PitchBook

Q3 2023

GLOBAL

Real Assets Report

Contents

Key takeaways

- Through Q3 2023, 34 real assets vehicles closed on $24.4 billion, marking 2023 as possibly the slowest fundraising year in over a decade. The drop in fundraising can be attributed to the lack of capital flowing through to infrastructure funds.
- Natural resources fundraising in 2023 has overtaken 2022's annual total of $5.6 billion due to an uptick in oil & gas fundraising. Many investors seem to be grappling with the reality that transitioning away from oil & gas remains a far-off goal.
- The one-year horizon IRR of real assets overall came in at 10.9%, with dispersions between the subcategories. Real assets are unlikely to hit performance highs by the end of 2023 due to headwinds such as increased cost of capital, higher operational expenses, and a possible recession on the horizon.

Real assets horizon IRRs*

	1-year	3-year	5-year	10-year	15-year	20-year
Real assets	10.9%	15.9%	8.7%	7.6%	7.5%	8.2%
Infrastructure	10.2%	13.3%	10.5%	9.8%	9.3%	9.6%
Oil & gas	14.4%	24.1%	6.0%	4.2%	5.6%	6.9%
Other	6.5%	11.6%	4.3%	4.7%	4.5%	5.0%

Source: PitchBook • **Geography:** Global
*As of March 31, 2023

The accompanying Excel file contains additional charts and all underlying data for this report. Download the XLS summary here.

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Published on December 12, 2023

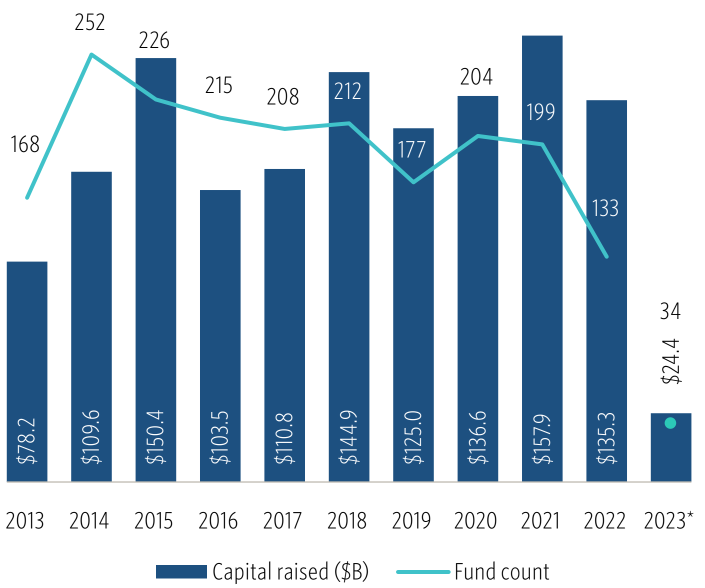
Click here for PitchBook's report methodologies.

Click here for PitchBook's private market glossary.

Note: This report includes real assets debt in the real assets fundraising and performance data, unlike other reports such as the Global Private Market Fundraising Report and the Global Fund Performance Report, in which private debt has its own section. As such, totals may differ from other recent reports.

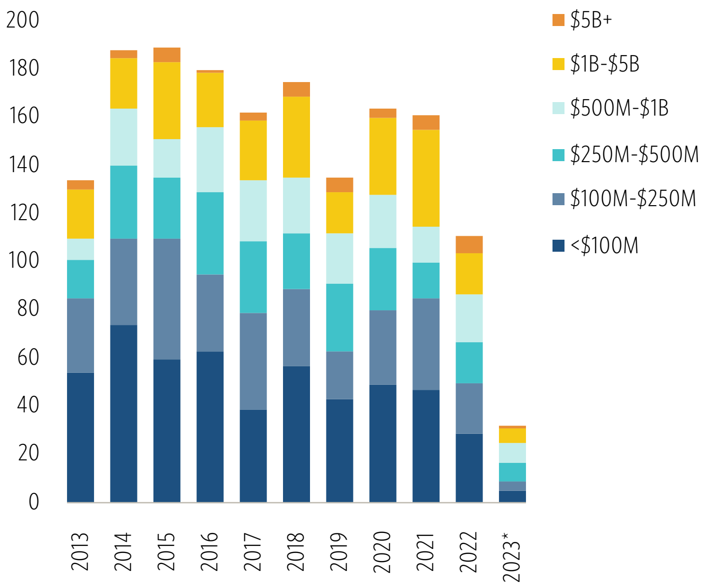
Overview

Real assets fundraising activity



Source: PitchBook • **Geography:** Global
*As of September 30, 2023

Real assets fund count by size bucket



Source: PitchBook • **Geography:** Global
*As of September 30, 2023

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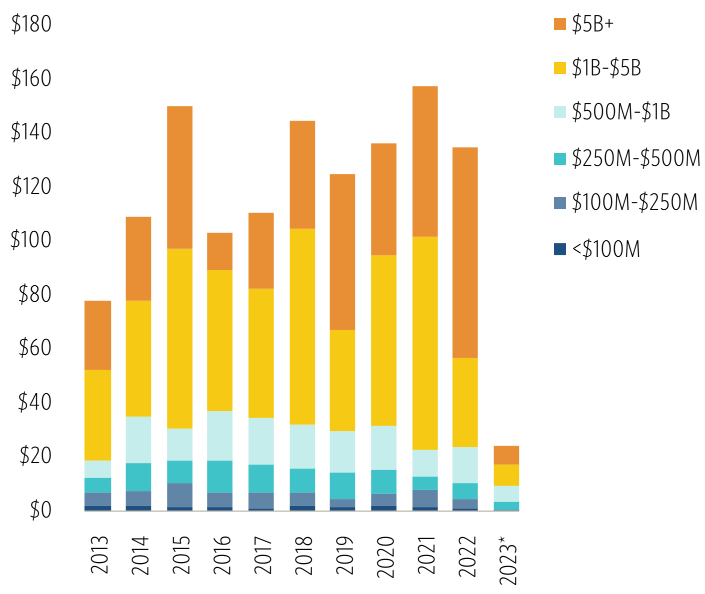
Against a macroeconomic backdrop characterized by high interest rates, recessionary fears, and gradually cooling inflation, real assets fundraising activity was highly anomalous in the first three quarters of 2023. With just $24.4 billion in commitments split among the 34 vehicles that closed through September, the year could be the slowest the asset class has seen in at least a decade from a fundraising perspective. While a portion of real assets fundraising is excluded from the data because only closed-end vehicles are included in this report, and fundraising numbers will climb as more vehicles closed during the year are captured by our data, commitments to real assets funds have undeniably tapered significantly. There are a couple of factors contributing to this slowdown. First, 2021 and 2022 saw record numbers of funds raised over the $1 billion and $5 billion marks, respectively, largely by well-known, experienced managers. Many of those managers were not yet back in the market closing new vehicles in the first few quarters of 2023, although several are attempting to do so by the end of the year with funds larger than $5 billion, $10 billion, and even $20 billion. Second, some LPs have been forced to pull back on commitments to ensure that they are not overallocated to the private markets due to the denominator effect, which was triggered by dips in public market performance in 2022.

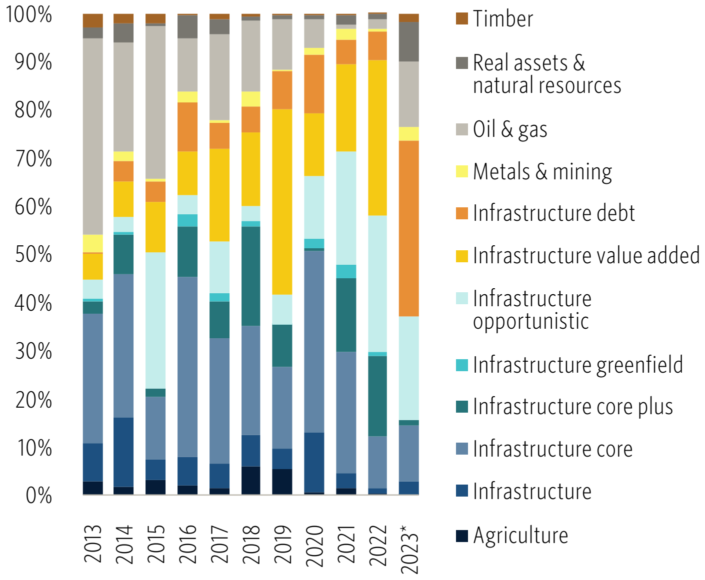
Real assets capital raised ($B) by size bucket



Source: PitchBook • **Geography:** Global
*As of September 30, 2023

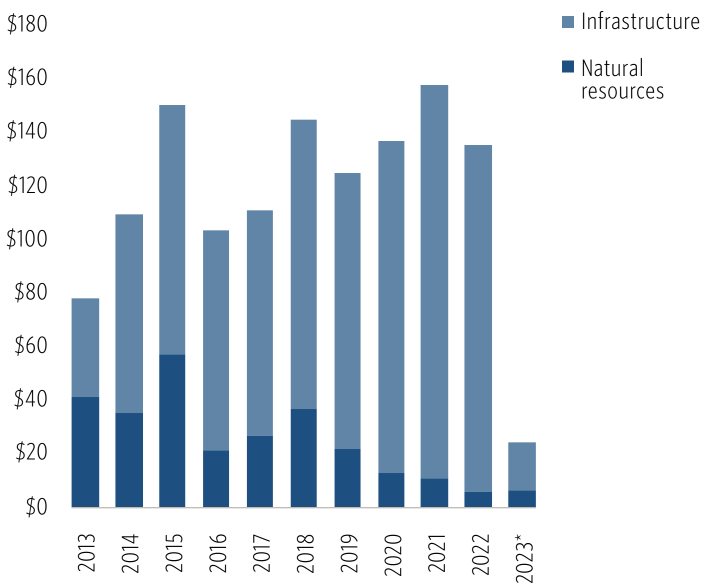
Strategy- and sector-specific factors are also at play, influencing fundraising among infrastructure and natural resources vehicles and leading to a very different split in the capital raised among vehicle types than in previous years. In what some are calling the "Golden Age of Private Credit," private debt fund managers are filling the void left by banks retreating from large parts of the lending market, and infrastructure debt held the greatest share of raised capital in the year through Q3 at $8.9 billion, making up 36.5% of commitments. Looking at consolidated figures, vehicles in the natural resources bucket received a much larger proportion of commitments than in previous years with $6.5 billion, constituting 26.5% of the total. Funds in the oil & gas and broader real assets & natural resources buckets are largely responsible for this shift due to opportunity created by the energy crisis and the belief of some industry participants that there is a new commodity bull supercycle underway.[1] While in previous iterations of this report, the list of the top 15 largest real assets funds was populated entirely by infrastructure vehicles, approximately half of the list for the year through Q3 is funds targeting natural resources, with four of those being oil & gas vehicles.

