

CBRE Global Data Center

2023 Investor Sentiment Survey Results

Market Review & Outlook

JUNE 2023



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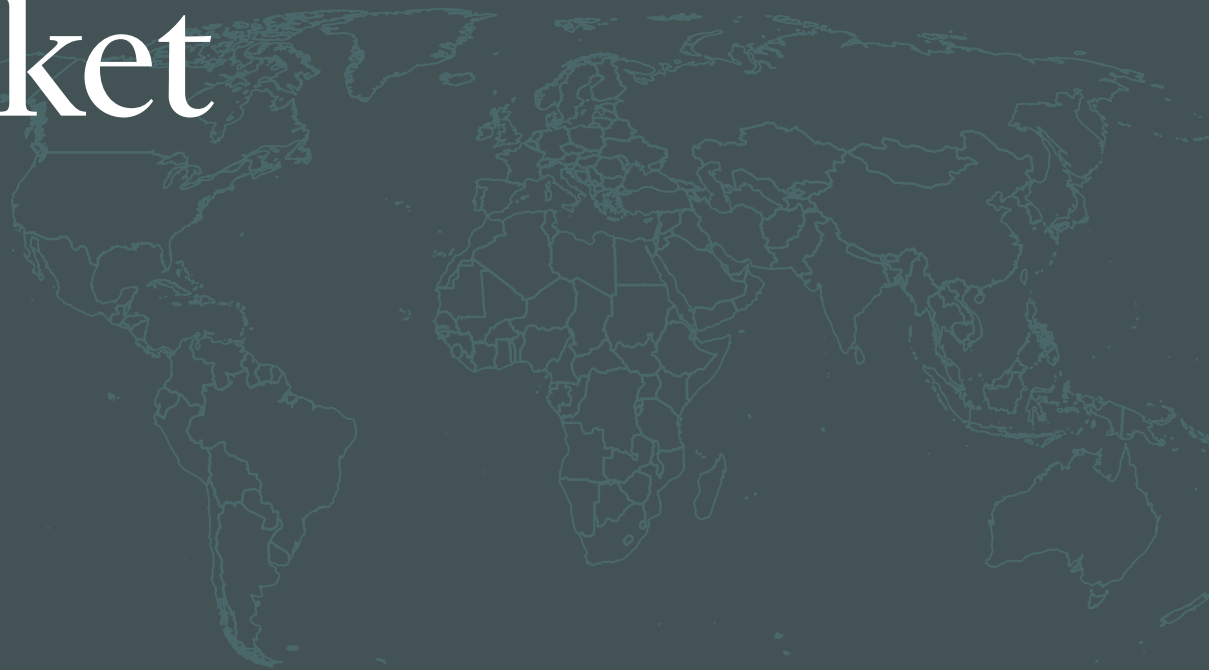
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01

Global Data Center Market

OVERVIEW



Global Data Center Market Overview

89% of respondents plan to increase their overall investment in data centers in 2023.

54% of respondents, up from 35% in the prior year, expressed interest in hyperscale turnkey investment opportunities in 2023, more than any other market segment, including powered shell.

Once seen as a niche sector within real estate, data centers have come to the forefront and emerged as a bright spot, driven by new age technologies. Artificial intelligence, augmented reality, remote working, distance learning, online entertainment and e-commerce are all supported by data center facilities. Despite the recent deterioration in the wider macro-economy, data center tenant demand has remained strong, resulting in record levels of global absorption. At the same time, power and land constraints, combined with supply chain and labor shortages, have extended timelines for the delivery of new product. As a result of these factors, market vacancy has declined. With market supply at record lows and new age technologies, like AI, only beginning to ramp up, data center landlords have increased pricing power. Major markets have witnessed meaningful rental growth due to this dynamic. Juxtaposed to other more traditional asset classes, like office, where the current environment is less certain and investor interest has waned over time, data center fundamentals today are stronger than ever.

Data centers continue to benefit from new investor interest and increased allocations. 89% of respondents to CBRE's 2023 Global Data Center Investor Sentiment Survey, many of whom are the world's largest institutional real estate investors, plan to increase their capital deployment in the data center sector this year. Furthermore, while 37% of respondents currently have less than 5% exposure to the data center asset class as a percentage of assets under management today, only 16% of respondents expect to have less than 5% in AUM in five years' time, illustrating the anticipated material increase in investment.

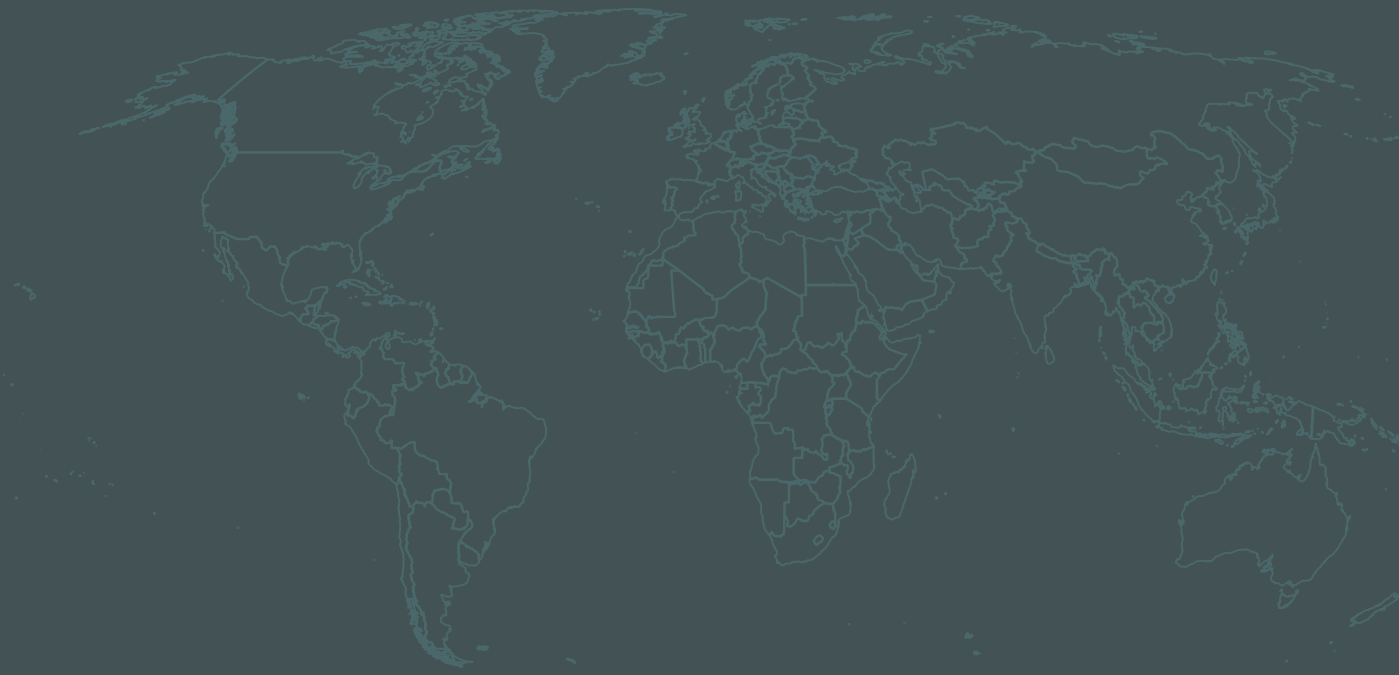
Current investor appetite is strongest in the higher yielding opportunistic and value-add market segments, where investors can capitalize on strong market fundamentals and are less sensitive to financing costs. 66% of respondents expressed an interest in development and 40% in value-add repositioning. Core and core-plus product, more heavily impacted by recent macro-economic conditions, mainly rising inflation and interest rates, have seen a decline in investor interest over time. 32% of all survey respondents expressed an interest in core offerings, down from 40% of survey respondents in 2022 and 50% of respondents in 2021.

As investors look forward the next 12-24 months, over 31% of respondents believe the greatest opportunity in the data center sector is in hyperscale build to suits. While each region of the globe faces its own set of unique challenges and opportunities, all benefit from the continual institutionalization of the data center asset class and strong industry fundamentals for the foreseeable future.

02

Regional Market

OVERVIEWS



Regional Market Overviews

North America

Uncertain macroeconomic conditions and rising interest rates drove a slowdown in investment offerings to the North American Data Center market in the second half of 2022 and Q1 2023. As a result, overall data center asset transaction volume declined year-over year, approximately 26%, to \$3.6 billion.

At the same time, market fundamentals strengthened with high levels of tenant demand resulting in lower vacancy rates and positive rental rate growth. Attracted to the strong secular tailwinds and growth trajectory, both equity and debt investors remained engaged and eager to transact, albeit with greater price discovery. Eager to capitalize on the strong sector fundamentals, many investors pivoted to focus on new development and value-add opportunities. For the first time in recent years, investors are actively underwriting significant rental growth for the foreseeable future.

While investor interest remains in the core and core-plus segments, which have been more sensitive to the rising inflation and interest rate environment, the overall depth of investor base has thinned from 2022 levels. With no signs of near-term distress, investors have been reluctant to sell with few core offerings coming to market. For the select few stabilized assets which have transacted, overall valuations have held strong given very limited opportunities for new investor acquisition in a highly desired asset class.

With no signs of distress due to long-term underlying contracts to investment-grade tenants, many sellers remain on the sidelines, waiting for future days of lower interest rates and anticipated cap rate compression. This strategy will only last so long however, as new development pipelines are placing pressure on the need for capital for many strategic operators. As individual tenant requirements continue to grow the capital required is reaching near a billion dollars or more for a single asset construction. Unable to fund existing pipelines on their own, many strategic operators will look to monetize existing assets and partner on future developments.

“

Development and value-add opportunities remain robust in the current environment as investors look to capitalize on strong tenant demand and significant rental rate growth. While tighter financial conditions have reduced total core investment offerings to the market, we expect activity will begin to increase as operators seek capital to fund robust development pipelines.

