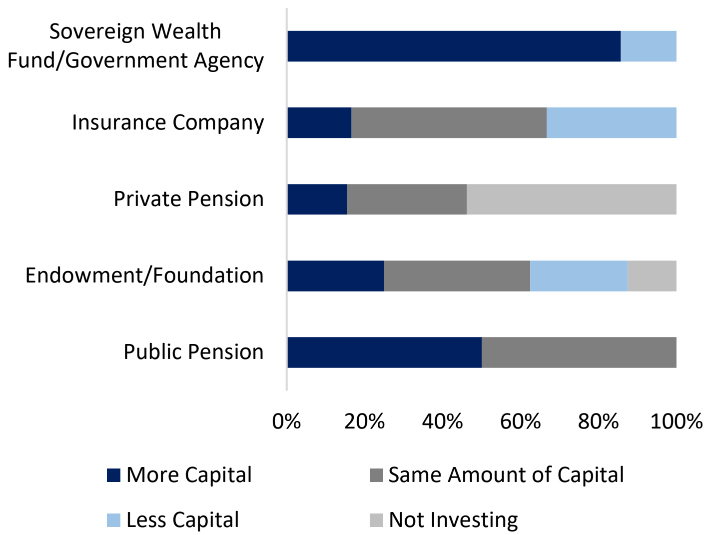
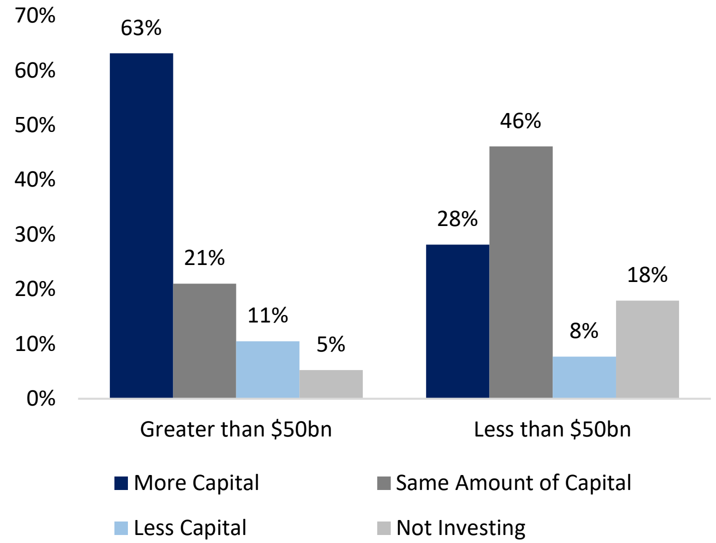
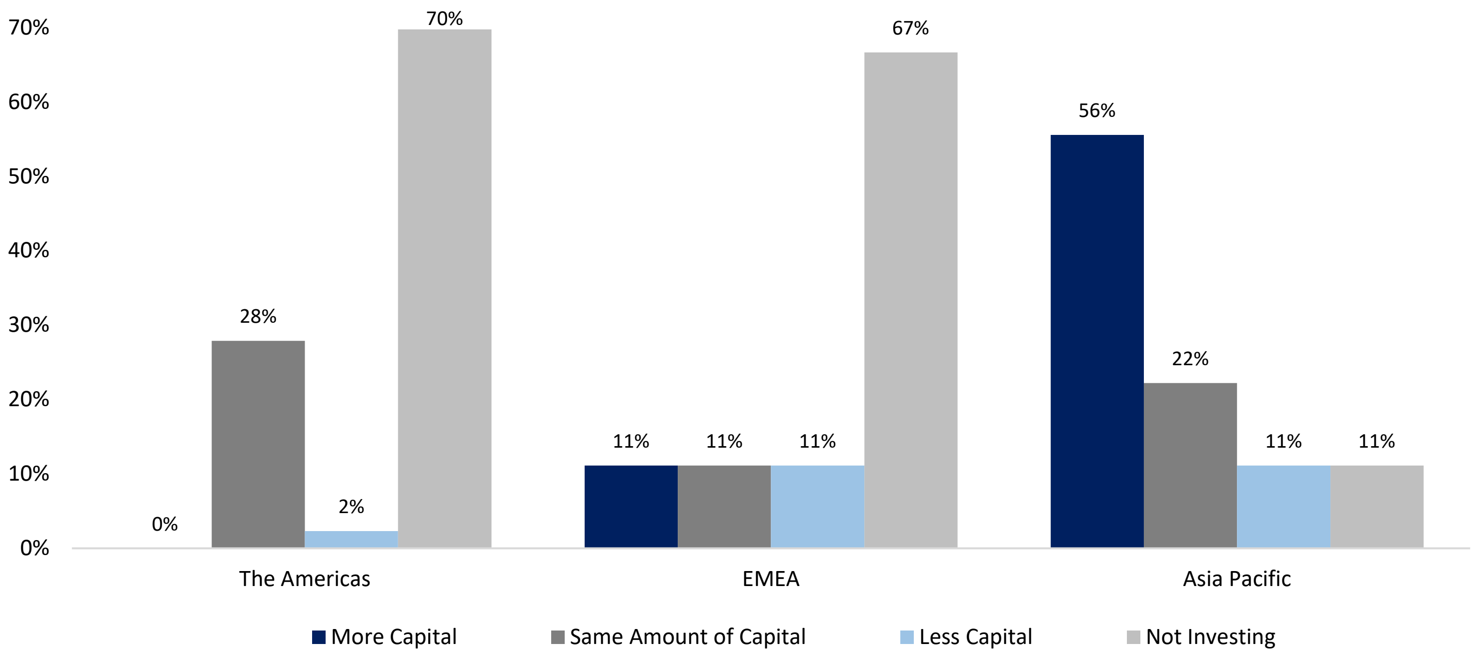