Share of real assets capital raised by type (unconsolidated)



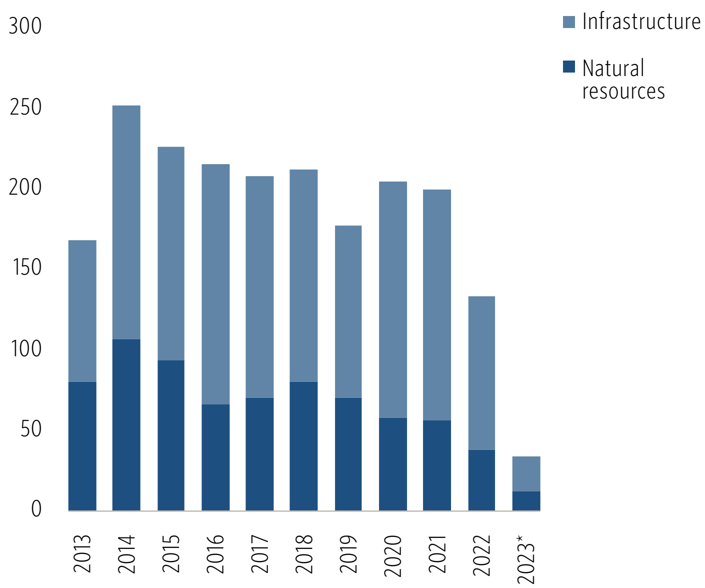
Source: PitchBook • **Geography:** Global
*As of September 30, 2023

Real assets capital raised ($B) by type (consolidated)



Source: PitchBook • **Geography:** Global
*As of September 30, 2023

Real assets fund count by type (consolidated)



Source: PitchBook • **Geography:** Global
*As of September 30, 2023

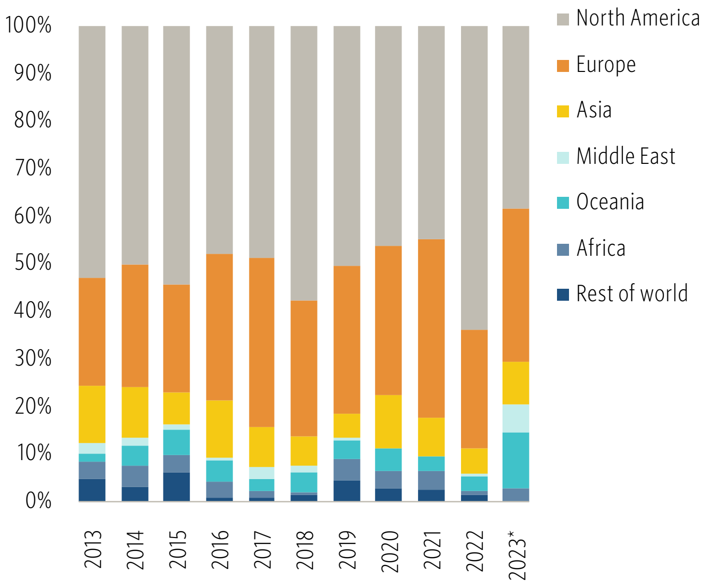
1: "The Commodity Bull Super-Cycle," Wells Fargo Investment Institute, John LaForge and Mason Mendez, March 30, 2023.

Top real assets funds to close in 2023*

Fund	Investor	Fund size ($M)	Close date (2023)	Fund type	Fund location
Blackstone Green Private Credit Fund III	Blackstone	$7,100.0	August 10	Infrastructure debt	New York, US
Infranity Senior Infrastructure Debt Fund	Infranity	$1,762.0	July 21	Infrastructure debt	Paris, France
Cube Infrastructure Fund III	Cube Infrastructure Managers	$1,620.0	April 9	Infrastructure core	Luxembourg, Luxembourg
Ospraie Real Assets Fund	Ospraie Management	$1,248.0	June 29	Real assets & natural resources	New York, US
KDB Smart Ocean Infrastructure Fund Program	KDB Industrial Bank	$1,200.0	June 26	Infrastructure opportunistic	South Korea
Rakiza Fund	Rakiza	$1,000.0	March 21	Infrastructure core	Muscat, Oman
Kimmeridge Fund VI	Kimmeridge	$1,000.0	August 2	Oil & gas	New York, US
Pacific Equity Partners Secure Assets Fund II	Pacific Equity Partners	$925.0	May 31	Infrastructure opportunistic	Sydney, Australia
Formentera Partners Fund II	Formentera Partners	$829.0	July 10	Oil & gas	Austin, US
Pearl Energy Investments III	Pearl Energy Investments	$705.0	May 15	Oil & gas	Dallas, US
NGP Energy Transition IV	NGP	$700.0	June 1	Infrastructure opportunistic	Dallas, US
Ancala Essential Growth Infrastructure Fund	Ancala Partners	$698.0	July 5	Infrastructure opportunistic	London, UK
Taurus Mining Finance Fund AIV	Taurus Funds Management	$676.0	September 26	Metals & mining	Sydney, Australia
Kimmeridge Energy Engagement Partners II	Kimmeridge	$667.0	February 3	Oil & gas	New York, US
Vision Blue Resources	Vision Blue Resources	$650.0	April 18	Real assets & natural resources	Guernsey, UK

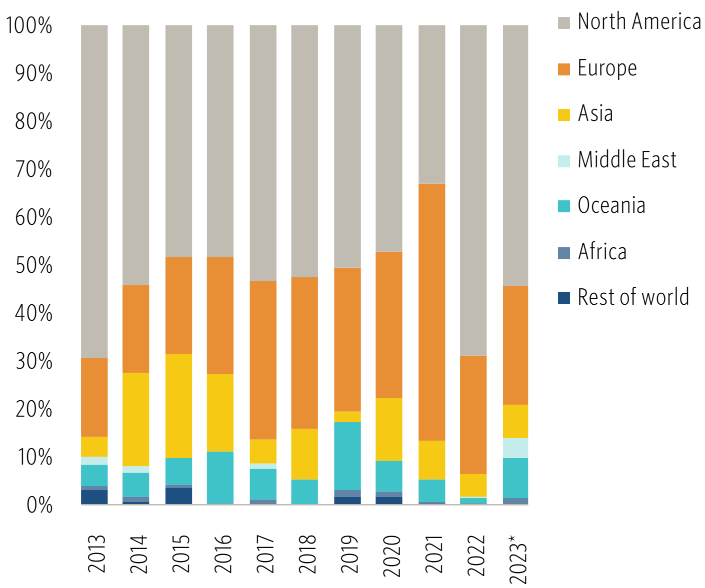
Source: PitchBook • **Geography:** Global
*As of September 30, 2023

Share of real assets fund count by region (unconsolidated)



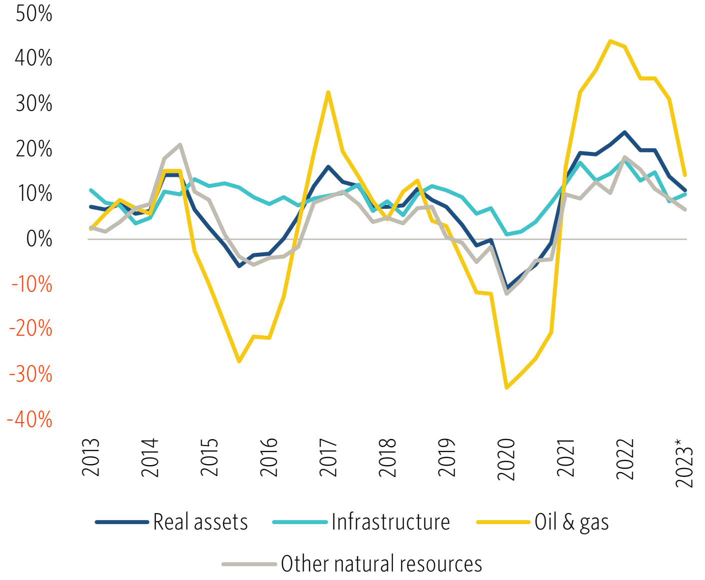
Source: PitchBook • **Geography:** Global
*As of September 30, 2023

Share of real assets capital raised by region (consolidated)



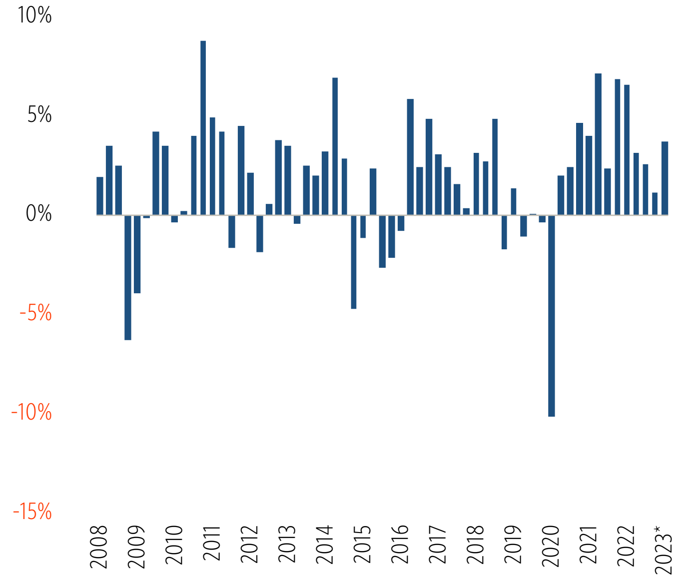
Source: PitchBook • **Geography:** Global
*As of September 30, 2023

PitchBook Indexes: Real assets rolling one-year horizon IRRs by strategy



Source: PitchBook • Geography: Global
*As of March 31, 2023

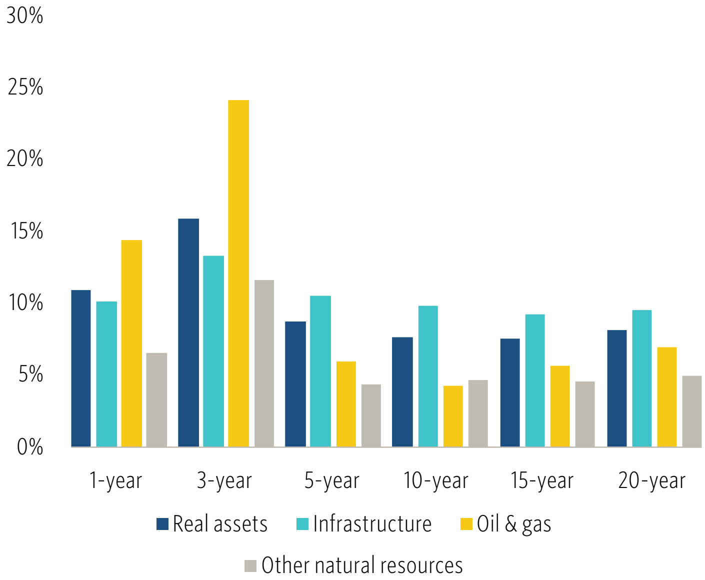
PitchBook Indexes: Real assets funds quarterly returns



Source: PitchBook • Geography: Global
*As of March 31, 2023

When slicing fundraising by region, it appears that the disruptive market conditions across much of the globe left some opportunity for private infrastructure and natural resources fund managers outside of North America. By fund count, vehicles domiciled in the US and Canada made up their smallest proportion of the total in over 10 years with just 13 funds closed, or 38.2% of the global count. While 54.5% of commitments still went to North American funds, vehicles in the "rest of world" bucket made up their second-highest proportion of commitments in over a decade. However, 2023's numbers are not fully baked, and fundraising in the last quarter of the year may change these dynamics considerably, as much of the reason for the atypical geographical splits is the North American fundraising drop-off. To that point, a $4.0 billion North American vehicle, West Street Infrastructure Partners IV, closed in October.[2] Nonetheless, some deviations, such as vehicles raised in the Middle East already having received more capital in the first three quarters of 2023 than in the previous five full years combined, will remain and perhaps even intensify. Of note, certain geographies are more