Kristina Metzger

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NOTABLE H2 2022 INVESTMENT TRANSACTIONS:

- Digital Bridge and IFM take-private of Switch in \$11 billion transaction
- Stonepeak investment of over \$3 billion, an approximate 36% stake, in CoreSite's data center business
- An investor consortium acquires \$2.0 billion interest in DataBank from DigitalBridge in recapitalization
- Partners Group commits \$1.2 billion to acquire EdgeCore and fund future development
- Evoque DCS acquisition of a Texas data center from Digital Realty for \$205 million
- Verizon acquisition of a Los Angeles data center from CBREIM for \$130 million
- Aligned Energy Data Centers acquisition of an enterprise facility in Phoenix for redevelopment from Griffin Capital for \$93 million
- Cloud Capital acquisition of a Minnesota enterprise facility from JP Morgan Chase for \$90 million

NOTABLE 2023 INVESTMENT TRANSACTIONS:

- AWS announces intent to invest \$35 billion in Virginia Data Centers by 2040
- COPT & Blackstone joint venture acquisition of a 90% interest in 5 Northern Virginia powered shells for \$250 million
- GI Partners acquisition of a 9 MW hyperscale data center in Northern Virginia for \$150 million
- Amazon acquisition of \$238 million Silicon Valley and \$117 million Ohio development parcels
- Manulife acquisition of controlling interest in Serverfarm

Regional Market Overviews

EMEA

European data center investment activity slowed markedly in 2022. Asset level trades totaled €316 million equating to a 70% reduction versus 2021. The pause in activity was largely due to higher borrowing costs and dislocation in the debt markets, brought on by inflationary pressures.

With few signs of distress, sellers were not willing to sell at losses following a period of cap rate expansion, particularly with core stabilized assets where debt is not presently accretive. Consequently, 2022 was characterized by an extended period of price discovery. CBRE witnessed higher levels of investor demand for assets valued under €100 million due to their lower reliance on debt to transact.

Strength in the occupier market is helping to offset the economic headwinds. Many investors await the opportunity to deploy capital given the significant growth in both Tier I and Tier II occupier markets.

CBRE saw an increase in entity level operators seeking to form joint ventures with investors to sell down stakes in stabilized assets and development pipelines. The impact of inflation on the cost of building and operating data centers in Europe has translated into upwards pressure on rental values to maintain operating margins. EBITDA margins fell compared to 2021 due to the higher cost of borrowing.

“

Despite the exceptionally strong occupier market, the European data center investment market witnessed low transaction volumes in 2022 due the strong macro market headwinds. The European market has now reached a period of stabilization with CBRE expecting an increase in activity as investor confidence returns.

Paul Mortlock

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NOTABLE H2 2022 INVESTMENT TRANSACTIONS:

- KAO Data acquisition of two data centers from an investment bank in West London, via sale and leaseback
- Iron Mountain acquisition of XData, a 130MW data center development in Madrid, from Stoneshield for €89m
- Pictet acquisition of a powered shell data center in Madrid, leased to Vodafone, for €58.5m from Patrizia
- APWireless acquisition of a powered shell data center, leased to Telecom Italia, in Bologna, Italy for €50m
- Principal Asset Management acquisition of a data center, via sale and leaseback, in the UK from Getronics for £41.5m

NOTABLE 2023 INVESTMENT TRANSACTIONS:

- Macquarie Asset Management acquisition of a minority stake in UK operator, Virtus, from ST Telemedia
- Digital Realty acquisition of a majority interest in South African operator Teraco from a consortium of investors, including Berkshire Partners and Permira
- Macquarie Asset Management announcement of a merger with NTT Data Centres across Europe and North America providing expansion capital
- AtlasEdge acquisition of DataCenterOne, a regional platform in Germany, from Star Capital
- Digital 9 Infrastructure acquisition of Ficcolo in Iceland for €135m and Volta in the UK for £45m

Regional Market Overviews

Asia-Pacific

Investor demand for Asia-Pacific data centers declined in 2022. The slowdown in capital markets activity was largely due to an increase in the cost of financing and investor concerns over a recession. Investment volume fell to \$1.4 billion, the lowest since 2019.

Fund-raising declined in tandem with transaction volume. The most significant fund raise of the second half was the inaugural ESR Data Centre Fund with over \$1 billion in equity commitments.

Investor-owned platforms continued to increase scale via partnerships throughout 2022. STACK Infrastructure, backed by IPI Partners, entered into development partnerships with Hickory in Australia and ESR in Osaka and Seoul. Other notable activity included SC Capital and ADIA forming a \$2 billion joint venture to invest in data centers across the region.

Despite muted overall demand, investor interest in emerging markets strengthened in 2022. Blackstone launched a new data center platform Lumina CloudInfra with two facilities totaling 600 megawatts in India. Additionally, Digital Edge entered into a partnership with NIIF and AGP to jointly invest a total of \$2 billion in Navi Mumbai. In Malaysia, DigitalBridge acquired a 70% interest in AIMS Group from Time dotCom. Other Southeast Asia-related activity included Warburg Pincus' joint venture with Evolution Data Centres and a partnership between GAW Capital Partners and A3 Capital.

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Global investor interest in the Asia-Pacific data center market remains elevated even amid the recent economic headwinds. CBRE anticipates pricing for stabilized core assets will remain resilient in 2023, in part due to the limited opportunities relative to demand.

Tom Fillmore

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NOTABLE H2 2022 INVESTMENT TRANSACTIONS:

- Big Data Exchange (BDx), a portfolio company of I Squared Capital, expansion into Indonesia through \$300 million joint venture
- Keppel DC REIT acquisition of two data centers in Jiangmen, Guangdong Province for \$223 million
- Keppel Data Centre Fund II acquisition of a majority stake in Huailai Data Centre and agreement to jointly develop the \$209 million project with Heying

NOTABLE 2023 INVESTMENT TRANSACTIONS:

- Digital Edge announcement of a new Tokyo data center and breaking ground on \$800 million, 120 MW, Incheon, South Korea campus
- MN Holdings and DC-Science partnering on \$600 million data center in Johor, Malaysia with 120 MW capacity
- Colt DCS announcement of a new 120MW campus in Navi Mumbai, India
- Warburg Pincus-backed Princeton Digital Group (PDG) announcement of \$1 billion investment in a new 96 MW data center in Batam, Indonesia
- Macquarie Group-backed AirTrunk announcement of 150MW development in Johor, Malaysia

Regional Market Overviews

Latin America

Elevated Investor interest in the Latin American data center market continued throughout 2022, spurred by increased adoption of cloud computing and rapidly expanding digital infrastructure. Total capacity increased by 4%, reaching 672 MW by year end.

Global infrastructure and private equity investors continued to expand Latin American data exposure through their operating platforms. Aligned Data Center's \$1.8 billion acquisition of Odata and Actis' \$500 million acquisition of the 11 data center Nabiax portfolio exemplify the increased investment in the region. Major development interest across Latin America includes Ascenty's plan to develop \$290 million of data centers in Brazil, Chile and Colombia, and Cirion Technologies' intent to build new data centers in Chile, Peru and Brazil. As the region continues to develop its digital infrastructure and provide attractive risk adjusted returns, inbound global investment should remain robust for years to come.

Near term challenges facing the Latin American market mirror those of other global regions, including restricted power availability, most notably in Mexico and Chile. Additionally, the region is not immune to global supply chain disruptions which are leading to extended construction timelines.

Investor interest in edge computing has led to a rapid increase in land values, pushing investors into new markets. Brazil is witnessing increased activity in Brasília, Fortaleza and Porto Alegre as a result of heightened land valuations in the main markets. Peru is another burgeoning data center market that is seeing an uptick in new investor interest as groups seek lower land cost solutions.

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Attractive risk adjusted returns and the prospect for elevated long-term growth continue to drive global investor interest in the Latin American region.

Alison Takano

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NOTABLE H2 2022 INVESTMENT TRANSACTIONS:

- Macquarie-backed Aligned Data Centers acquisition of Brazilian data center operator, Odata, for \$1.8 billion
- Digital Realty and Brookfield-owned Ascenty announces \$290 million investment to develop data centers in Brazil, Chile and Colombia
- Layer 9 Data Centers groundbreaking of a 96 MW campus in Mexico
- Global Compute and Southern Cross investment in Data Horizon, funding a 55 MW data center in Bogota, Colombia
- I Squared Capital-owned Kio acquisition of a 20 MW Mexico City facility
- Equinix building \$45 million data center in Bogota, Colombia

NOTABLE 2023 INVESTMENT TRANSACTIONS:

- CloudHQ groundbreaking on \$3 billion, 228 MW, campus in Brazil
- Ascenty secures \$1 billion financing to fund Brazilian expansion
- Actis acquisition of \$500 million Nabiax portfolio of 11 data centers in Brazil, Chile, Mexico, Peru, Argentina and Florida
- Kio announcement of \$400 million development in Querétaro, Mexico and acquisition of 6 MW data center from ZFB in Bogota, Colombia
- Macquarie Capital acquisition of a minority stake in new data center unit formed by Chilean telco GTD including current and planned facilities in Chile, Peru, and Colombia
- Stone Peak-owned Cirion Technologies planning three new data centers in Santiago, Chile, Lima, Peru and São Paulo, Brazil
- DigitalBridge-backed Scala Data Centers opens first phase of 55 MW data center in Rio de Janeiro, Brazil
- CEMIG sells stake in Ativas Data Center to Sonda