Exhibit 21: Investment Intentions, Renewable Energy and Storage, By AUM of Institution



SWFs and Public Pensions plan to increase allocations to renewable energy and storage more than any other investor type, while regionally, APAC investors have the strongest appetite for this sub-segment of the market. When evaluating sectoral allocation trends in renewable energy & storage and new energy transition, interest from larger institutions (i.e., greater than $50bn in size) is more than double that of smaller institutions (i.e., less than $50bn in size). That said, smaller institutions plan to allocate to renewable energy and storage (~28%) more than any other energy sub-sector, with new energy transition (~26%) in second. Across the size spectrum, demand for energy transition exposure remains robust and could continue the trend of renewable energy / new energy transition being responsible for the greatest share of sector-specific infrastructure fundraising over the near term.

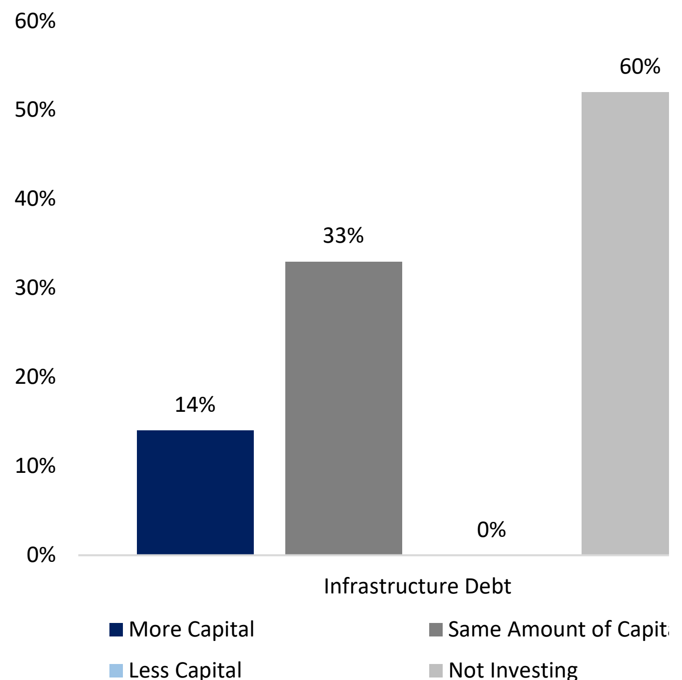
Exhibit 22: Investment Intentions in Infrastructure Debt, By Region of Institution



With rising interest rates, interest in infrastructure debt has increased, especially in the Asia-Pacific region, as the risk-adjusted return becomes comparatively more attractive compared to SuperCore and Core equity infrastructure strategies. Approximately 56% of all APAC institutions plan to invest more capital in infrastructure debt over the next 12 months.

Interestingly, none of the participating institutions from The Americas indicated that they plan to invest more capital into infrastructure debt. This result appears slightly inconsistent with the prevailing market sentiment. One potential explanation may lie in the complexities involved in bucketing infrastructure det between real assets / infrastructure and private credit. Since the Survey's respondents primarily sit within infrastructure equities teams, the data may not reflect allocations to infrastructure debt bucketed into private credit. Still, 47% of institutions with greater than $50bn AUM intend to invest the same or more capital in infrastructure debt, and 0% large institutions reported intentions to invest less capital. Historically, investors have sought infrastructure debt for several reasons: i) predictable cash flows, ii) the long-term nature of infrastructure assets, iii) inflation participation, and iv) diversification benefits. Sentiment towards this market segment may continue to improve if rates remain static and entry valuations in the SuperCore/Core space hold firm.

Exhibit 23: Investment Intentions in Infrastructure Debt, Institutions with Greater than $50bn AUM, All Institutions



Risk Preferences

Institutions are favoring higher return strategies as portfolios mature, and a rising rate environment impacts the relative attractiveness of SuperCore and Core strategies

Exhibit 24: Risk Preference, Investing More Capital in 2023, All Institutions

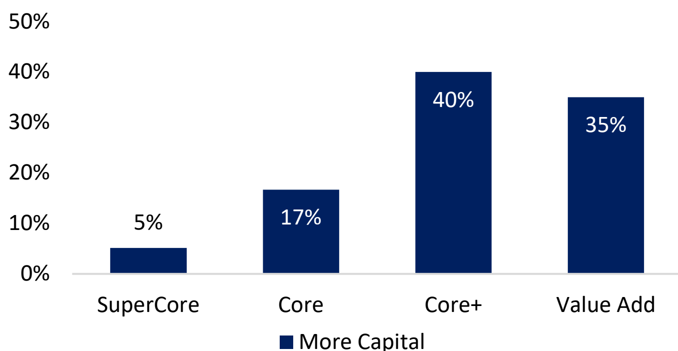


Exhibit 25: Risk Preference, Investing More Capital in 2023, By Region of Institution