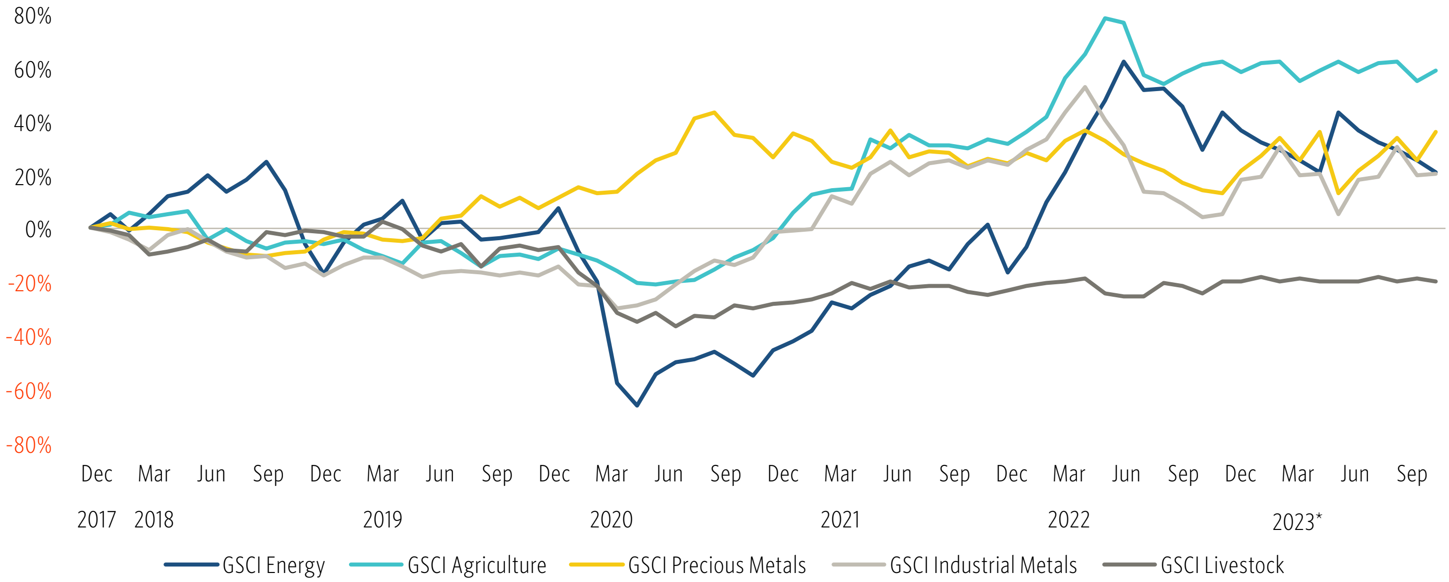
Real assets horizon IRRs by strategy*



Source: PitchBook • Geography: Global
*As of March 31, 2023

2: "Goldman Sachs Asset Management Raises $4.0 Billion for West Street Infrastructure Partners IV," Goldman Sachs Asset Management, October 23, 2023.

Six-year total return for select commodity-focused public company indexes (rebased to 2017)



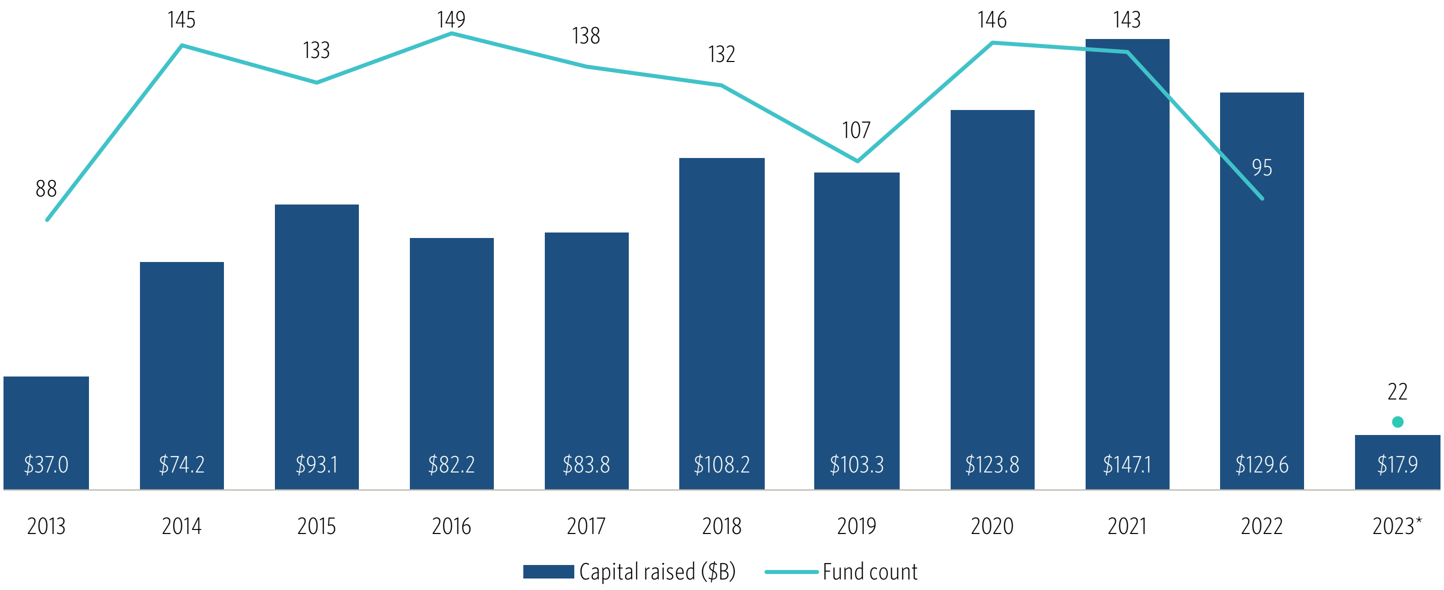
Source: Morningstar • **Geography:** Global
*As of September 30, 2023

heavily impacted by sector-specific trends. For example, most oil & gas funds are raised out of North America, so continued tailwinds for fundraising among vehicles of that type will have a disproportionate influence on the region's figures.

Turning to performance, real assets maintained its position as the private capital strategy with the best one-year return for a third consecutive quarter in Q1 2023, at 10.9%, among other strategies such as PE, VC, and real estate, per our Q1 2023 Global Fund Performance Report. However, its returns do appear to be moderating, with oil & gas performance no longer providing as substantial of an upward force as it did in previous quarters, with a 14.4% one-year IRR as of Q1 2023, down from 31.1% in Q4 2022. Infrastructure performance remained more steadfast with a 10.2% one-year return, up from 8.5% in Q4 2022 and in line with its five-year and 10-year numbers. The quarterly return for real assets was still positive in Q1 2023 at 3.7% despite recent net asset value markdowns, which have weighed on returns. For this metric, infrastructure vehicles and those in the "other natural resources" bucket—comprising agriculture, timber, and metals & mining—were the outperformers in Q1 2023, both with 6.0% returns. In contrast, oil & gas returns fell into the negatives at -2.8%, reflecting the movement of oil & gas prices. While there are many idiosyncratic performance drivers affecting the different categories of real assets vehicles, downward pressures from inflation, which drives up construction costs, and high cost of capital have been impacting returns across real assets fund types. Looking ahead, the performance of public market indexes may provide some insight into the directionality of private market returns in the next few quarters. Rebased to 2017, the major outperformer of the GSCI commodities-focused indexes through September was the GSCI Agriculture Index, and the major underperformer was the GSCI Livestock Index. The GSCI Precious Metals Index and the GSCI Industrial Metals Index moved somewhat in tandem, with the former outperforming the latter, and while the GSCI Energy Index was the second-best performer for a portion of 2023, it ended Q3 as the third best.

Infrastructure

Infrastructure fundraising activity



Source: PitchBook • **Geography:** Global
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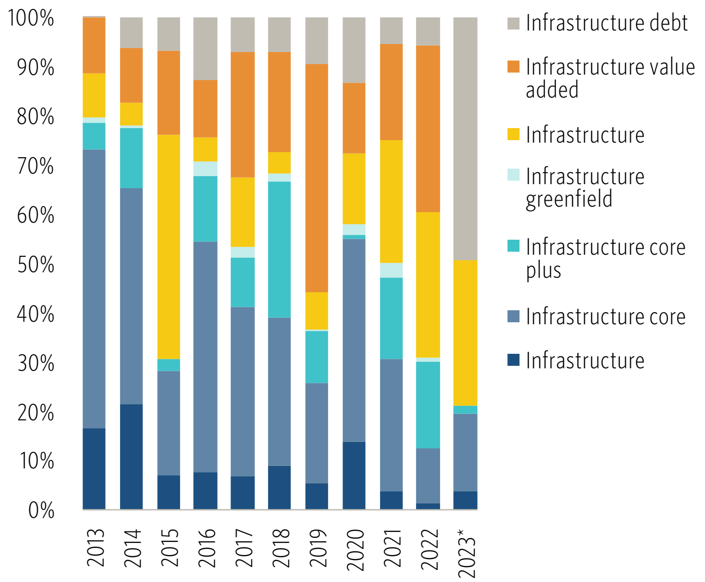
For all the talk about infrastructure being countercyclical, inflation hedging, and low volatility—all characteristics that would seemingly make it valuable in the anticipated economic environment of the next few years—fundraising appears to have dropped off in 2023, at least through Q3. The $17.9 billion raised across 22 vehicles in the first three quarters of the year is a clear outlier from the annual average of $122.4 billion raised over the past five years. These fundraising figures, which exclude open-ended vehicles, will grow as more closes from Q1 to Q3 of 2023 are captured by our data. And a few funds over the $1 billion mark closed in the first two months of Q4, which will also boost the full year's numbers. Further, several blue-chip infrastructure fund managers are targeting final closes for funds above the $5 billion, $10 billion, and $20 billion marks by the end of the year.

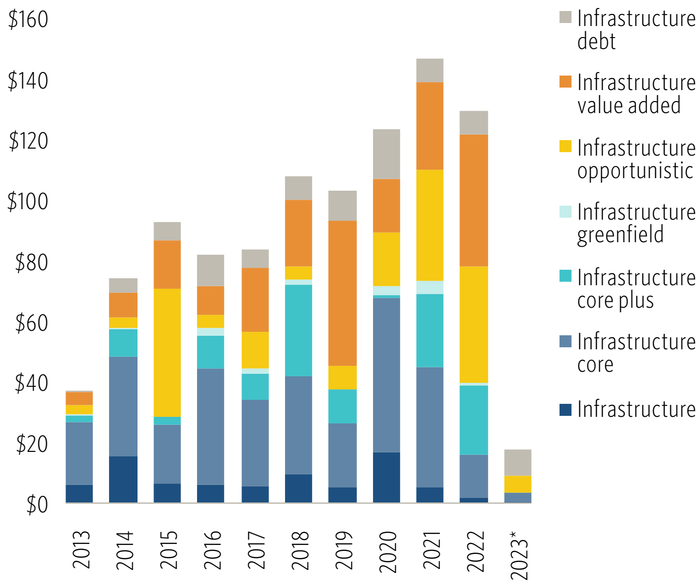
Even so, it is unlikely that the gap between current numbers and recent norms will be bridged completely. The denominator effect and the time between funds after huge fundraising years in 2021 and 2022 offer some explanations for this. So, too, does the type of infrastructure receiving heightened interest. The two private infrastructure debt