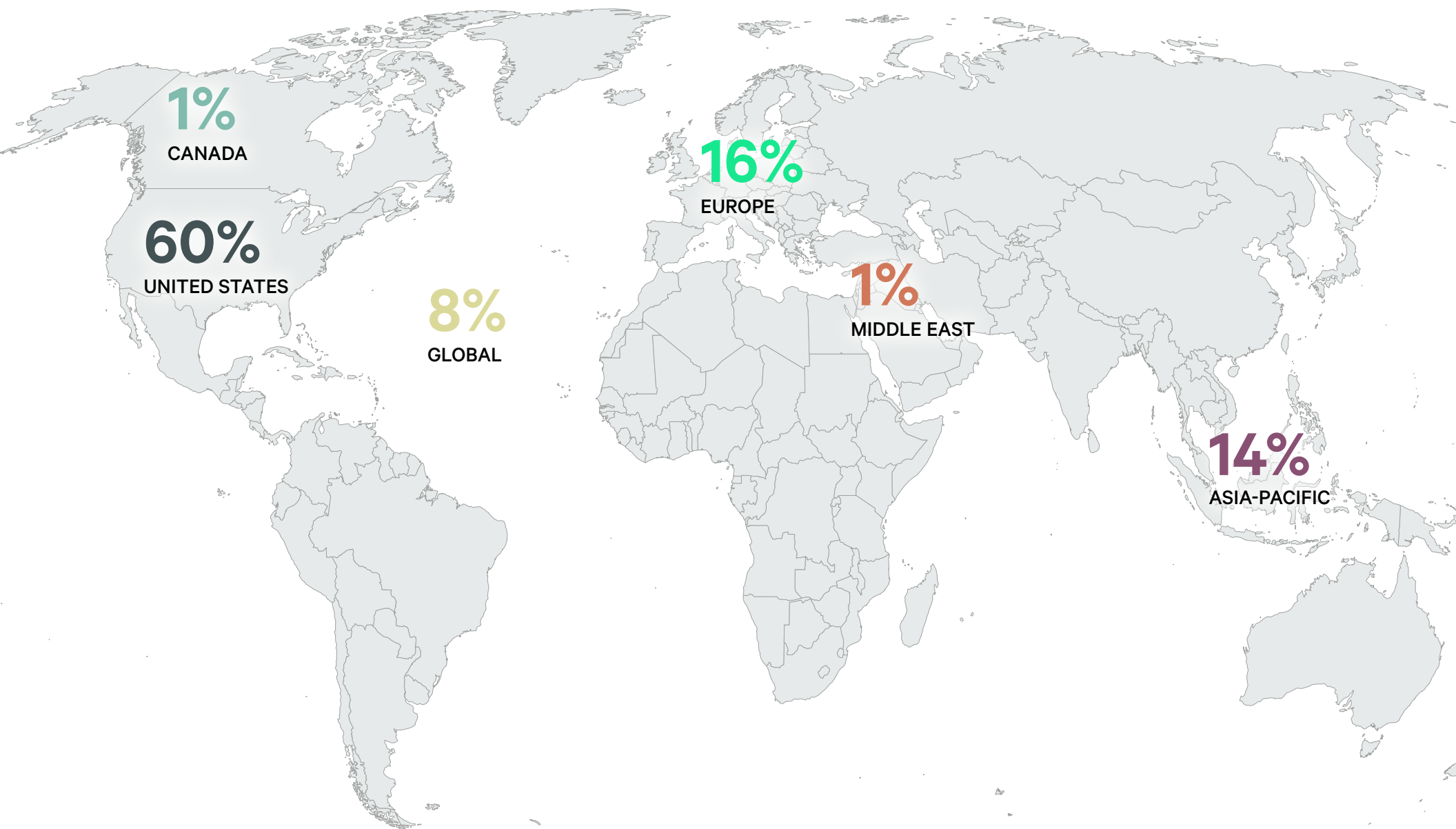
03

Investor Intentions Survey

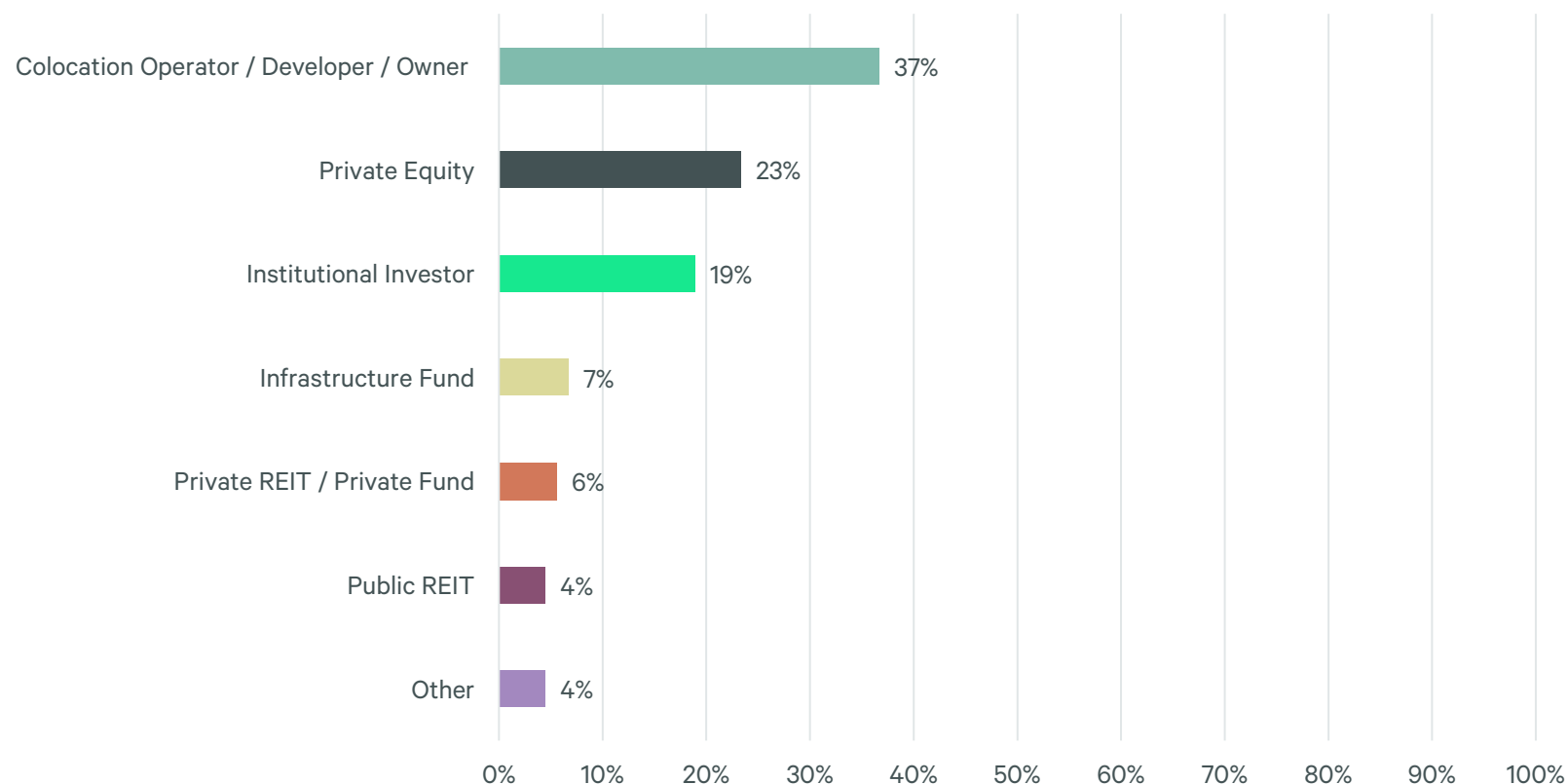
RESULTS



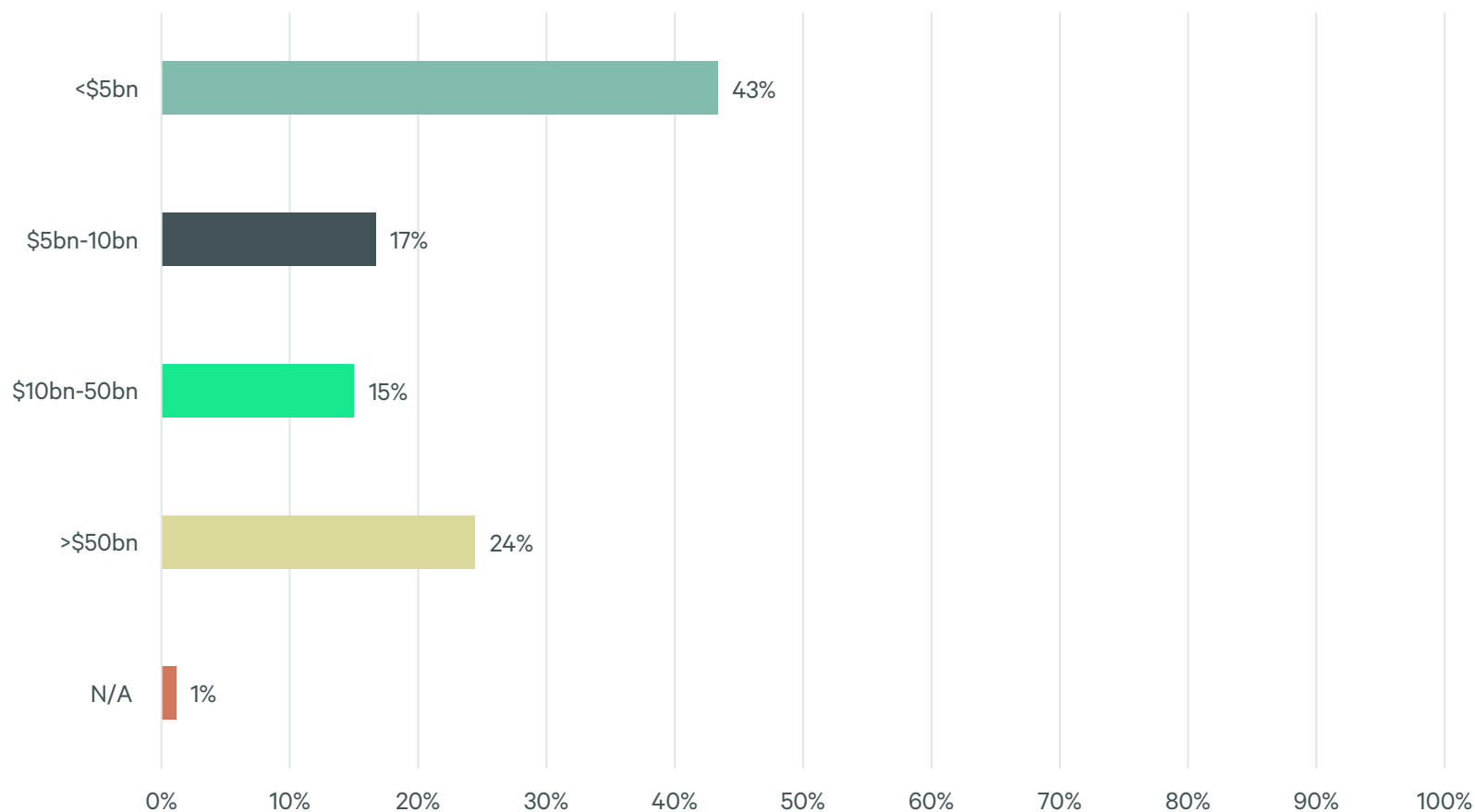
Where is your organization based?