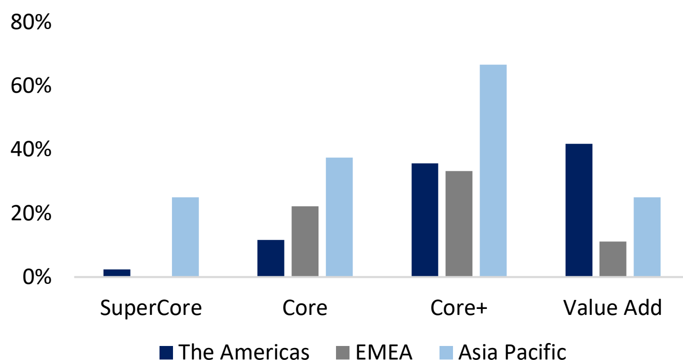
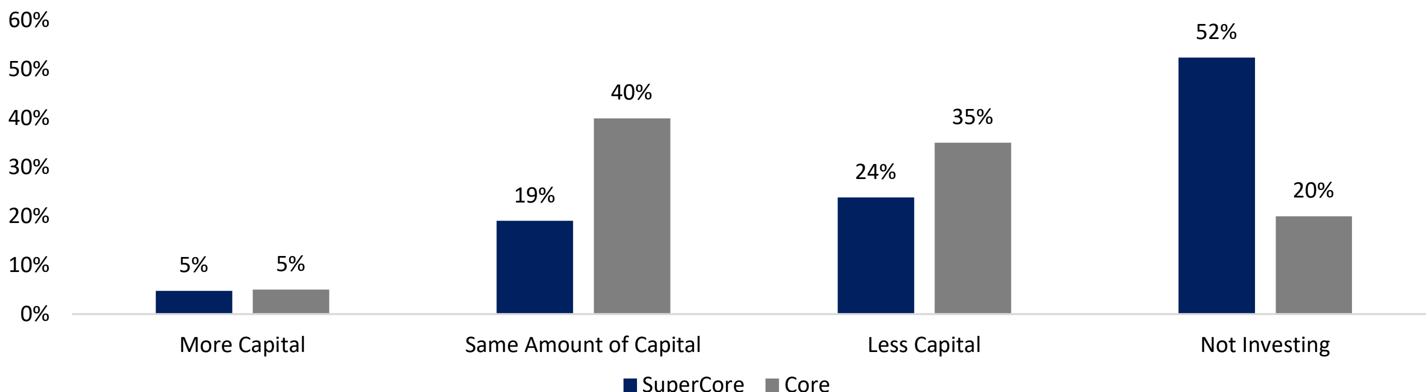


Exhibit 26: Risk Preference (Core), Institutions with Greater than $50bn AUM



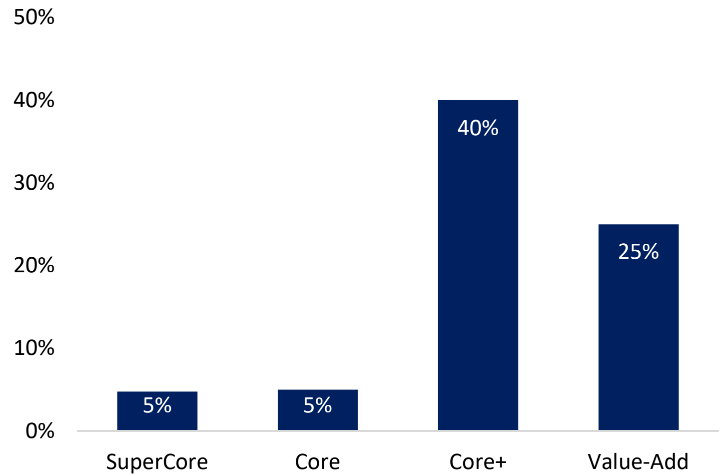
Institutions continue to gravitate toward higher risk, higher return Core+ and Value-Add infrastructure strategies. A rising interest rate environment has posed a challenge to the relative attractiveness of lower returning SuperCore and Core infrastructure strategies – look no further than the decreased appetite for these two sub-categories amongst large institutions (greater than $50bn) compared to Core+ and Value-Add strategies. This sub-group of investors is expected to invest less capital into SuperCore (~25% of respondents) and Core (~37% of respondents) over the foreseeable future. As an additional data point, approximately 95% of institutions with greater than $50 billion AUM intend to invest the same amount or more capital in Core+ and Value-Add infrastructure strategies.

As one could expect, investor risk preferences vary by region and type of institution. Regionally, demand for Value-Add infrastructure is most significant from North America-based investors, consistent with the sentiment over the last several years. Investor intentions to grow allocations to Value-Add strategies in The Americas (~42%) is almost four times greater than in Europe (~11%), while approximately 22% of APAC investors plan to allocate more capital into Value-Add. Interestingly, demand for Core+ infrastructure amongst APAC investors is robust, with 60% of respondents stating they plan to increase capital to this risk bucket. The increased desire for Core+ infrastructure could be a function of a historical preference and allocations in the region for lower-risk, lower-returning strategies in the SuperCore and Core segments of the market. This data could be a sign that APAC investors are now looking to diversify their infrastructure portfolios with exposure that is one degree removed from existing exposures, as opposed to moving further up the risk curve.

When evaluating risk preference by institution type, the results appear to be in line with each institutional investor's return objectives. For example, Insurance Companies, which are highly focused on liability matching, have the greatest growth in appetite for Core (~29%) compared to other institutional investor types. On the other end of the spectrum and in line with the higher return threshold on private investments typically required of Endowments & Foundations, the data suggest that this type of institutional investor overwhelming favors Value-Add infrastructure (~75%) compared to Core+ (~25%) and Core (~13%) strategies.