Share of infrastructure capital raised by type



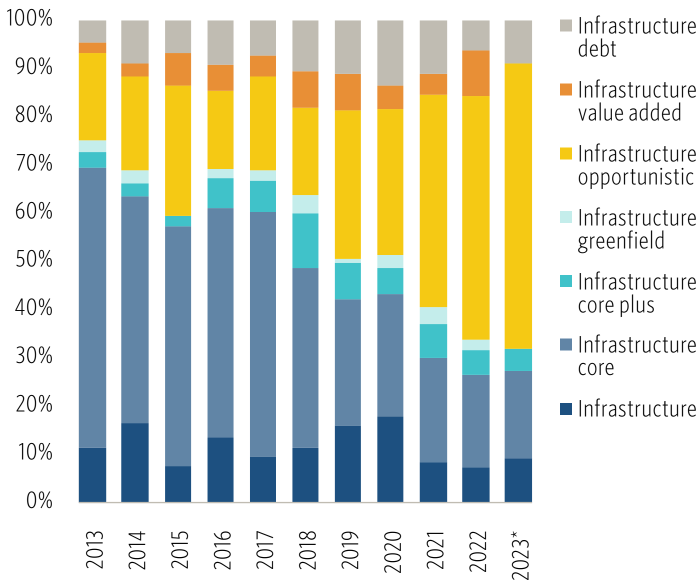
Source: PitchBook • **Geography:** Global
*As of September 30, 2023

Infrastructure capital raised ($B) by type



Source: PitchBook • **Geography:** Global
*As of September 30, 2023

Share of infrastructure fund count by type



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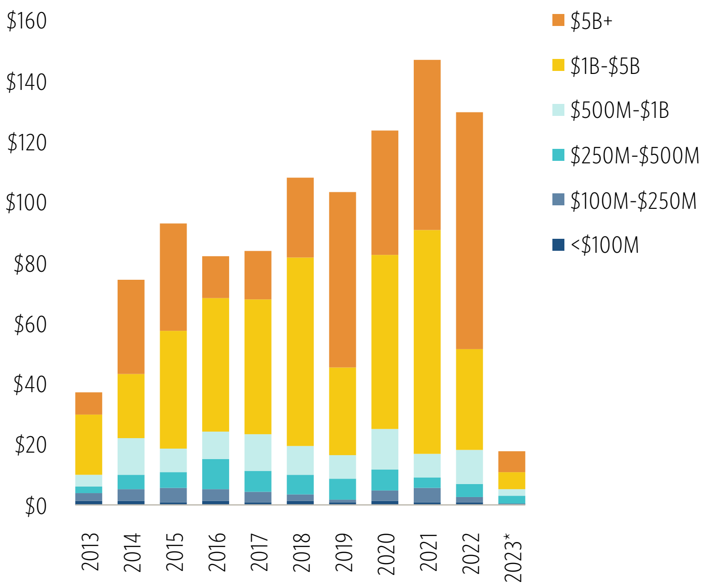
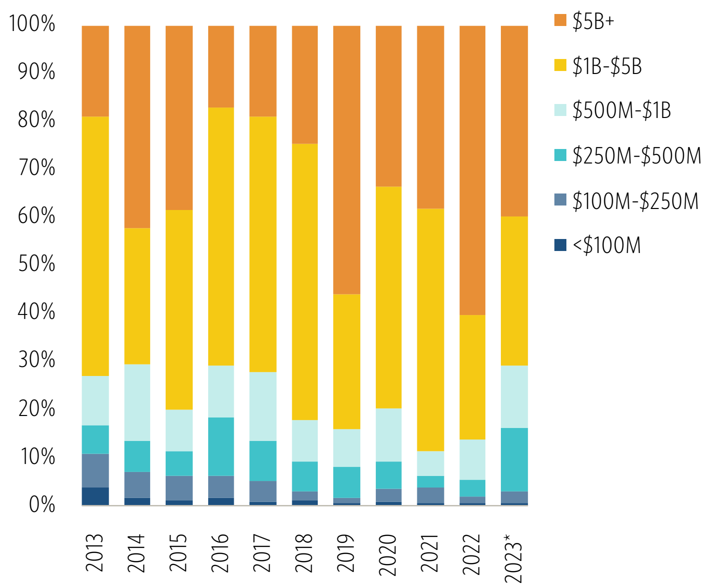
*As of September 30, 2023

Infrastructure capital raised ($B) by size bucket



Source: PitchBook • **Geography:** Global
*As of September 30, 2023

Share of infrastructure capital raised by size bucket

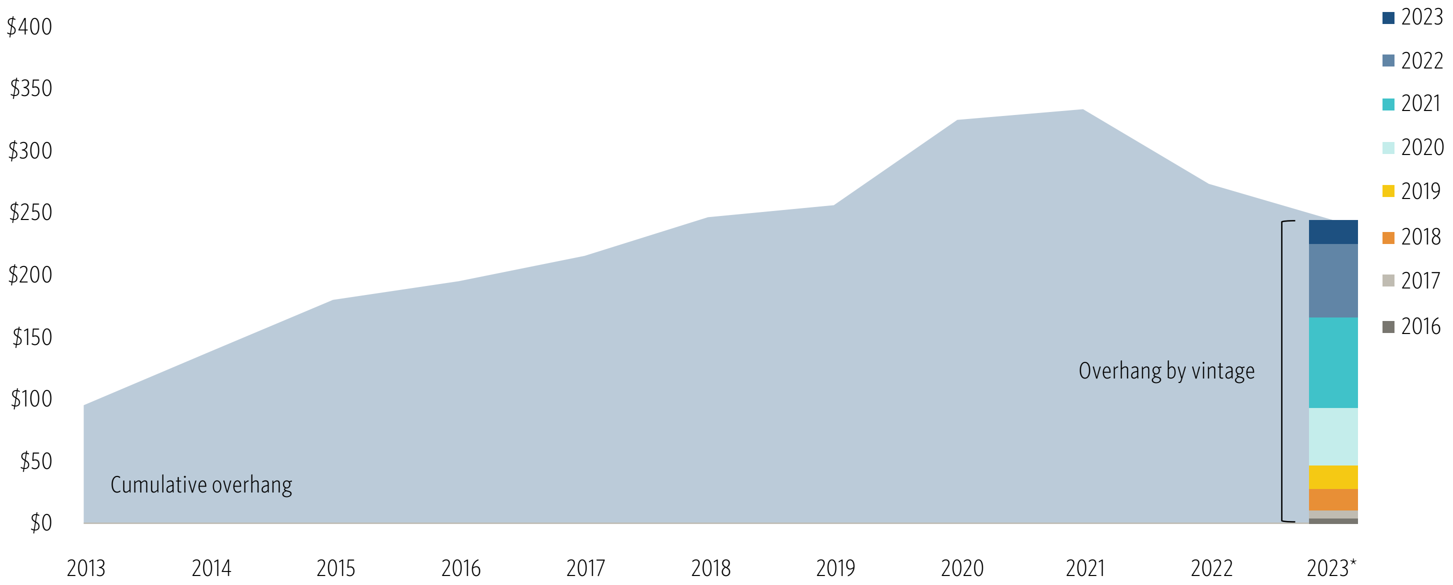


Source: PitchBook • **Geography:** Global
*As of September 30, 2023

funds closed through September 2023 accounted for approximately half of infrastructure fundraising, with $8.9 billion in commitments. For context, the annual average from 2012 to 2022 was $7.3 billion. Allocators are opting for debt over other types of infrastructure vehicles due to higher risk-adjusted return expectations compared with other strategies, made possible by floating-rate loans in a high-interest-rate environment and the ability to negotiate more favorable terms due to constrained commercial bank lending. Every other strategy is on course to meet half of the prior year's commitments at most, with many tracking to raise below a quarter or an eighth of that value.

PitchBook

Infrastructure dry powder ($B) by vintage



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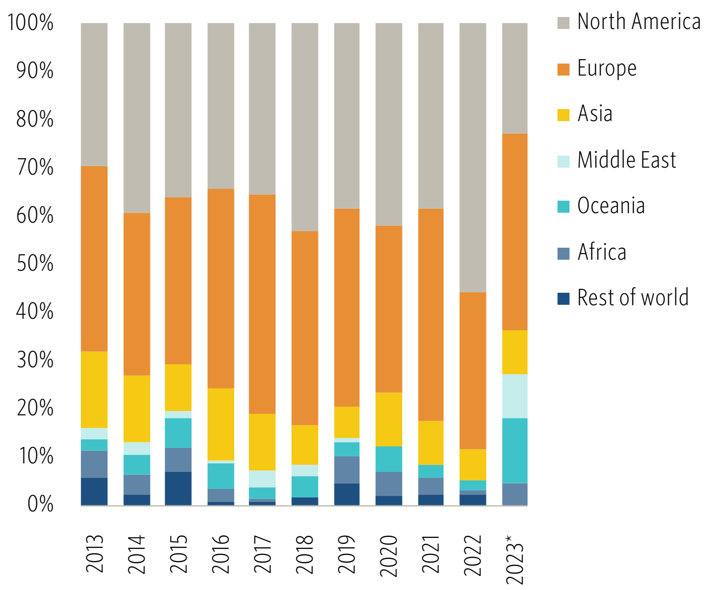
With how much fundraising has slowed, one might expect vehicle sizes to trend downward. However, there is an important purpose to the traditionally massive fund sizes in infrastructure: Because infrastructure projects are very capital-intensive, large vehicles are often necessary to complete them. So, despite the dwindling number of funds closed, the proportion of commitments to funds in various size buckets has remained fairly similar to previous years, with a slightly higher percentage of capital allocated to vehicles in the $250 million to $500 million grouping. Regardless, the outcome is the same for dry powder figures, which have trailed off since the 2021 peak of $284.0 billion, reaching $215.7 billion at the end of March 2023, and very likely have further to fall. Besides decreased fundraising, part of what will contribute to diminishing dry powder is take-private activity and the significant deal sizes it involves. The 2022 public market volatility created an opportunity for GPs to complete take-privates at considerable discounts to peak valuations, and some infrastructure investors have pounced on the opportunity. To name a few, in April, Brookfield announced a $13.3 billion take-private of shipping container leasing company Triton International.[3] In September, EQT and PSP Investments completed their acquisition of digital infrastructure asset aggregator Radius Global Infrastructure in an approximately $3.0 billion deal.[4] And in October, Stonepeak announced a $2.1 billion deal with another container lessor, Textainer.[5]

Share of infrastructure fund count by region



Source: PitchBook • **Geography:** Global
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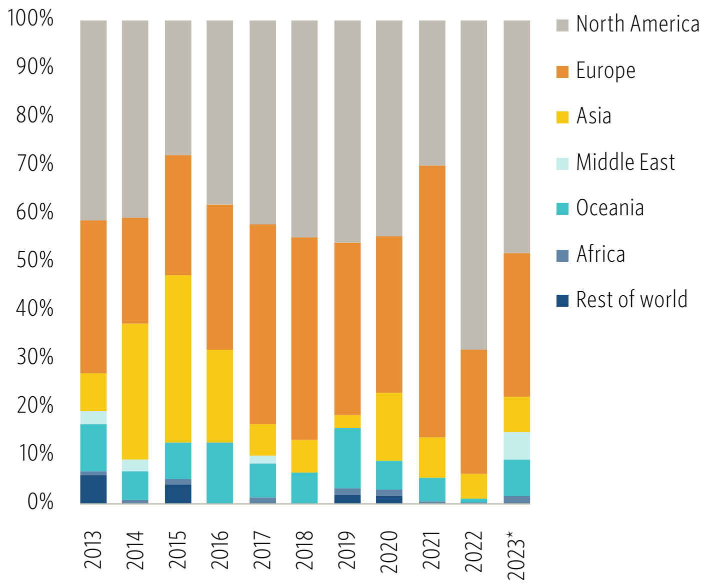
3: "Triton International to Be Acquired by Brookfield Infrastructure in a $13.3 Billion Take-Private Transaction," Triton International, April 12, 2023.
4: "EQT and PSP Complete Acquisition of Radius Global Infrastructure," Business Wire, Radius Global Infrastructure, September 21, 2023.
5: "Stonepeak to Take Shipping-Container Lessor Textainer Private in $2.1 Billion Deal," Reuters, Kanjyik Ghosh and Shivani Tanna, October 22, 2023.