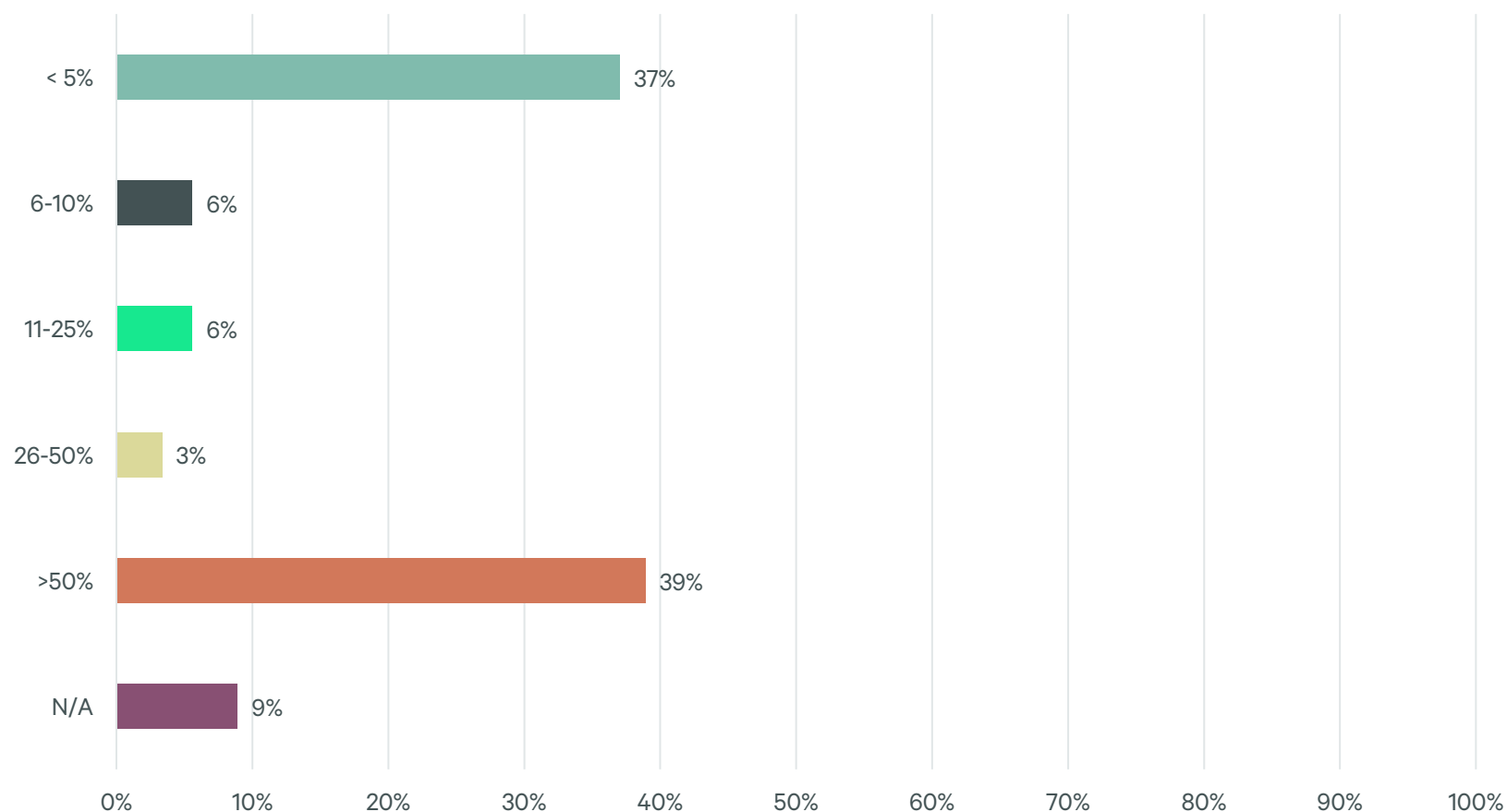
Which best describes your organization?



What is the approximate dollar value of your organization's real estate assets under management globally?

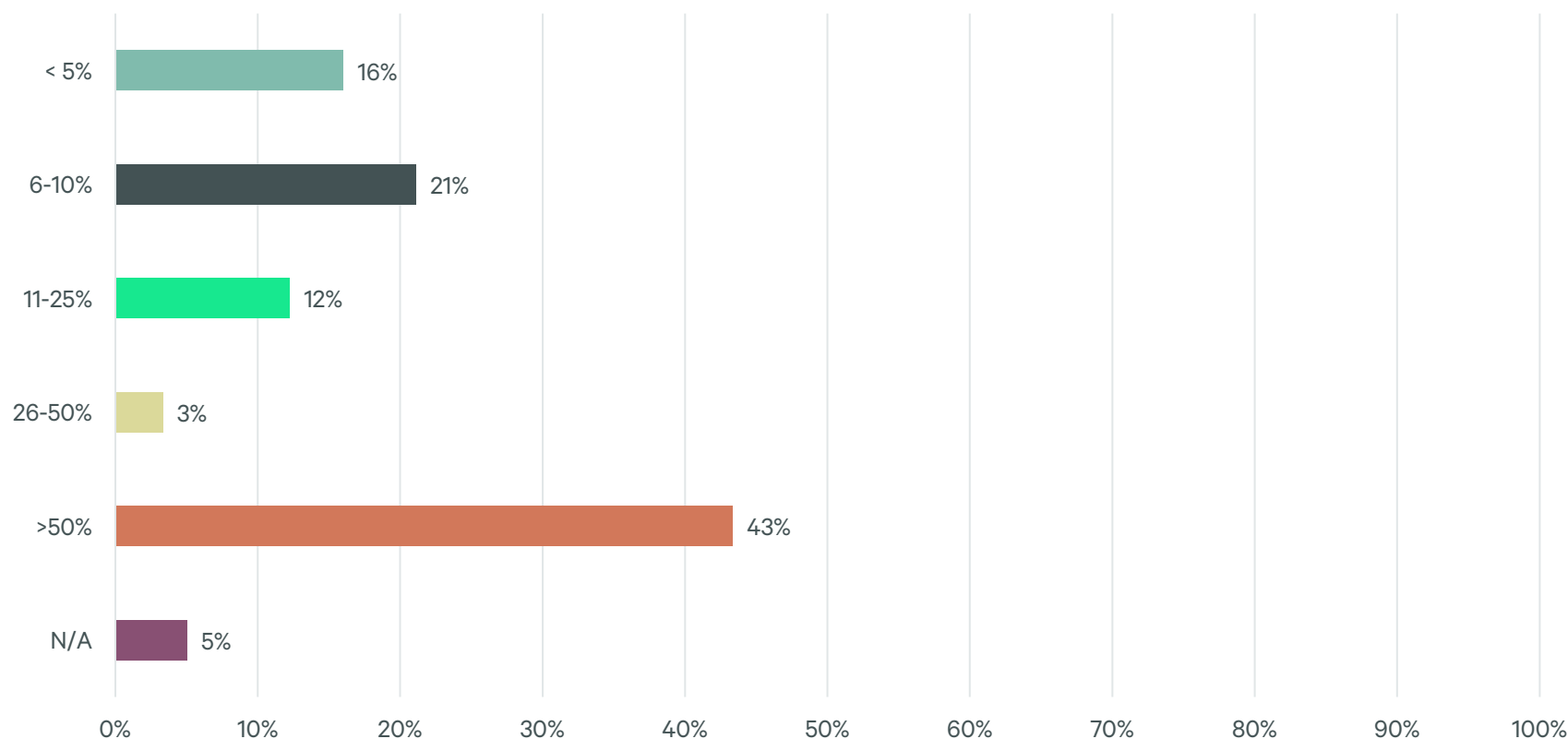


What is the approximate percentage of your organization's real estate assets under management globally that are data centers?

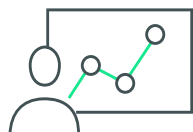


What is the target of your organization's data center assets under management as a percentage of real estate assets under management over the next five years?

Investors intend to materially increase their overall percentage of data center assets over the next five years. While 37% of respondents currently have <5% exposure to data centers, only 16% of respondents expect to have < 5% in five years.



How are you currently invested in the data center sector?