From a size perspective, institutions with greater than $50bn AUM do not plan to increase allocations to SuperCore and Core infrastructure strategies meaningfully. Approximately 52% of large institutions are not investing in SuperCore, while 20% are not investing in Core infrastructure. The strongest interest amongst large institutions appears to be in the Core+ segment of the market, where roughly 40% of respondents plan to increase allocations.

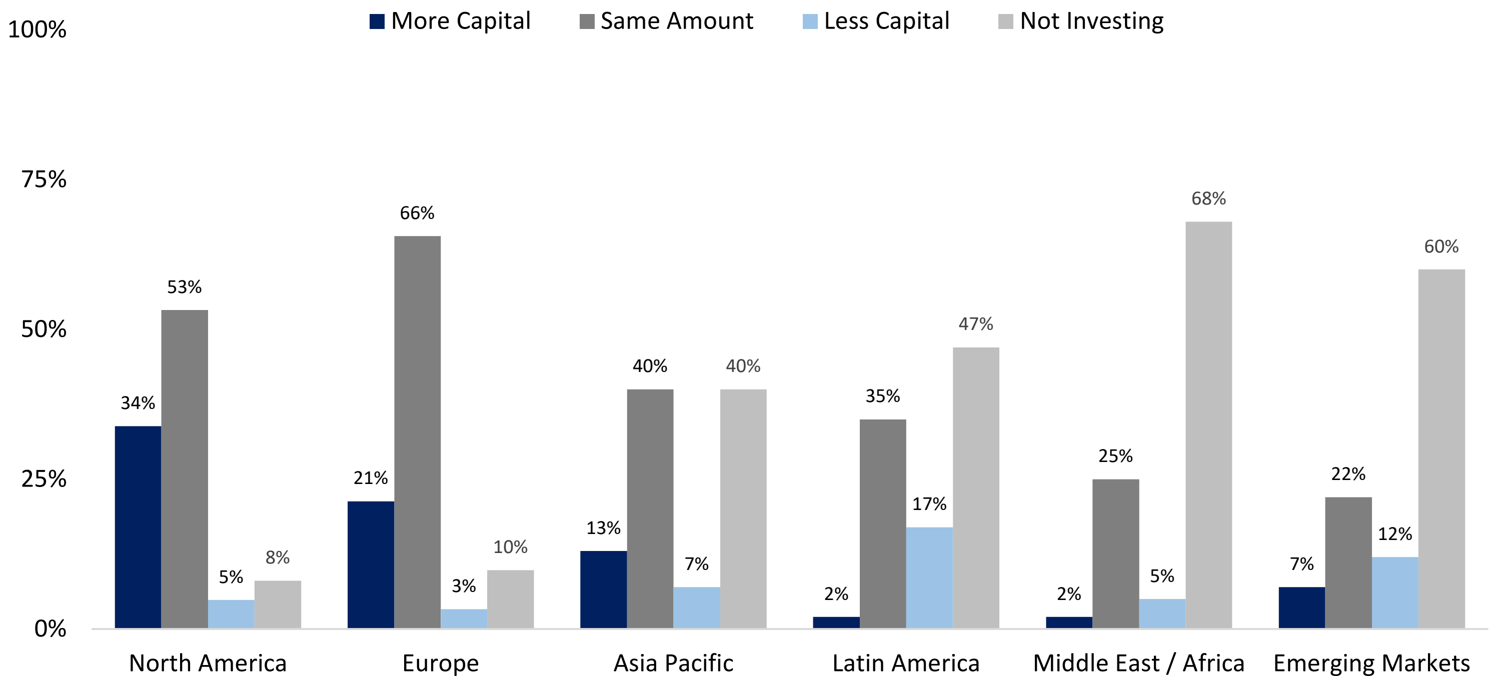
Exhibit 27: Risk Preference, Investing More Capital in 2023, Institutions with Greater than $50bn AUM



Geographic Preferences

Institutional investors globally are planning to grow allocations to North American infrastructure opportunities more than any other geographic region

Exhibit 28: Geographic Investment Intentions, All Institutions



At a high level, roughly 34% of investors expect to grow allocations to North America, followed by Europe at ~21%. Expected growth in North America could be driven by the Inflation Reduction Act of 2022 (the "IRA"), a landmark piece of legislation and the single most significant investment in climate and energy in U.S. history.[15] When factoring in investors' sectoral preference for renewables and new energy transition, one could reasonably assume demand for North American exposure is largely driven by the IRA. Interest in North America is strongest from EMEA-based investors, where approximately 44% of respondents indicated a desire to invest more capital in the region. Demand for North American exposure is highest for both large and small institutions.

In APAC, investor interest is primarily driven by APAC-based allocators, with roughly 38% of respondents expecting to increase allocations to the region. Approximately 11% of EMEA investors plan to increase allocations to the Asia-Pacific region, exceeding interest from North American (~9% of institutions) LPs. Roughly 44% of North American investors are not investing in APAC, a considerably higher figure than EMEA, where approximately 33% of investors are not investing in APAC.