Share of infrastructure capital raised by region



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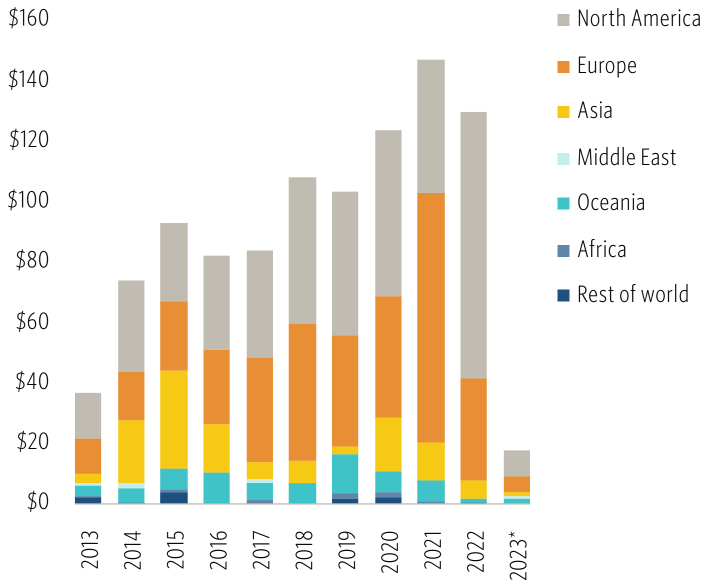
Infrastructure capital raised ($B) by region



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*As of September 30, 2023

Top infrastructure funds to close in 2023*

Fund	Investor	Fund value ($M)	Close date	Fund type	Fund location
Blackstone Green Private Credit Fund III	Blackstone	$7,100.0	August 10	Infrastructure debt	New York, US
Infranity Senior Infrastructure Debt Fund	Infranity	$1,762.0	July 21	Infrastructure debt	Paris, France
Cube Infrastructure Fund III	Cube Infrastructure Managers	$1,620.0	April 9	Infrastructure core	Luxembourg, Luxembourg
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Rakiza Fund	Rakiza	$1,000.0	March 21	Infrastructure core	Muscat, Oman
Pacific Equity Partners Secure Assets Fund II	Pacific Equity Partners	$925.0	May 31	Infrastructure opportunistic	Sydney, Australia
NGP Energy Transition IV	NGP	$700.0	June 1	Infrastructure opportunistic	Dallas, US
Ancala Essential Growth Infrastructure Fund	Ancala Partners	$698.0	July 5	Infrastructure opportunistic	London, UK
AIMPERA Fund III	AIMPERA Capital Partners	$475.0	July 11	Infrastructure opportunistic	San Francisco, US
Nykredit Infrastructure Fund 3	Nykredit	$378.0	February 16	Infrastructure opportunistic	Copenhagen, Denmark
FSOCIAL	Mexico Infrastructure Partners	$330.0	March 8	Infrastructure	Mexico City, Mexico
Bestinver Infra Fund	Bestinver	$330.0	May 19	Infrastructure	Madrid, Spain
FP RE Infrastructure Opportunities Fund	For Purpose Investment Partners	$310.0	January 17	Infrastructure opportunistic	Paddington, Australia
Convergence Partners Digital Infrastructure Fund	Convergence Partners (Africa)	$296.0	January 31	Infrastructure opportunistic	London, UK
Adaptogen Battery Storage Fund	Adaptogen Capital	$260.0	June 23	Infrastructure core	Paris, France

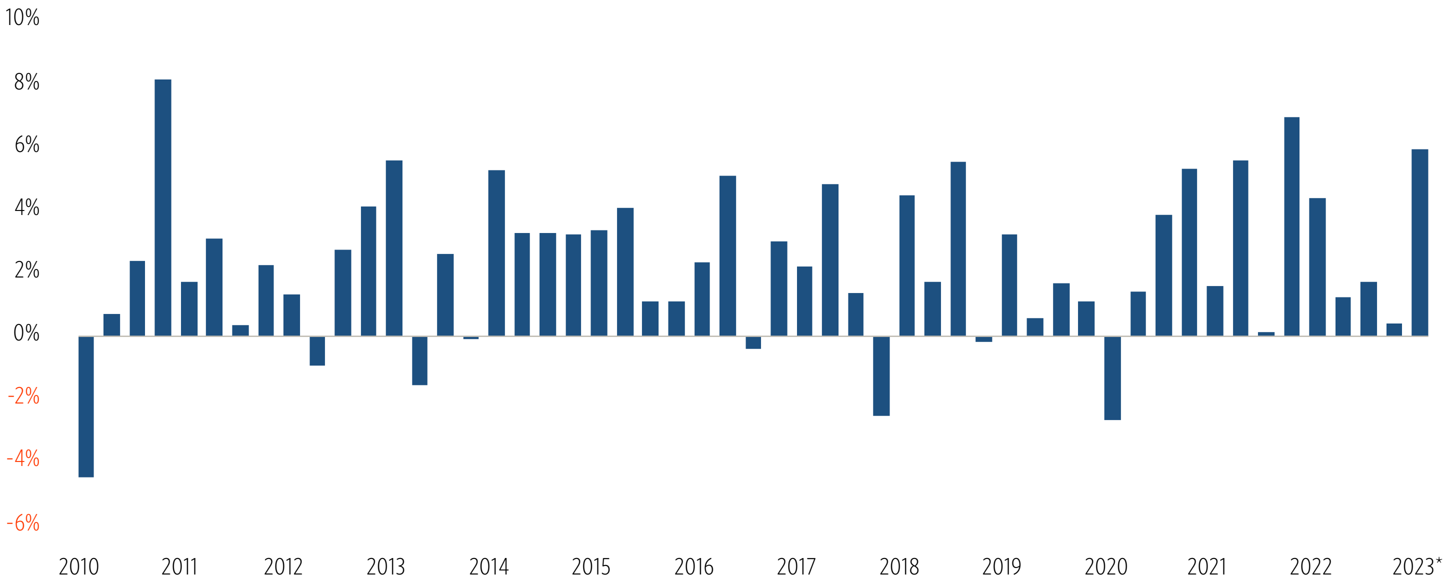
Source: PitchBook • **Geography:** Global
*As of September 30, 2023

Dividing infrastructure fundraising by geography, it seems that the downward forces stunting North American and European closes have not equally impacted closes across the rest of the globe. Through Q3, the number of final closes of vehicles domiciled in the Middle East in 2023 is greater than or equal to the number of final closes each full year for four of the last five years. This is also true of raised capital in the Middle East, but for each of the last five years. Nonetheless, vehicles domiciled in North America received the highest proportion of commitments, followed by those in Europe. When considering regional fundraising drivers, it is important to note that funds domiciled in one location can, and often do, invest across international borders. So, if there are attractive opportunities presented in the Middle East, funds raised in North America or Europe may be capitalizing on them, and vice versa.

Looking at the 15 largest infrastructure vehicles to close in the year through Q3, a few distinct trends emerge, a couple of which reflect trends we have identified in the broader real assets space. The common thread between the greatest number of funds on the list is sustainability, which is an investment theme for at least 10 vehicles and a major focus for seven. Of note, the two largest infrastructure funds raised, Blackstone Green Private Credit Fund III, at $7.1 billion, and Infranity Senior Infrastructure Debt Fund, at $1.8 billion, both offer energy-transition-focused credit, and the former does so exclusively. In total, nine of the top 15 largest funds invest in the energy transition, with the European energy crisis having highlighted the need to develop more renewables infrastructure in order to phase out fossil fuels while maintaining energy security at a global scale. Beyond the standard solar and wind energy projects, funds stated that they would invest in electric vehicle (EV) charging infrastructure; carbon capture, utilization, and storage; battery storage; and energy from waste, among other areas. As emerging technologies continue to develop and improve, sustainable infrastructure investment will benefit from an expanded opportunity set. For example, waste-to-energy investments will likely become more attractive as emerging waste-to-fuel technologies make advancements in sustainability and efficiency, as discussed in our Q4 2023 analyst note Emerging Sustainable Investing Opportunities: Waste-to-Fuel.

Another major theme, seen among seven of the top 15 funds and in the infrastructure space overall, is digitization. While much of the discourse on this topic has pertained to datacenters and the role they will play in AI's transformation of the developed world, telecommunications infrastructure has proven to be an enduring focus area among investors. As a rough reference point, just two of the funds on the top-15 list explicitly stated datacenters as a focus area, but four cited telecom as an area of investment. This is not to say that predictions about AI's impact on datacenter demand are overblown, but rather that infrastructure investors will

PitchBook Indexes: Infrastructure funds quarterly returns



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likely continue to value opportunities with at least some of the fundamentals that have made the asset class attractive for decades: provision of essential services for which there are not many or any viable substitutes, inflation-linked revenue streams, and low operating costs. For more on digital infrastructure and what is driving interest in the area, read our Q1 2023 Analyst Note: Sustainable and Digital Infrastructure in the Private Markets.

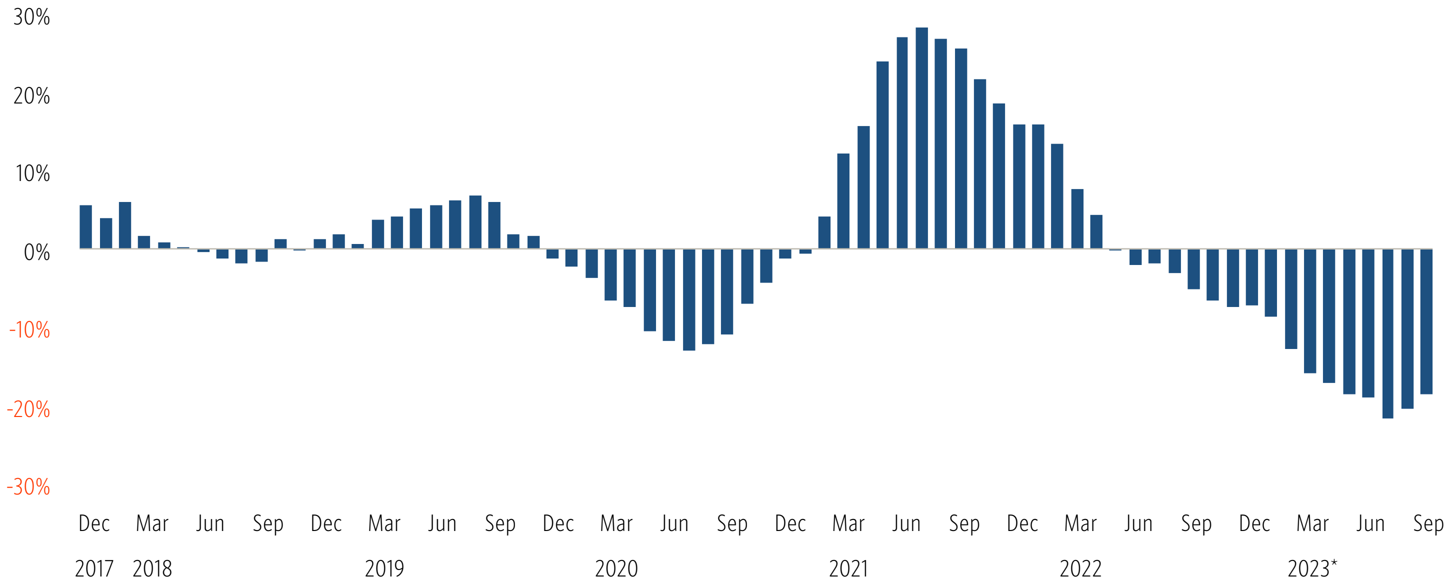
Surprisingly, social infrastructure is nearly as popular of an investment focus among the largest funds to close as digital infrastructure is, listed as an area of investment by six of the 15 vehicles. While social infrastructure, which encompasses asset types such as hospitals, schools, community housing, and public buildings, has long been considered part of the asset class, it infrequently shows up so consistently as an investment focus on this list. There are a few factors that may be contributing to this shift. For one, some investors include mobility or transportation infrastructure under the umbrella of social infrastructure, and US and EU government spending in those areas has increased in recent years,[6,7] so the possibility of accessing a portion of those funds may be drawing in investors. Second, some asset managers consider affordable housing to be social infrastructure. As mentioned in our H1 2023 Global Real Estate Report, interest in workforce or affordable housing has been on the rise as a structural undersupply and financial incentives have enticed real estate investors, which may also be true of infrastructure fund managers. Lastly, there is a recession-proofing angle to certain types of social infrastructure, with hospitals thought by some to be less affected by economic downturn than other property types and higher education enrollment trending upward during recessions as unemployed individuals seek to make themselves more marketable to potential employers.[8]