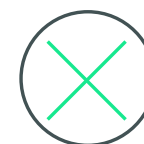
54%

Real Estate - Equity



53%

Operating Platform



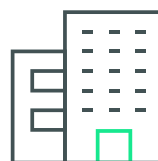
16%

No Current Data Center Investments



14%

Fund Vehicle



14%

Real Estate - Debt



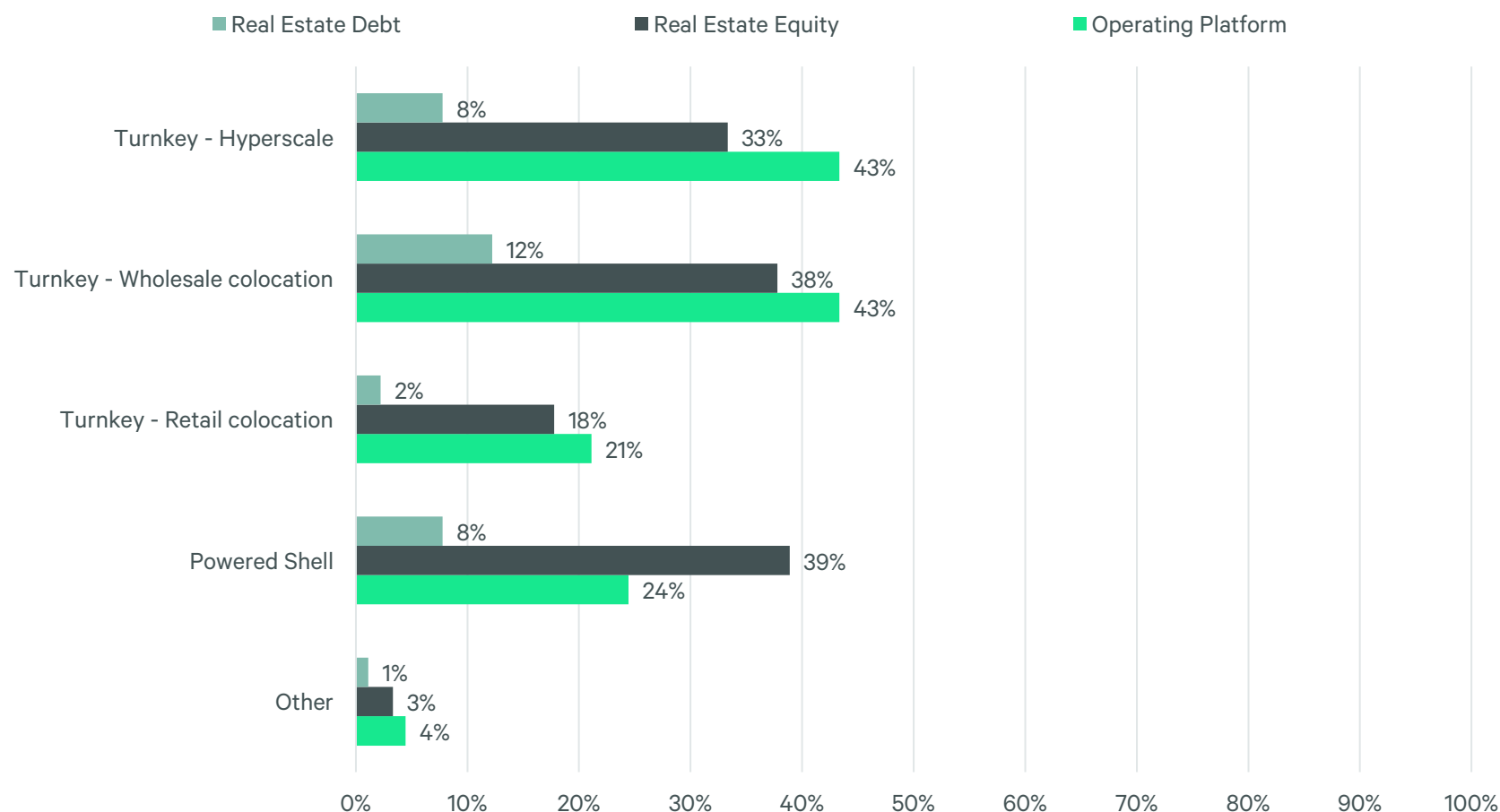
4%

Other

Percentages may not sum to 100% due to multiple answers chosen.

Which segments of the market you are currently invested in?

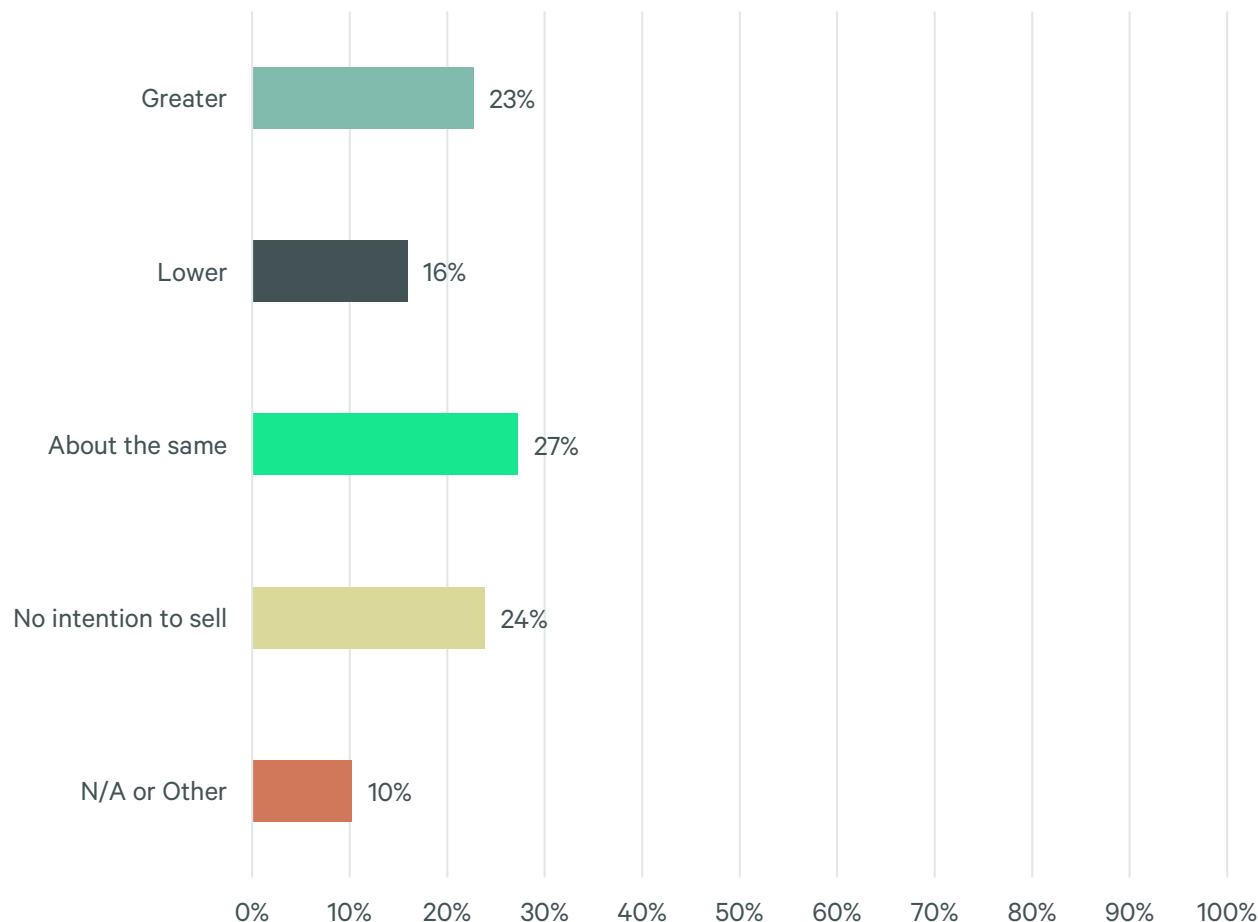
Historically, consistent with the complexity of the underlying operating model, investors have favored turnkey exposure through operating companies and tend to own powered shell equity directly.



Percentages may not sum to 100% due to multiple answers chosen.

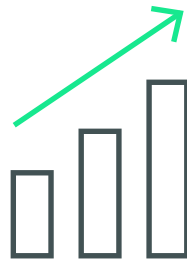
Compared with 2022, do you anticipate your selling activity in 2023 will be greater, lower or about the same?

16% of respondents anticipate their 2023 asset sales volume will be lower than 2022. By contrast, in 2022 only 4% of survey respondents responded they anticipated lower sales volume than the prior year (2021). This is a 400% increase in a one year period.



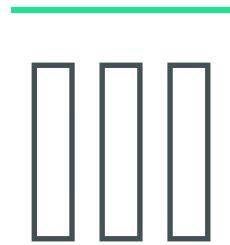
Are you planning to increase, decrease or maintain your overall investment in the data center sector in 2023?

89% of survey respondents, many of whom are the world's largest institutional real estate investors, plan to increase their capital deployment in the data center sector in 2023.