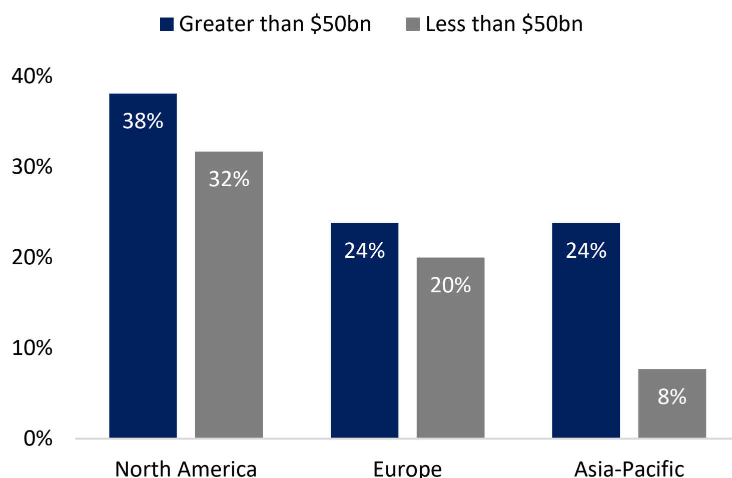
As for where demand is waning, investors are decreasing allocations to Latin America more than any other region (~17%). Roughly 69% of institutions surveyed are not investing in the Middle East / Africa, the highest percentage of inactivity in any region.

[15] McKinsey & Company. The Inflation Reduction Act: Here's what's in it. October 2022.

When breaking down geographic preference by institution size, the data suggest that smaller institutions have more of an aversion to APAC than larger institutions. Approximately 24% of large institutions expect to allocate more capital to APAC over the next 12 months, compared to 8% from smaller institutions – the delta between the two is highest in APAC out of all regions surveyed. Roughly 44% of smaller institutions do not invest in APAC, which is higher than the 33% of large institutions surveyed. No large institutions surveyed plan to allocate less capital to APAC.

APAC exposure continues to trail regions like North America and Europe as infrastructure portfolios mature. The reason is not due to a lack of need for infrastructure in the region – it is estimated that $4.7 trillion is needed to close the infrastructure spending gap through 2040.[16]

Exhibit 29: Geographic Preference, Investing More Capital in 2023, By Size of Institution



With less institutional capital chasing a growing supply of deal flow in the APAC market, an allocation to APAC infrastructure could potentially offer institutions an avenue to navigate return compression that has impacted traditional, finite, hard-infrastructure in developed regions across Europe and North America over the last several years. This data could suggest that the dispersion of returns between small and large institutions could expand, with large institutions generating higher returns over the near term. A higher return profile is typically subject to more volatile outcomes.

Commentary by Dr. Rick Geddes

The recently released findings from the first-ever Infrastructure Allocations Monitor reveal several important insights. Among the most important are the changes in desired allocations across regions, with a strong preference toward developed markets. For example, 34 percent of investors expect to increase their allocations to North America while 21 percent expect to increase allocations to Europe. In contrast, 60 percent of respondents report that they are not investing in emerging markets while 40 percent report that they are not investing in the APAC region. Moreover, interest in North America is strongest from EMEA investors where 57 percent of respondents indicated a desire to invest more capital.

These findings suggest that North American markets may be appealing due to a series of recent bills passed in the United States that significantly increase spending on infrastructure, a bipartisan consensus that aging systems need to be upgraded, a willingness to streamline the permitting process, and a growing willingness to embrace private infrastructure investment, among other reasons. Overall, the findings suggest a bright future for infrastructure investment across these important developed markets.

[16] Koh, N. Pionline. Global Investors Eye Climate Infrastructure Assets Asia Pacific. June 2023.

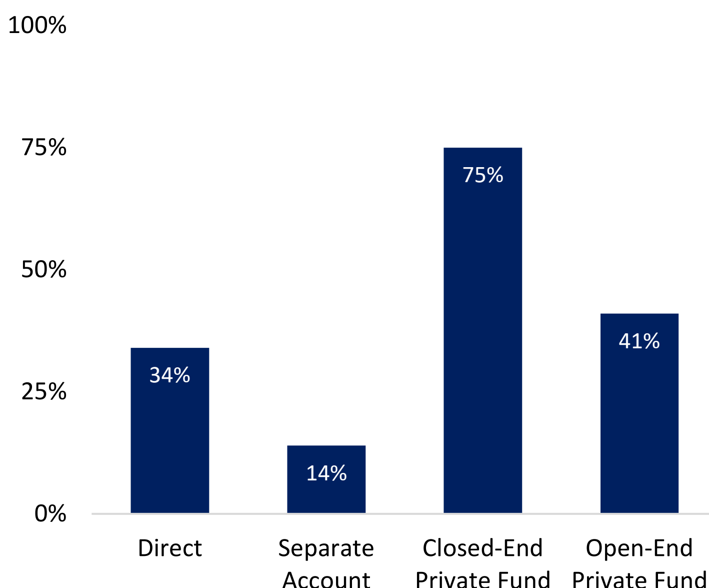
Investment Product Trends

Closed-end funds are institutions' preferred route for accessing the infrastructure asset class.

Data gathered on investment product trends point to closed-end private funds being the preferred medium for institutional investors to access the private infrastructure asset class. Roughly 75% of the institutional investors surveyed preferred closed-end vehicles, while demand for open-end private funds came in second at ~41%. Interestingly, in a report released in December 2022, roughly $55 billion of private capital had been invested in open-end funds in the preceding 18 months – this accounted for roughly 39% of all such equity fundraising since inception.[17]