Performance-wise, infrastructure vehicles held strong in Q1 2023 with a 6.0% quarterly return, the metric having stayed in the positives since March 2020. It is this type of performance under the prevailing macroeconomic and market circumstances that earns infrastructure a place in allocator's portfolios, with most other private capital strategies achieving sub-4% returns in Q1, as discussed in our Q1 2023 Global Fund Performance Report. In fact, Q1's quarterly return is in line with infrastructure's highs of the past decade, indicating that not only is the asset class outperforming other strategies, but it is also performing well compared with its own track record. Part of this can likely be attributed to infrastructure fund holdings being marked up less dramatically during the 2020 slew of write-ups than those of other private capital strategies such as private equity and venture capital, leaving less room for them to fall in 2023, when asset managers have been forced to bring their valuations back to reality. Additionally, as previously mentioned, infrastructure assets frequently benefit from inelastic demand, inflation-linked revenue, and low operating costs, which help protect returns during inflationary and recessionary periods.

In terms of future performance, 2023 is unlikely to see any record-breaking numbers due to the high cost of capital, increased operational and development costs, and a potential recession resulting in reduced consumer spending. Different infrastructure sectors and strategies will feel these pressures to varying degrees. For example, transportation infrastructure tends to experience the impacts of consumer spending more intensely, as the need for shipping- and logistics-related infrastructure and services dips when purchasing does. Publicly available data from the Port of Los Angeles tells us that the YoY change in monthly 20-foot equivalent unit (TEU) volume going through the port has been negative since May 2022, but data points from August and September 2023 are not as far below the x-axis as the July 2023 data point, suggesting that the tides may be turning on the pullback in activity. Meanwhile, the Producer Price Index (PPI) for air, water, truck, and rail freight show air and truck freight hovering between pre-pandemic lows and post-pandemic zeniths, while water and rail freight remained elevated near their late-2022, early-2023 highs. While macroeconomic uncertainty still clouds the private markets, infrastructure appears poised to weather the storm, at least in comparison with other private capital strategies.

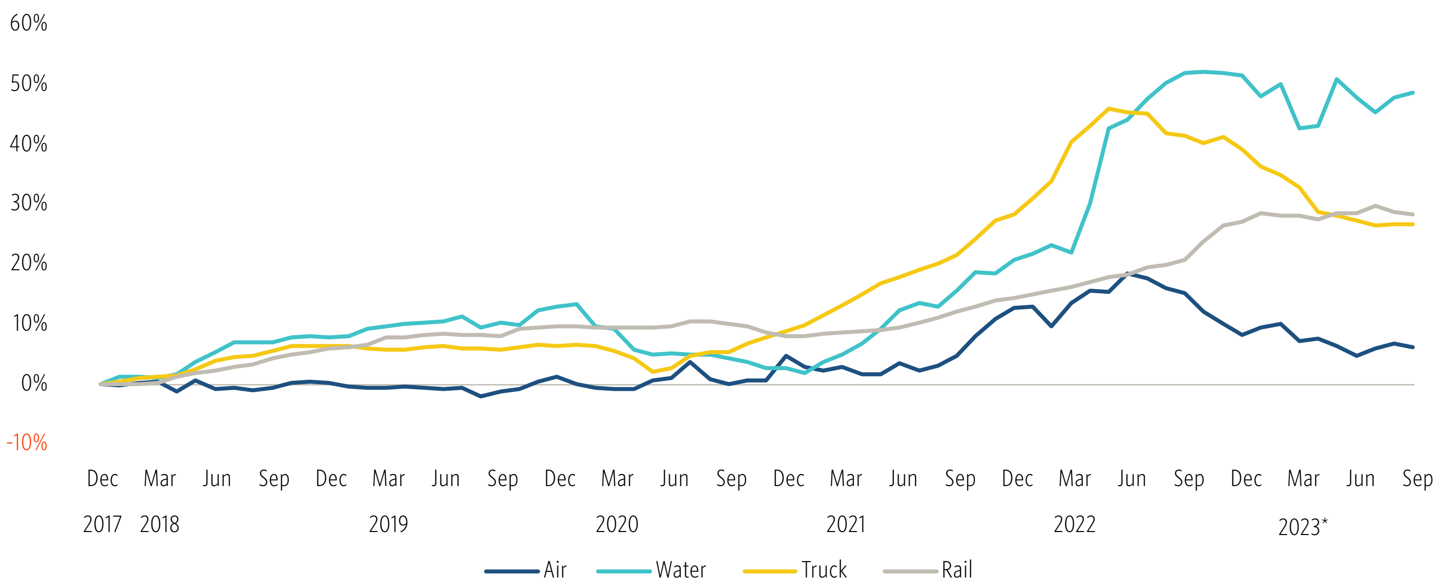
6: "A Guidebook to the Partisan Infrastructure Law," The White House, November 2023.
7: "EU Invests €6.2 Billion in Sustainable, Safe and Efficient Transport Infrastructure," European Commission, June 22, 2023.
8: "The Financial Crisis and College Enrollment: How Have Students and Their Families Responded?" Harvard University and NBER, Bridget Terry Long, July 2013.

YoY change in Port of Los Angeles monthly TEU volume



Source: Port of Los Angeles • **Geography:** Global
*As of September 30, 2023

Producer Price Index for select transportation services



Source: FRED • **Geography:** Global
*As of September 30, 2023

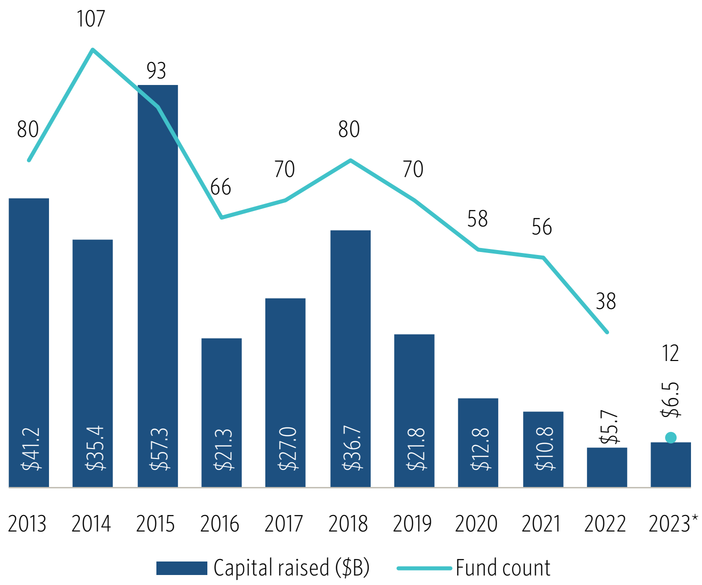
Natural resources

Juliet Clemens
Analyst, Fund Strategies

Natural resources fundraising has often been eclipsed by that of the other major category of real assets, infrastructure, particularly in recent years. From 2018 to 2022, commitments to natural resources vehicles declined steadily, as investors shifted away from oil & gas and gravitated toward better risk-adjusted returns and investments more aligned with their sustainability commitments. This trend has reversed in 2023, as natural resources fundraising reached $6.5 billion across 12 funds through Q3 2023, surpassing 2022's annual total of $5.7 billion, although the year may still see the second-lowest amount raised in over a decade. There was an almost exact split down the middle in terms of fundraising figures for oil & gas and other natural resources, which consists of agriculture, metals & mining, and timber.

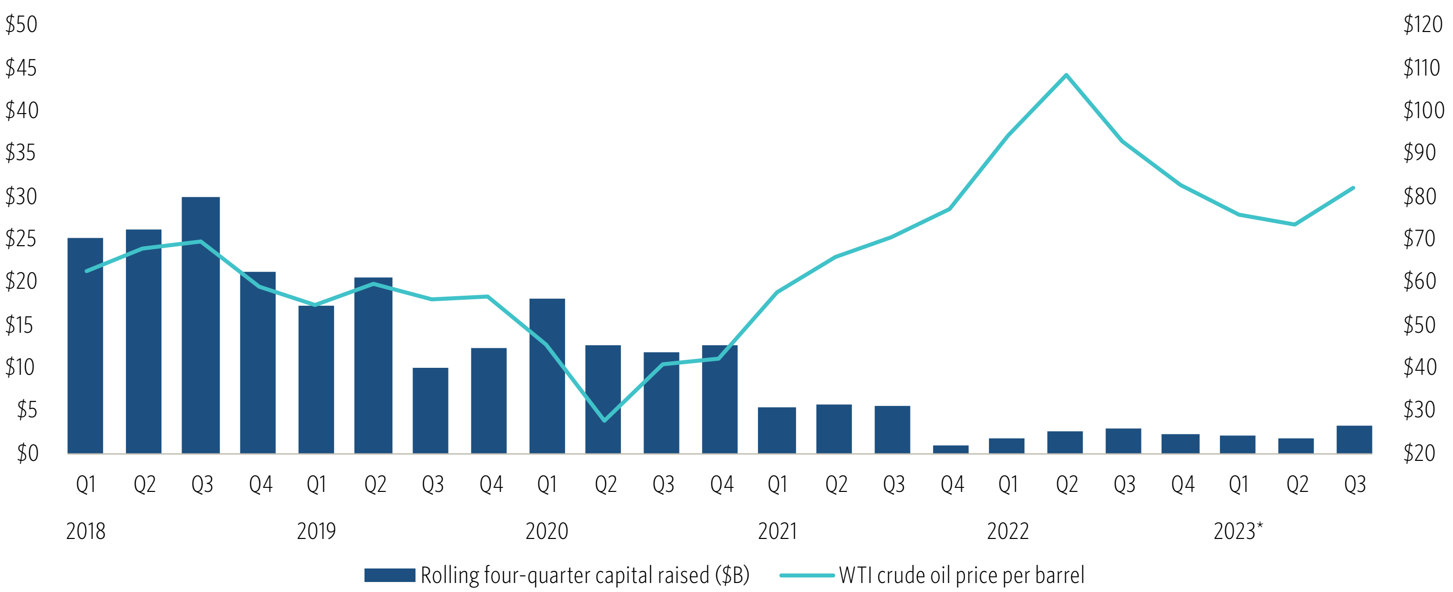
Starting with oil & gas, it is interesting to note that private investments into the sector began to decrease most acutely