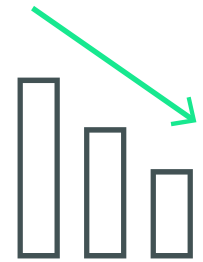
89%

Increase



9%

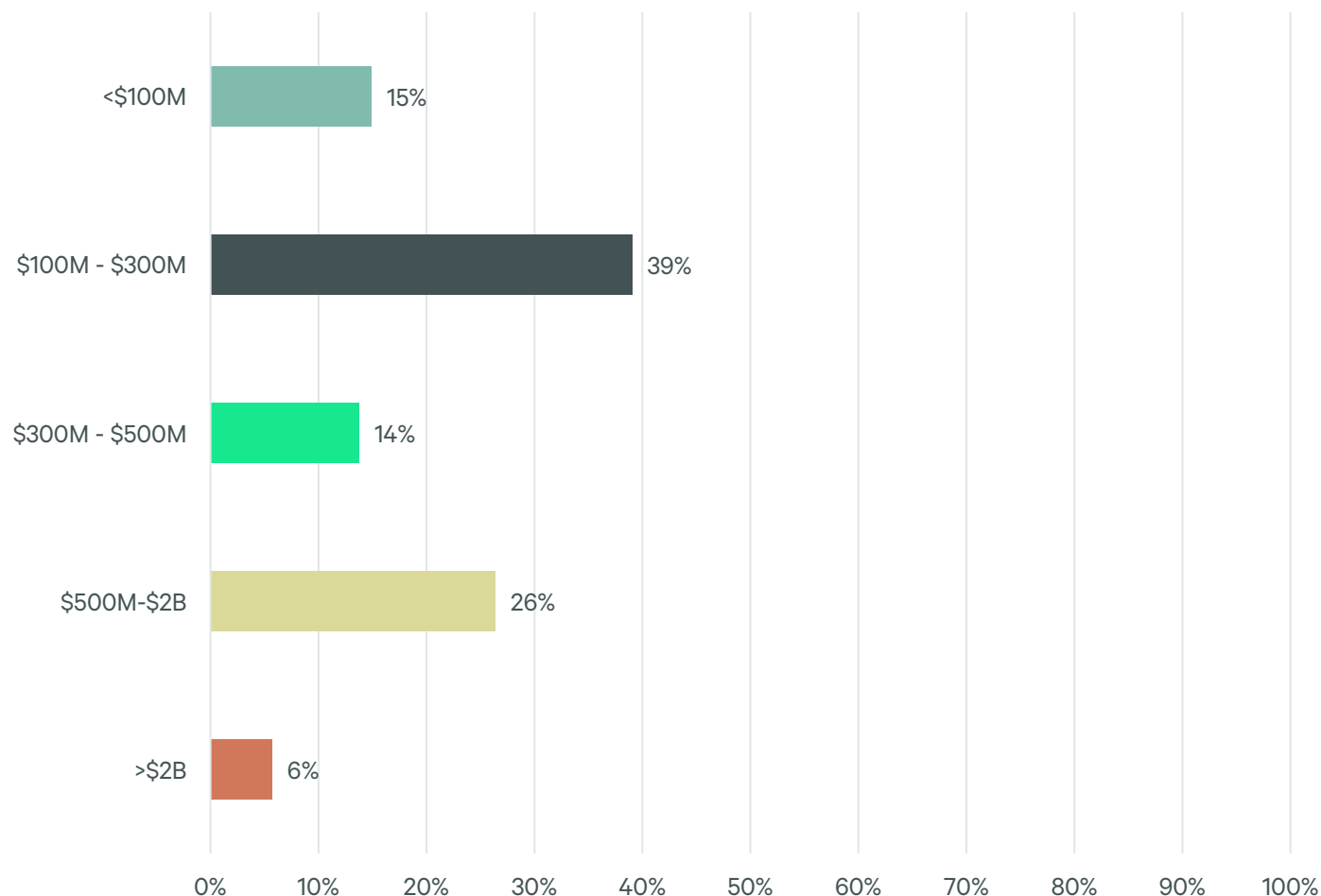
Remain the same



2%

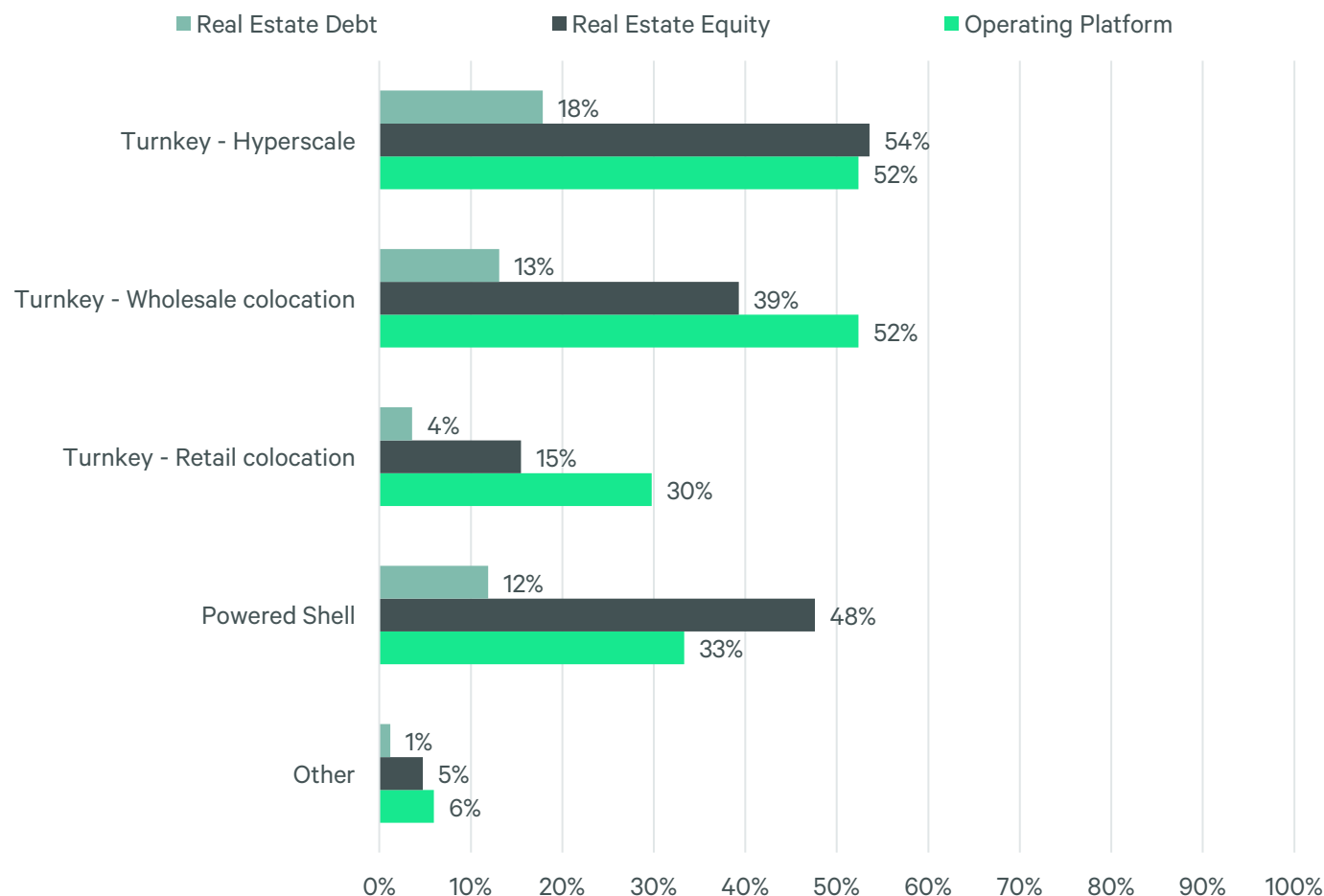
Decrease

What is your 2023 capital allocation (equity) to the data center sector?



85% of respondents have allocated more than \$100 million of equity to the data center sector for 2023, with **32%** allocating more than \$500 million.

In 2023, what segments of the market are you most interested in investing?



As investors grow increasingly comfortable with the data center asset class, they have a growing interest in direct equity investments in turnkey product.

This is the first time in CBRE's annual investor survey where survey respondents have responded with a greater interest in investing in turnkey hyperscale product than powered shell.

Percentages may not sum to 100% due to multiple answers chosen.

Where are you interested in investing and why?

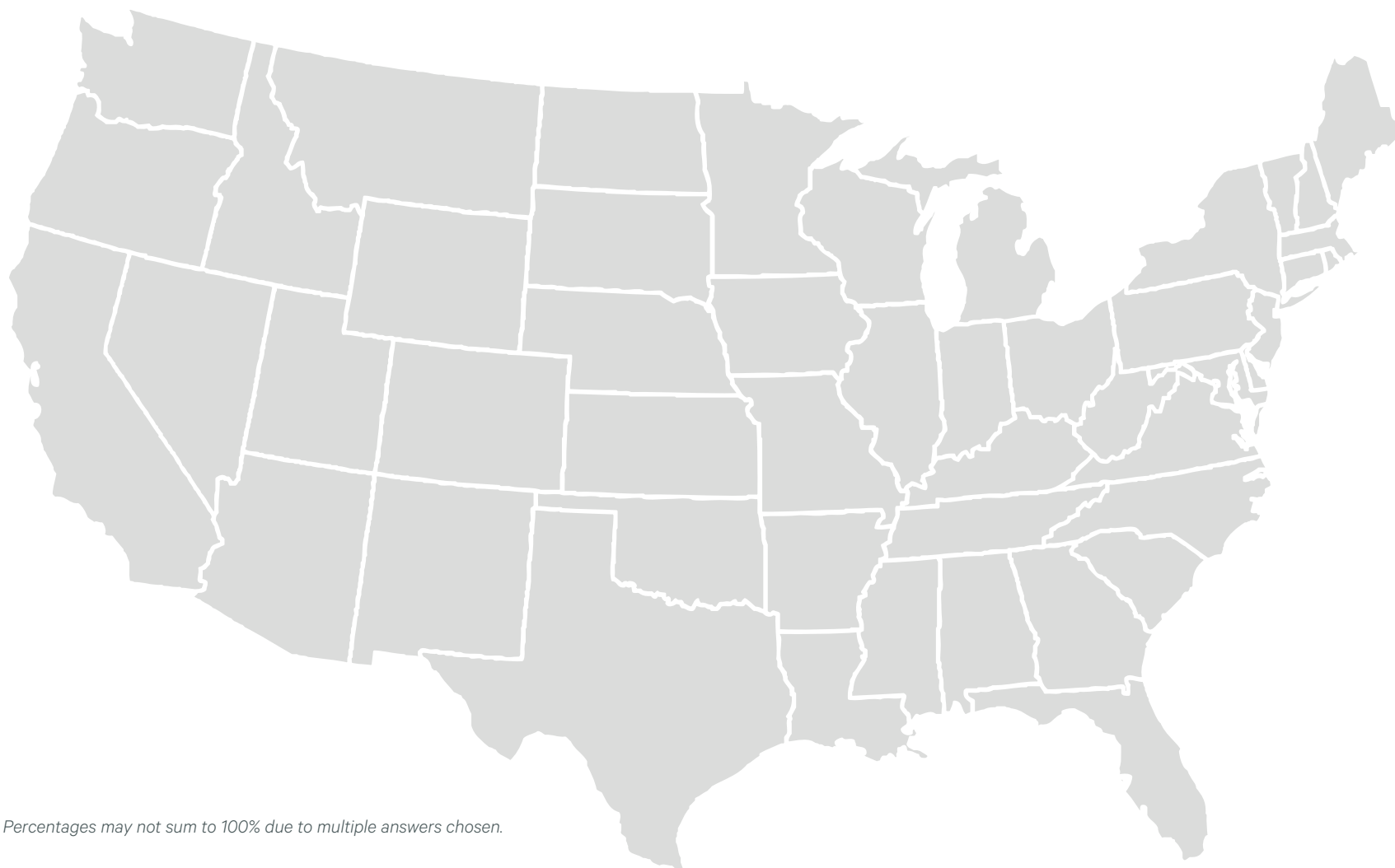
North America

THIS MAP IS INTERACTIVE

Click on the ● to view % of investors interested in investment opportunities in that market location and their primary reasons for targeting that market.