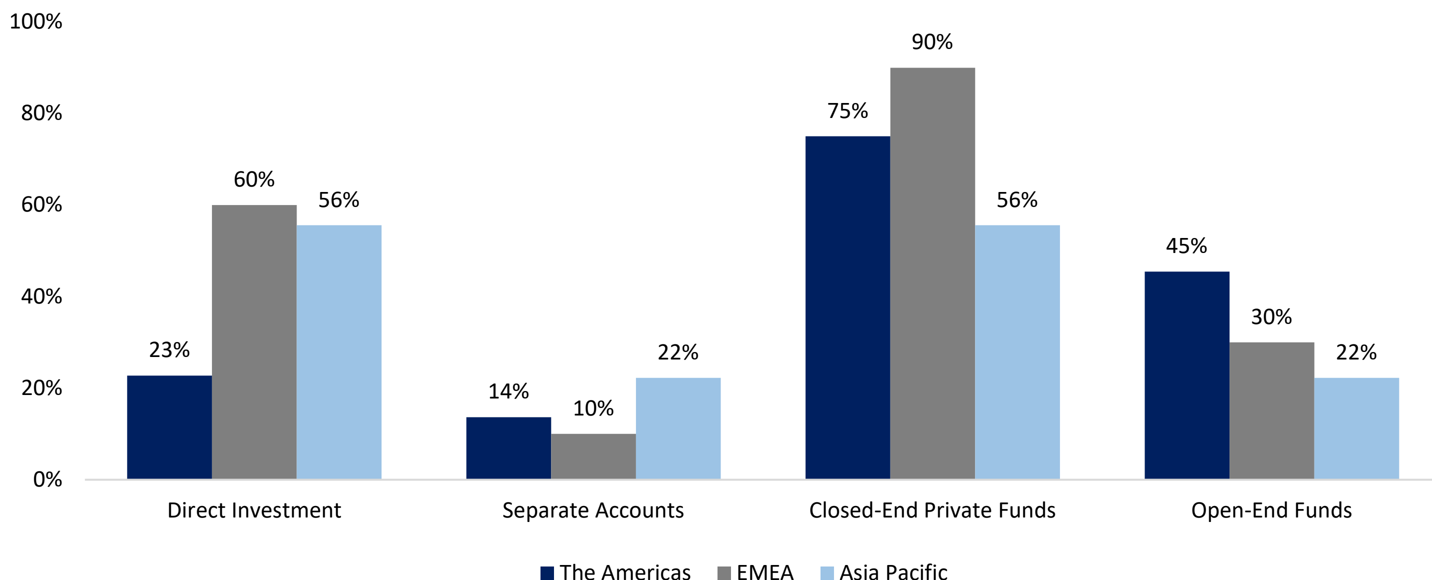
Not only has capital raised via open-end funds accelerated in recent years, but the number of open-end products has also grown significantly. There were 20 open-end funds active in the market in 2018, while 20 open-end funds had launched in 2022 alone.[18]

Exhibit 30: Investment Product Preferences, All Institutions



The supply of open-end funds has grown, making it more accessible for institutional investors to access the open-end fund market – and this has clearly been reflected in capital flows to this particular structure. Given the amount of open-end allocations made in the last several years, investors could be pivoting to closed-end products on the higher end of the risk/return spectrum as an avenue to enhance the diversification of private infrastructure portfolios.

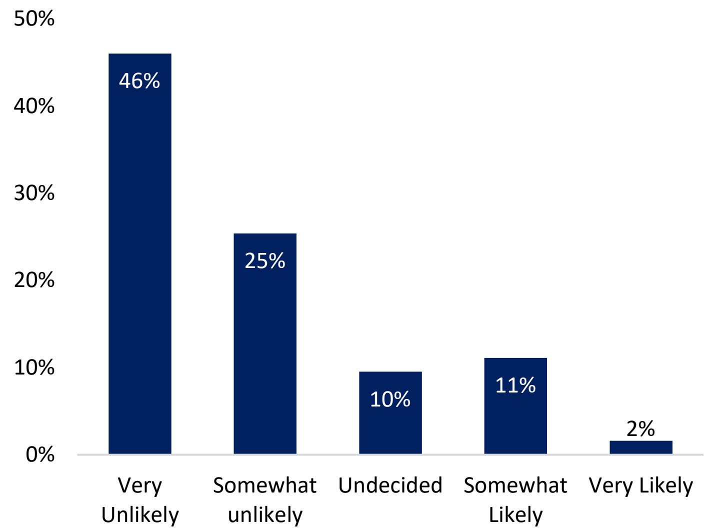
Exhibit 31: Investment Product Preferences, By Location of Institution



[17] Alves, B. Infrastructure Investor. The Explosive Growth of Open-End Funds. December 2022.
[18] Ibid.

As the infrastructure asset class has matured, so has the sophistication of the institutional investor universe. Historically, large institutions from regions like Canada, Australia and Scandinavia have often elected to access the asset class directly to average down or avoid fees associated with primary funds altogether. As investment staff become better versed in infrastructure investing, the desire for direct investment has accelerated in other regions like the Middle East and the U.S.; and this is reflected in data of the inaugural Infrastructure Allocations Monitor, where roughly 1/3 of Participants indicated interest in direct investment. This trend is popular with larger institutions, as 52% of respondents in this segment of the market expressed a desire to access private infrastructure directly, compared to 24% of institutions with less than $50bn in AUM. As institutional appetite for direct investment increases, greater sophistication among investment staff will be required, given the complexity of investing in critical infrastructure.