Natural resources fundraising activity



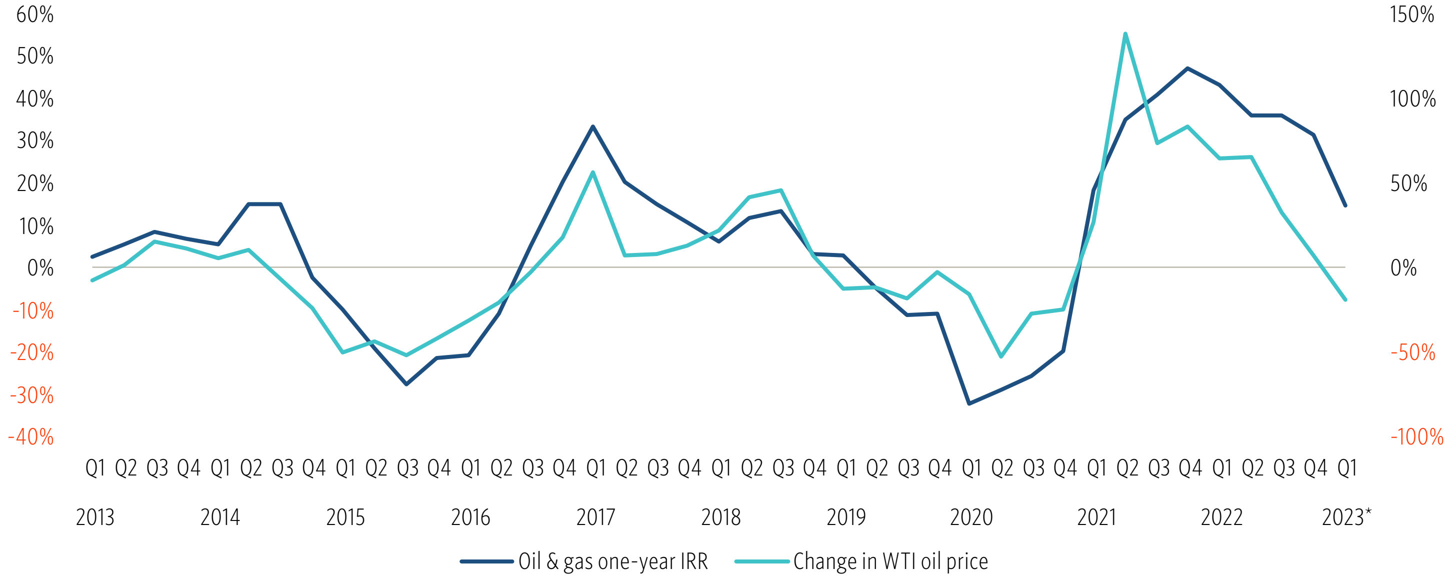
Source: PitchBook • **Geography:** Global
*As of September 30, 2023

Oil & gas fundraising activity by quarter



Sources: PitchBook and FRED • **Geography:** Global
*As of September 30, 2023

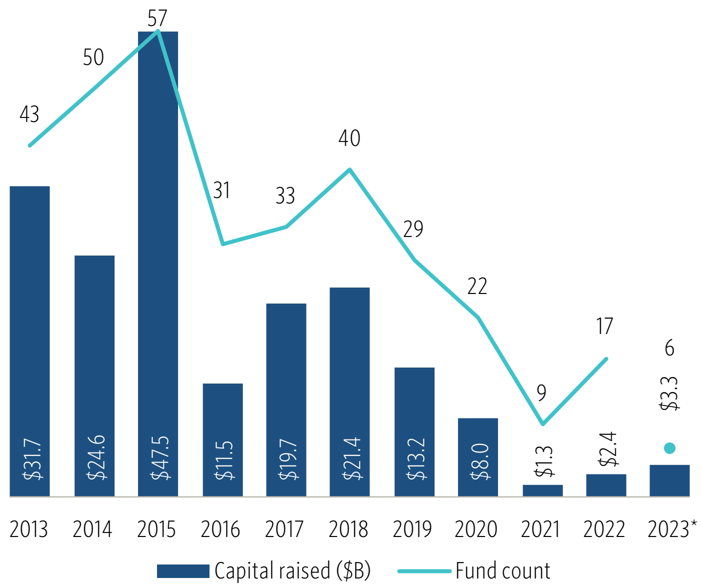
Oil & gas rolling one-year IRR and change in WTI oil price



Sources: PitchBook and FRED • **Geography:** Global
*As of March 31, 2023

when the West Texas Intermediate (WTI) crude oil price began its ascent in 2021. As the WTI price hit a peak of $108.7 per barrel in Q2 2022, driven by expectations that oil output would be curbed by European sanctions on imports of Russian oil, private investments hit their lowest level historically. However, oil & gas prices have softened since Q2 2022 due to a variety of headwinds. Contrary to expectations, Russia increased its oil output while China's demand for oil has still not recovered despite the end of its COVID-19 lockdown policy in late 2022.[9, 10] Additionally, US oil production outputs hit record-breaking highs through Q1 2023, averaging 12.8 million barrels per day (bpd).[11] As such, there was plenty of supply coming online that pushed prices downward. In early November 2023, Saudi Arabia and Russia signaled that they would continue their voluntary cuts to oil outputs of 1 million bpd and 300,000 bpd, respectively, until at least the end of the year to support the efforts of OPEC+ to stabilize and increase oil pricing. OPEC+ has been cutting outputs by 1.16 million bpd since May 2023.[12] Though the WTI price increased to $82.3 per barrel in Q3 2023 from $73.8 per barrel in Q2, oil analysts at Standard Chartered Bank predict that global oil demand will continue to decrease through 2024, potentially leading to even lower prices.[13] However,

Oil & gas fundraising activity



Source: PitchBook • **Geography:** Global
*As of September 30, 2023

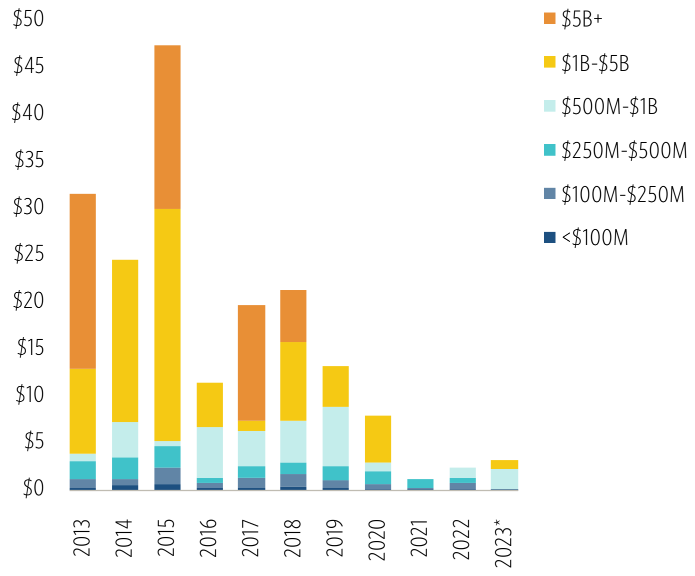
9: "Russia to Send Most 2023 Oil Exports to Friendly Countries After Output Cut Announcement," S&P Global Commodity Insights, Rosemary Griffin and Herman Wang, February 13, 2023.
10: "China's Oil Demand Outlook Is Worsening as Winter Approaches," Bloomberg, November 7, 2023.
11: "Doubters Beware: US Oil Production Is Setting New Records," Forbes, Robert Rapier, October 8, 2023.
12: "OPEC+ Announces Surprise Oil Output Cuts," Reuters, Maha El Dahan and Ahmed Rasheed, April 2, 2023.
13: "Barclays Lowers 2024 Brent Oil Price Forecast to $93/B on Demand Concerns," S&P Global Commodity Insights, Robert Perkins, November 8, 2023.

Goldman Sachs takes the opposite view and expects Brent futures to hit $100 per barrel by H2 2024 as OPEC+ and others cut the supply coming online,[14] demonstrating that there is not a clear consensus on the trajectory of oil & gas prices.

Private oil & gas fund IRRs generally mirror the trajectory of WTI crude oil pricing, so while one-year IRRs hit a peak of 42.9% in Q1 2022, the one-year IRR as of Q1 2023 has fallen to a much more moderate 14.4%, well below the three-year IRR of 24.1%. Despite such return volatility, there seems to be more investment momentum behind oil & gas as it continues to play a critical role in the energy transition. Private oil & gas funds raised $3.3 billion across six funds through the end of September 2023, outraising the annual totals of $1.3 billion and $2.4 billion in 2021 and 2022, respectively. All six funds were based out of North America. Fund sizes ranged from $1.0 billion at the largest end of the spectrum to $45.0 million at the smallest. The $1.0 billion vehicle, Kimmeridge Fund VI, is the first fund to reach this size since 2020. To date, no funds over $5 billion have closed since 2018. In addition to Fund VI, Kimmeridge also closed on $667.0 million for Kimmeridge Energy Engagement Partners II, which, along with Formentera Partners Fund II and Pearl Energy Investments III, constituted the three funds within the $500 million to $1 billion size bucket. Riverbend Oil & Gas X and UnionRock Energy Fund II raised $50.0 million and $45.0 million, respectively.

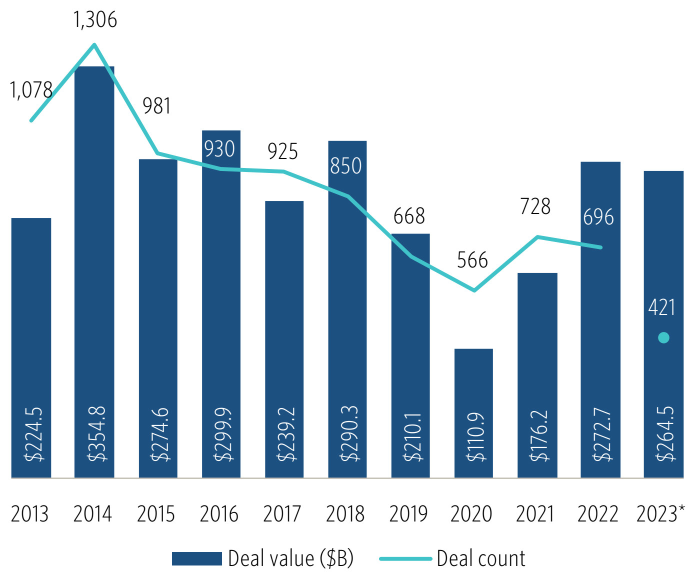
The relatively low amount of private oil & gas activity stands in direct contrast to the recent outsized M&A deals that occurred in the public realm. Through the end of Q3 2023, M&A deal activity for the year came to $95.7 billion, a considerable decrease from 2022's activity levels. However, in October 2023, ExxonMobil announced it would merge with Pioneer Natural Resources in a massive $59.5 billion transaction;[15] this was promptly followed by Chevron's disclosure that it planned to acquire Hess for $53.0 billion.[16] With the inclusion of these two gargantuan deals, 2023's oil & gas M&A deal activity as of the end of October shot up to $264.5 billion, very nearly reaching 2022's annual total of $272.7 billion, as large oil players seek to secure footholds in regions where oil extraction opportunities still exist. The establishment of such oil juggernauts bodes well for private investors, which can look to these public companies when searching for exit opportunities.