● Primary Market

● Secondary Market





Percentages may not sum to 100% due to multiple answers chosen.

Where are you interested in investing and why?

Europe

THIS MAP IS INTERACTIVE

Click on the   to view % of investors interested in investment opportunities in that market location and their primary reasons for targeting that market.

 Primary Market



 Secondary Market

Percentages may not sum to 100% due to multiple answers chosen.

Where are you interested in investing and why?

APAC

THIS MAP IS INTERACTIVE

Click on the   to view % of investors interested in investment opportunities in that market location and their primary reasons for targeting that market.

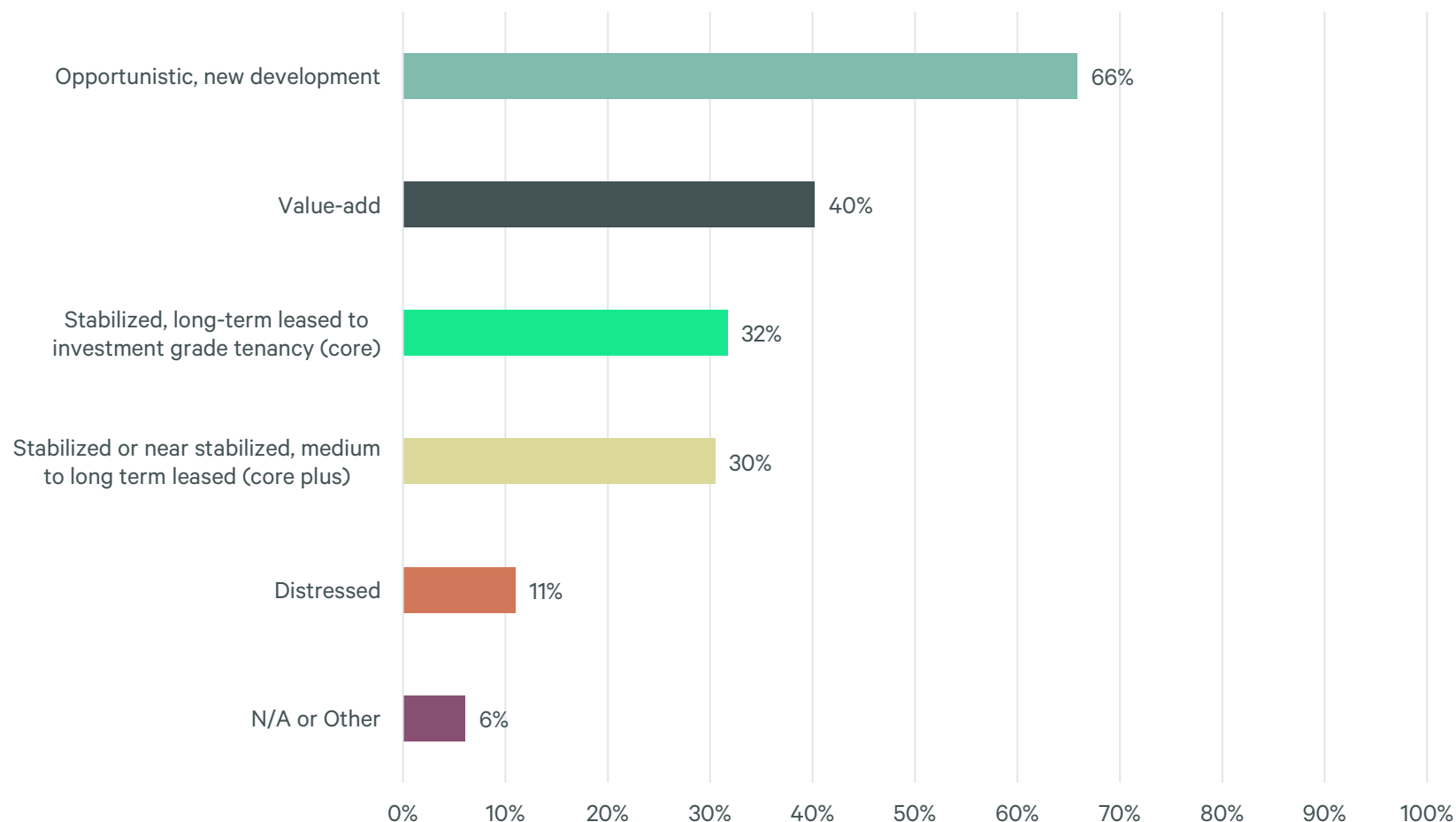
 Primary Market

 Secondary Market

Percentages may not sum to 100% due to multiple answers chosen.

What is your primary investment strategy for data center asset purchases in 2023?

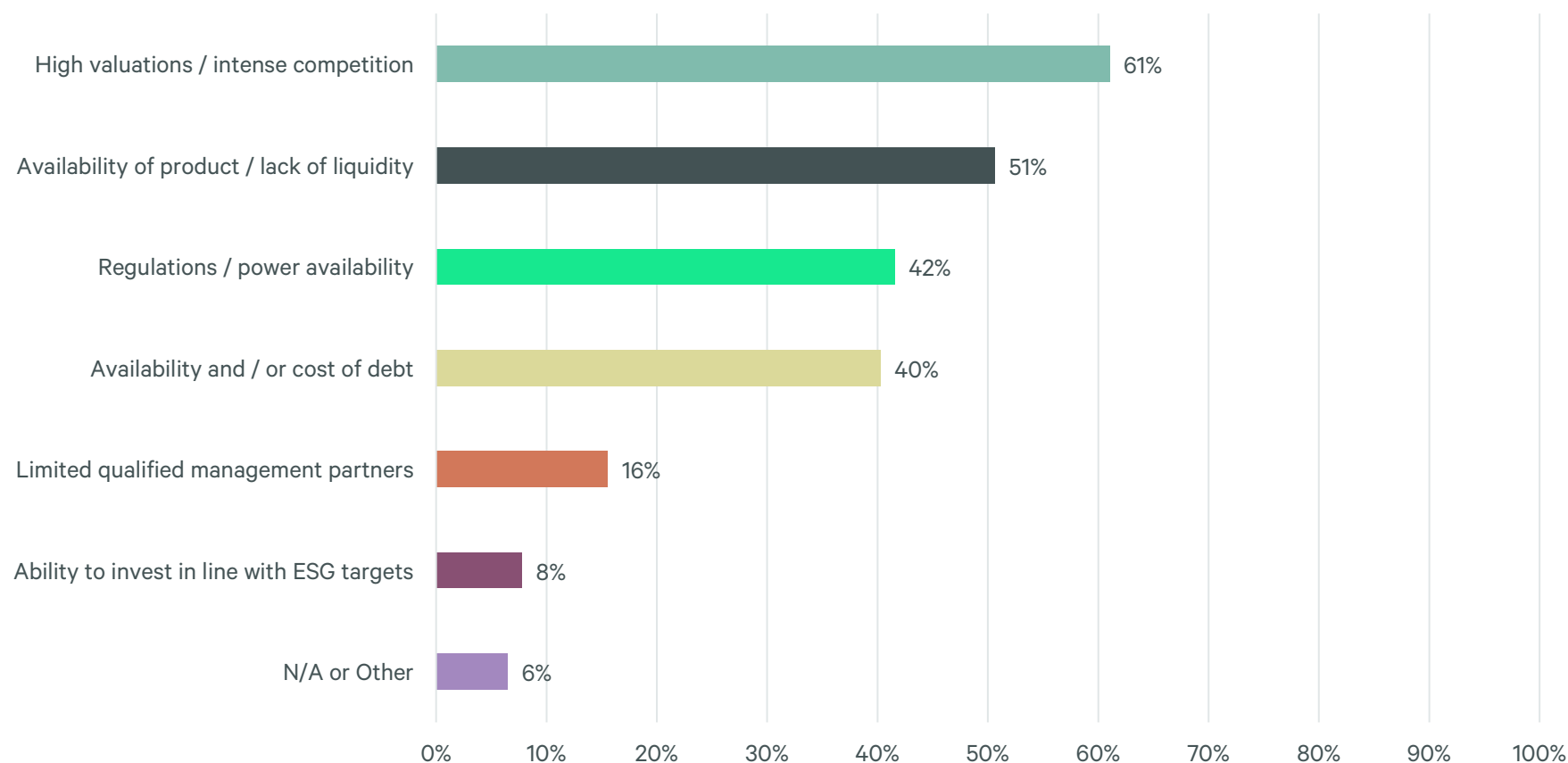
Investor interest remains robust across the risk spectrum, with 40% or more expressing interest in opportunistic/new development and value-add and 30% or more expressing interest in longer term leased, core and core plus offerings.



Percentages may not sum to 100% due to multiple answers chosen.

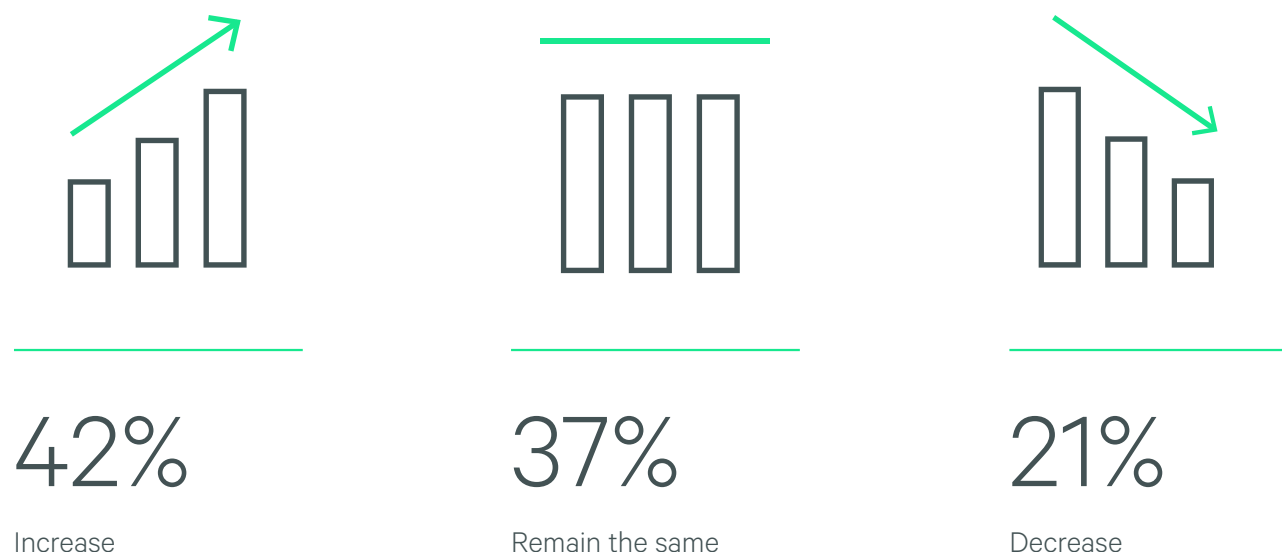
What are the greatest challenges to your current investment strategy in the data center sector?