Exhibit 32: Likelihood to Invest with a First-Time or Emerging Infrastructure Manager, All Institutions



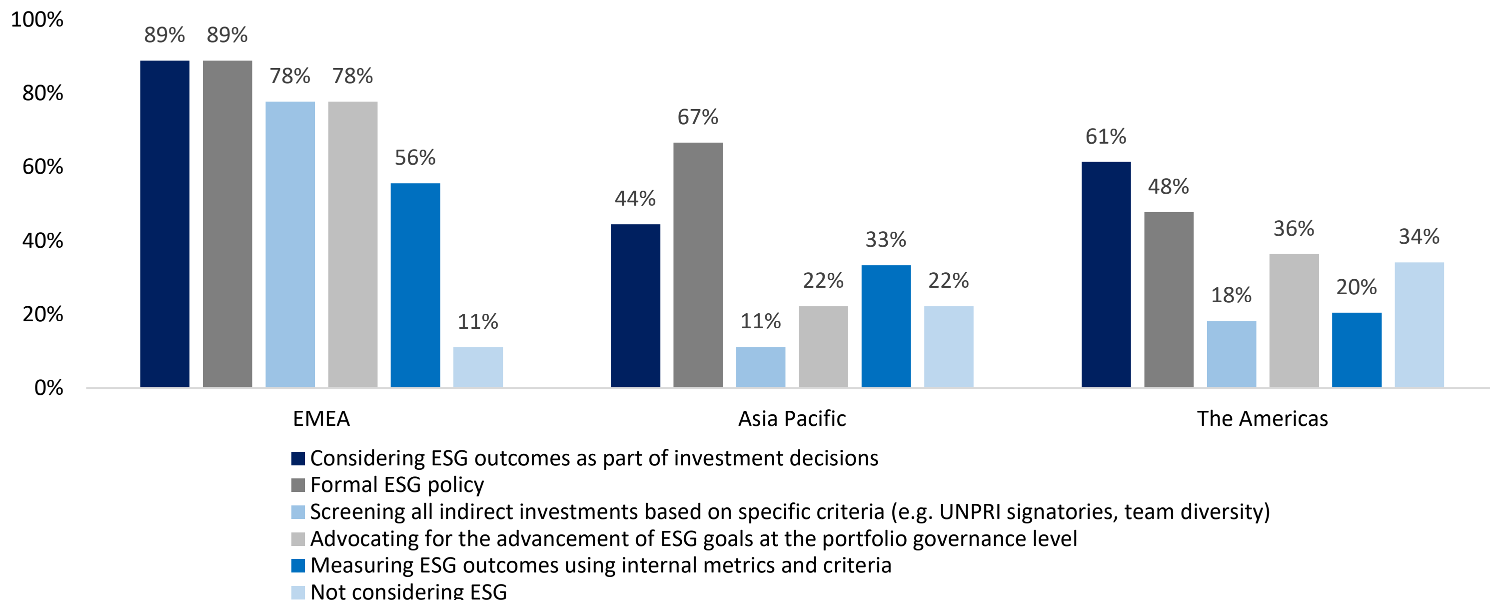
Consistent with observations over the last 12 to 24 months, the appetite for first-time funds or emerging managers is quite limited.[19] Approximately 71% of institutions surveyed indicated they are either very unlikely or somewhat unlikely to invest in a first-time fund or with an emerging manager. This could be a function of a confluence of reasons: i) some institutions are prohibited from investing in first-time funds as part of their investment policy statement ("IPS"), ii) the denominator effect has impacted the availability of capital for new relationships at the margin, and iii) new parallel product from existing manager relationships, whether it be middle-market or sector-specific (i.e., energy transition), are soaking up capital allocations from institutions seeking diversification in their maturing infrastructure portfolios.

[19] Caroll, A. Infrastructure Investor. First-Time Fortunes for Emerging Managers. February 2023.

Environmental, Social & Governance (ESG)

ESG remains a major global focus for investors, but the approaches to integrating ESG into investment decisions vary widely across regions

Exhibit 33: Approaches to Integrate ESG & DEI into Investments, By Region of Institution



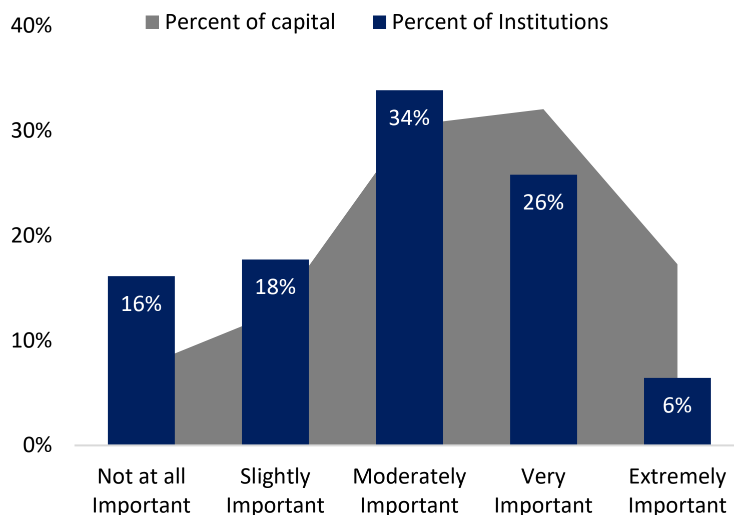
ESG Considerations

Given interest in ESG over the last several years, the Survey included several questions to assess how institutions are considering ESG and the importance of ESG considerations in investment decision making. Globally, 84% of institutional investors consider ESG at least "slightly important" in their investment decisions, while only 16% consider ESG "not at all important" to portfolio management decisions. Further analysis of the data on a weighted-capital basis shows a more telling figure – institutions that consider ESG at least slightly important to investment decisions represented 93% of total capital under management. However, the approaches to integrate ESG into investments varied significantly.

Globally, most institutions have implemented a formal ESG policy, and more than 63% reported that they consider ESG outcomes as part of their diligence and investment decisions, in addition to financial returns. On a weighted capital basis, investors who reported considering ESG outcomes as part of their diligence process represented 79% of the aggregate AUM surveyed.