Oil & gas capital raised ($B) by size bucket



Source: PitchBook • **Geography:** Global
*As of September 30, 2023

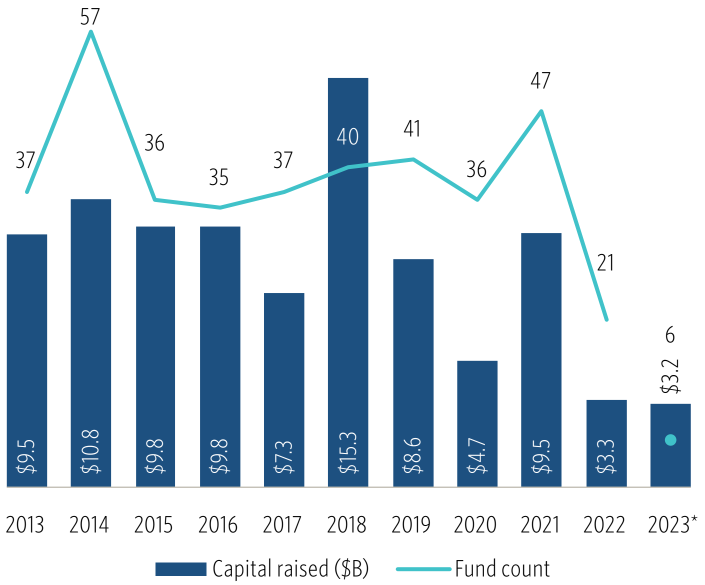
Oil & gas M&A activity



Source: PitchBook • **Geography:** Global
*As of October 31, 2023

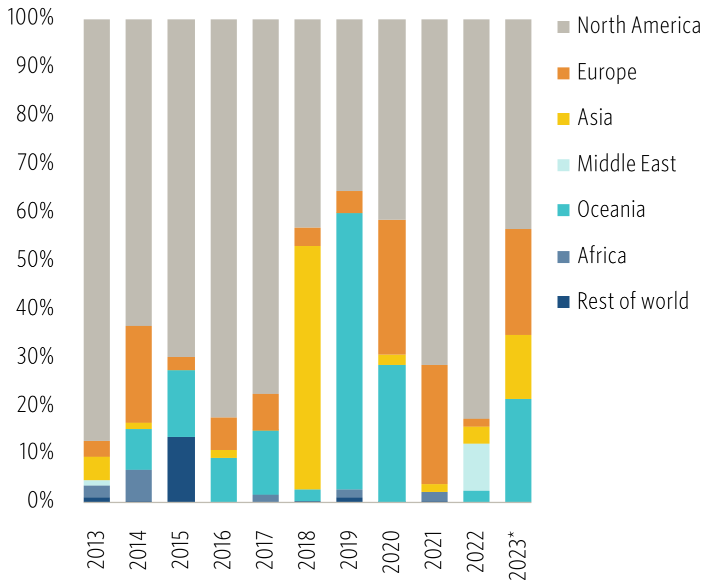
14: "Barclays Lowers 2024 Brent Oil Price Forecast to $93/B on Demand Concerns," S&P Global Commodity Insights, Robert Perkins, October 8, 2023.
15: "ExxonMobil Announces Merger With Pioneer Natural Resources in an All-Stock Transaction," ExxonMobil, October 11, 2023.
16: "Chevron Announces Agreement to Acquire Hess," Chevron, October 23, 2023.

Other natural resources fundraising activity



Source: PitchBook • **Geography:** Global
*As of September 30, 2023
Note: The "other natural resources" sector includes agriculture, timber, and metals & mining.

Share of other natural resources capital raised by region



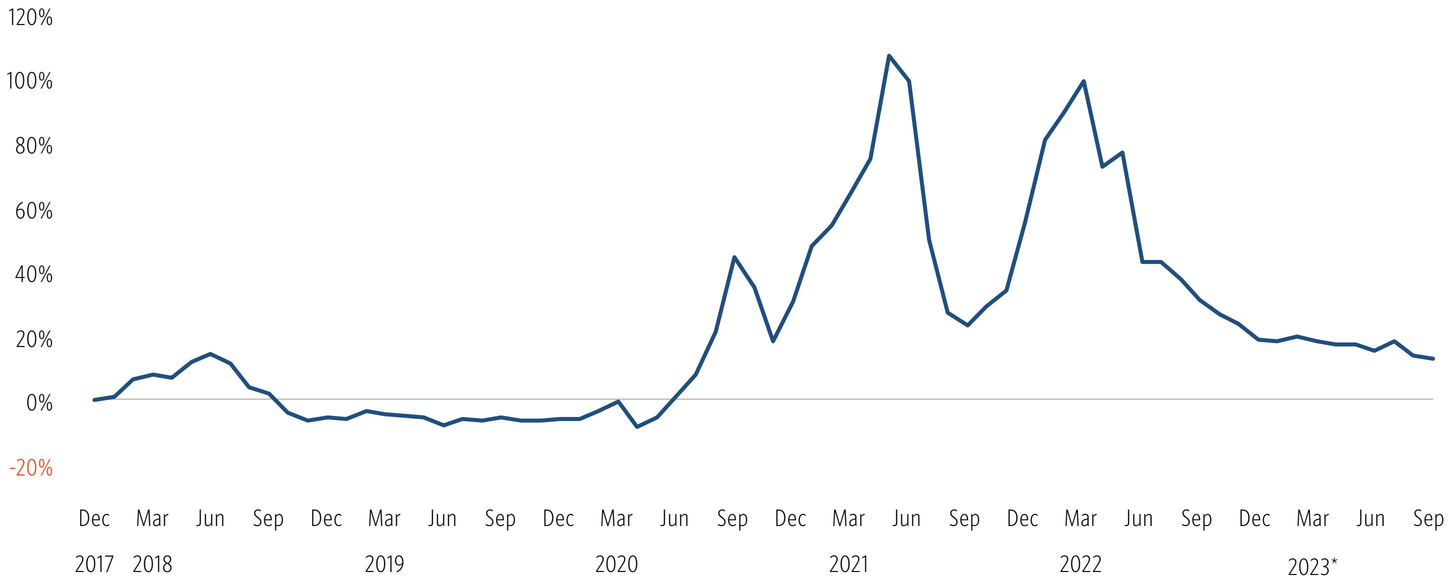
Source: PitchBook • **Geography:** Global
*As of September 30, 2023
Note: The "other natural resources" sector includes agriculture, timber, and metals & mining.

Turning to private investments in other natural resources, six funds raised $3.2 billion from around the globe: two funds out of the US, two out of Europe, and one each out of Japan and Australia. The largest fund raised $1.2 billion, while the smallest raised just $42.0 million, and the remaining four funds fell within the $100 million to $1 billion range. The funds target a diverse set of natural resources strategies. Danske Bank's $42.0 million Agri Sustainability Fund seeks to assist companies within the agricultural industry with implementing renewable energy systems such as solar panels, wind turbines, and similar technologies that both reduce farm emissions as well as generate lower energy costs.[17] Along the theme of sustainability, Vision Blue Resources raised $650.0 million to target investments in companies that are involved in the extraction or acquisition of minerals that are imperative to the energy transition movement.[18] The fund is among the many real assets players making bets on the critical minerals—such as lithium, copper, cobalt, and graphite—involved in the production of structures that will facilitate the world's energy transition, including EVs, energy storage, and solar infrastructure, given that global production of these materials must quadruple by 2040 to meet the ambitious climate goals of the Paris Agreement.[19]

While demand for these materials will increase in the long term, 2023 has been a tough year for the performance of critical minerals. For instance, lithium—a crucial element in EV batteries—has undergone severe price drops in the past few months. After reaching a peak of approximately $79,000 per tonne in November 2022, the price plummeted to roughly $24,000 per tonne in April 2023.[20, 21] Though there was a slight recovery through June, the price per tonne hovered around the $23,000 mark in September. This dramatic price decrease occurred as a result of slowing demand for EVs in China, in addition to a glut of lithium coming from Brazil and Argentina.[22, 23] Other critical minerals such as cobalt and

17: "Danske Bank Launches New £35m Agri Sustainability Fund," Danske Bank, February 28, 2023.
18: "Vision Blue Resources Completes US$650m Fundraising," Vision Blue Resources, April 18, 2023.
19: "The Role of Critical Minerals in Clean Energy Transitions," IEA, May 2021.
20: "Lithium," Trading Economics, n.d., accessed November 29, 2023.
21: "Low Platinum Prices Show How Banking on Miners Could Threaten the Energy Transition," The Wall Street Journal, Yusuf Khan, November 15, 2023.
22: "Slowing Chinese EV Demand Drives Down Battery Metal Prices," Financial Times, Harry Dempsey, October 16, 2023.
23: "Lithium Stocks Tumble Amid Declining Prices," Mining.com, October 4, 2023.

Price changes for lumber (rebased to 2017)



Source: Morningstar • **Geography:** Global
*As of September 30, 2023

platinum have experienced similar price drops.[24, 25] While the proliferation of critical minerals is undoubtedly necessary for the transition to renewable energy, investors must be mindful of the amount of supply coming online at any given time so as not to risk their investments. The constraints upon critical minerals also have players in the real assets space reconsidering how close the world really is to transitioning away from investments in oil & gas, especially in the near term.

The $420.0 million Sumitomo Forestry Fund I is the only closed-end vehicle targeting timber that we have tracked so far this year, and it is implementing a unique strategy to drive performance. The fund is a joint partnership between 10 Japanese corporations—including well-established names such as Japan Post Holdings, Osaka Gas, and Sumitomo Mitsui Banking Corporation—that intends to invest in 130,000 hectares of North American forests.[26] The fund will aim to generate profits not only through lumber sales but also through selling its carbon credits to companies that are unable to sufficiently reduce their carbon emissions. However, lumber has faced its own headwinds this year. Throughout 2022, lumber prices declined significantly. At the start of March 2022, the PPI for lumber reached a high of 444.9, coinciding closely with the 1.8 million peak in US housing starts in April 2022.[27] As it was early on in the process, the housing market had not yet been adversely affected by the Federal Reserve's interest rate hikes. However, as the federal funds rate increased, the higher cost of borrowing negatively impacted the ability of construction companies to invest in new projects. As a result, demand for new housing began to decline, leading to lowered demand for lumber as construction stalled. By December 2022, the lumber PPI had reached 264.4, and it decreased even further in September 2023 to 252.1 as housing starts flattened to around 1.4 million.[28] If Goldman Sachs assessments are correct, there will be an additional 4% decline in housing starts in 2024,[29] meaning that lumber may continue to see demand and prices drop, at least in the near term.

24: "Prices Tumble for Cobalt Used for Electric Vehicle Batteries," Reuters, Pratima Desai, September 25, 2023.
25: "Low Platinum Prices Show How Banking on Miners Could Threaten the Energy Transition," The Wall Street Journal, Yusuf Khan, November 15, 2023.
26: "Over $420M North American Forest Fund From Japanese Investors Kicks Off," CarbonCredits.com, Jennifer L., July 10, 2023.
27: "US Housing Starts Rise 'Unexpectedly' for the Second Straight Month," MarketWatch, Aarthi Swaminathan, November 17, 2023.
28: "United States Housing Starts," Trading Economics, n.d., accessed December 7, 2023.
29: "Goldman Sachs Economists Expect US Home-Price Growth to Slow Next Year," Bloomberg, Alicia Clanton, October 23, 2023.

Additional research

Private capital

Q3 2023 Global M&A Report

Download the report here

Q1 2023 Global Fund Performance Report (with preliminary Q2 2023 data)

Download the report here

Q3 2023 Global Private Market Fundraising Report

Download the report here

November 2023 Global Markets Snapshot

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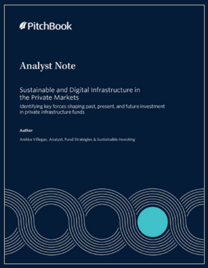

Q1 2023 Analyst Note: Sustainable and Digital Infrastructure in the Private Markets

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