While investors cite intense competition and limited availability of for-sale assets as their greatest challenges to investing in the data center sector, 42% also responded that regulation and lack of power availability made it difficult to execute their investment strategy.



Percentages may not sum to 100% due to multiple answers chosen.

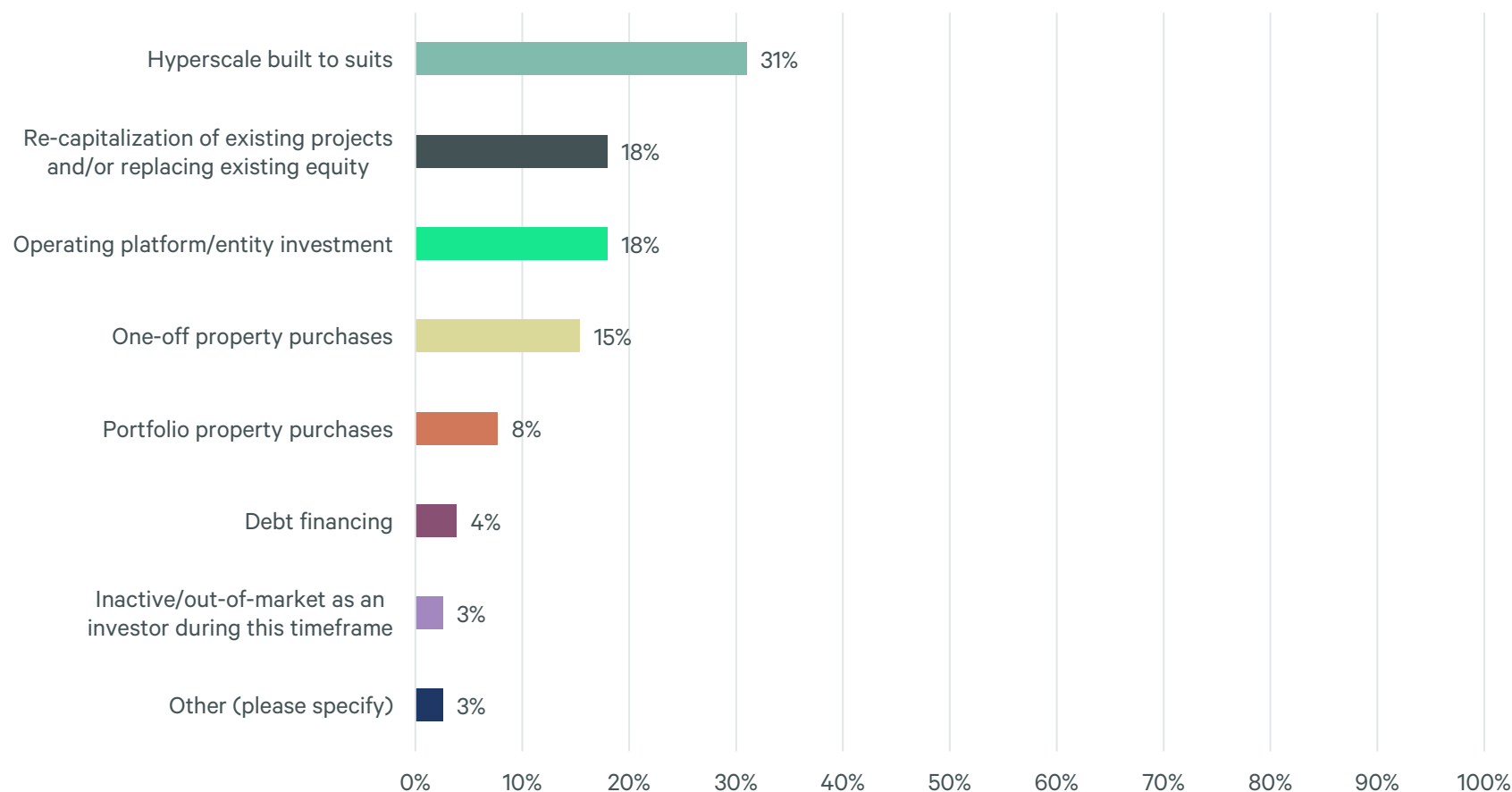
In 2023, do you think investment returns (initial yields/cap rates) will increase, decrease or remain the same?



42% of survey respondents indicated they expect an increase in market yield/cap rates in 2023, a significant uptick from 2022 survey results, where only 12% of respondents anticipated an increase in initial yields/cap rates.

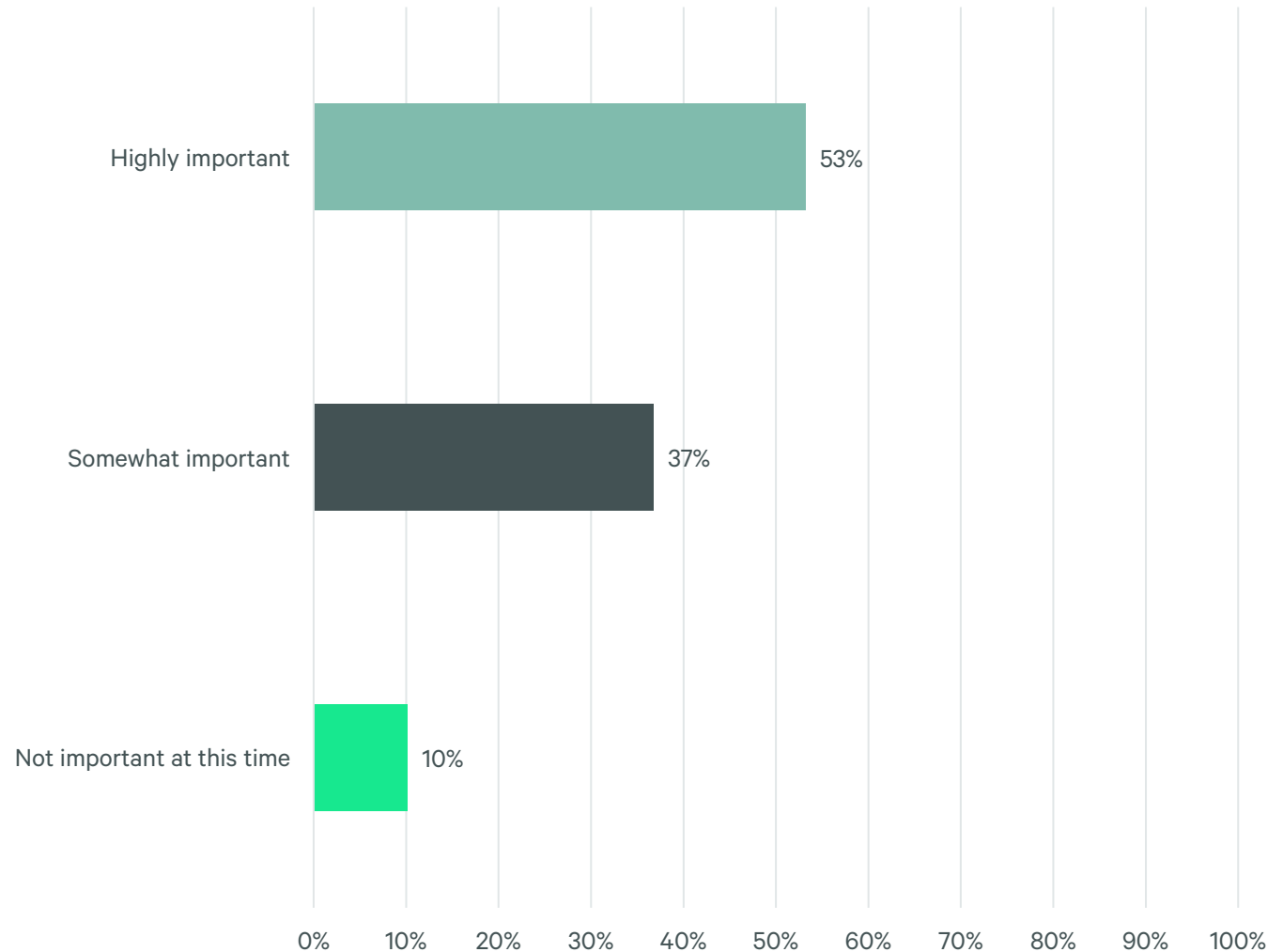
Where do you see the greatest opportunity for data center investment over the next 12-24 months?

Over the next 12-24 months, 31% of respondents see hyperscale build to suits as the greatest opportunity for data center investment. Only 18% of respondents see operating platforms and entity level investments as the greatest opportunities in the near-term. By contrast, in 2022, 33% of all survey respondents viewed operating platforms and entity investments as the greatest opportunity segment, more than any other market segment.



How important are Environmental, Social and Governance (ESG) considerations in your overall data center investment strategy?

90% of participants surveyed believe ESG considerations are at least somewhat important when evaluating their data center strategy.



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CBRE combines data center real estate sales, advisory, financing and investment banking into a single, unparalleled global offering. Supported by the world's largest data center facilities operating and leasing platform, CBRE Data Center Capital markets provides investors with acquisition, disposition and debt & equity recapitalization strategies, assists data center operators with strategic capital planning and advises enterprises in the disposition and structuring of sale leasebacks.

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