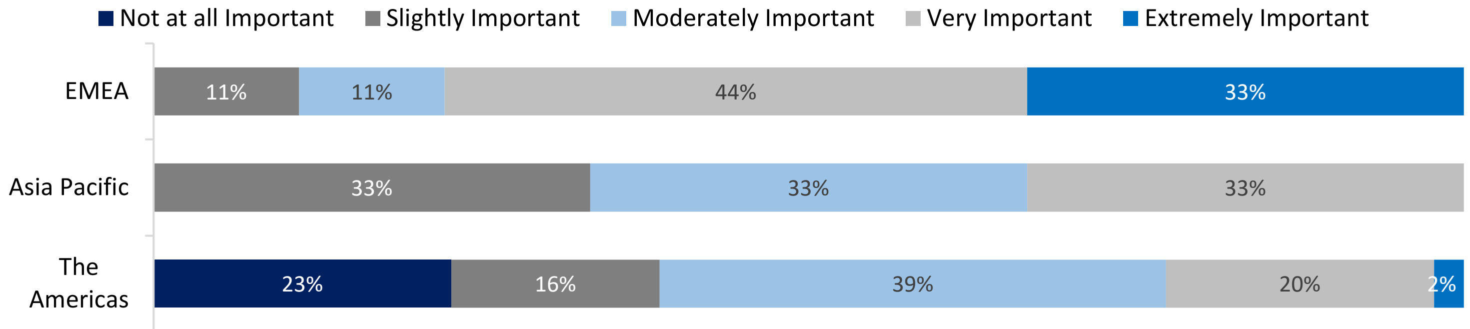
While the data may be skewed by overrepresentation of North American institutions, there is some evidence that EMEA and APAC institutions have more mature ESG and sustainable investment programs. In the EU, for example, investors have become more accustomed to formal sustainability programs. The Sustainable Finance Disclosure Regulation (SFDR) has been in effect since 2021 and was recently expanded on with the introduction of the EU Corporate Sustainability Reporting Directive (CSRD).

Exhibit 34: ESG Importance in Investment Decisions, All Institutions



Consistent with recent headlines, ESG has been slowest to take hold in The Americas, where 34% of institutions do not formally integrate ESG criteria into their investment processes, compared to 10% of EMEA and 22% of APAC-based investors. These regional differences had a greater magnitude when investors were asked how important they consider ESG criteria in their investment decisions. In The Americas, 23% of institutions reported ESG was "not at all important to their investment decisions"; on the other hand, 100% of EMEA and APAC institutions reported that ESG was at least slightly important. Additionally, 77% of EMEA investors and 66% of APAC investors considered ESG very or extremely important compared to just 22% of institutions in The Americas. Still, the most significant differences emerge in investors' willingness to adopt specific frameworks to measure and assess ESG outcomes in their decision making. 78% of EMEA-based institutions screen all indirect investments using a specific framework, compared to just 18% of institutions in The Americas and 11% in the APAC region.

Exhibit 35: ESG Importance in Investment Decisions, By Region of Institution



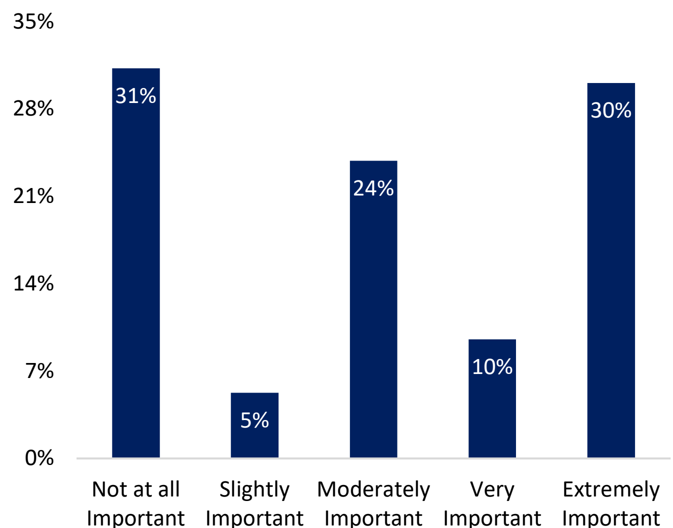
There has been a material increase in anti-ESG political rhetoric in the United States, with at least seven states having passed legislation discouraging or prohibiting public funds from considering ESG factors when investing state resources. While 13 states have considered similar legislation, many of these resolutions have been watered-down or rejected. When looking specifically at U.S. investors by weighted capital, the data reflect a bi-modal distribution along the extremes, with 31% considering ESG "not at all important" and 30% "extremely important".

Despite this polarization, it's important to note that approximately 70% of institutions in the United States by both number (~71%) and weighted capital (~69%) consider ESG at least slightly important. Results show a great deal of diversity in institutional weighting of ESG-criteria and how they are implementing ESG-frameworks and processes into portfolio management processes.

It's possible the dispersion in responses relates to the challenges in agreeing upon a shared definition of ESG objectives and how to measure them. In EMEA, 78% of institutions screen all indirect investments based on specific criteria and frameworks; comparatively, 18% of institutions in The Americas and 11% of institutions in the Asia-Pacific region have implemented this approach.

The Survey results suggest a majority of institutions have partially or fully integrated ESG principles into their portfolio management and investment decisions, but the implementation and execution strategies vary widely.

Exhibit 36: ESG Importance in Investment Decisions, Institutions in the United States, By Weighted Capital



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