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Building America's Infrastructure: How Private Equity Improves Local Communities

DECEMBER 2024

A message from Drew Maloney

Infrastructure is critical to our nation, and private equity is providing capital and expertise to develop essential infrastructure in our communities. Our latest report examines how private equity players are engaging in infrastructure across America.

To provide novel insights, we examine different facets of infrastructure and associated PE dealmaking, including:

- Investments in construction and engineering to increase the supply of housing and build buildings that are more energy efficient and resilient.
- Investments in traditional and new energy productions.
- Investments in communications infrastructure and datacenters to match advancements in technology.

Taken together, these investments are making life better for families across our nation who need more housing options, more efficient energy, and stronger technology in their day-to-day lives.

Oxford Economics' Global Infrastructure Outlook estimated that in the US alone, approximately $12 trillion of infrastructure investment will be required by 2040.[1] This vast sum includes critical facets of infrastructure such as: digital capacity and grid build-out, advanced engineering techniques for energy-efficient buildings, and improving the supply of housing given significant shortfalls.

Private capital will be critical in helping to meet large infrastructure investment needs as public finances remain strained. PE firms have a proven track record of infrastructure investment across various sectors in addition to considerable capital ready to deploy. Boston Consulting Group estimates that from 2018 to 2023, infrastructure AUM grew by $700 billion, a CAGR of 18%, producing strong, inflation-resistant returns in the meantime.[2] This growth in AUM has meant thousands of jobs in that time frame and ensures there is ample capital to keep funding new or revamped infrastructure. For example, a recent $8 billion financing package for global datacenter REIT CyrusOne (backed by KKR and Global Infrastructure Partners for a few years now) is helping fuel the opening of a new campuses in Chicago, San Antonio, and New Albany, Ohio.

We hope you enjoy this report.

Drew Maloney

Drew Maloney
President & CEO,
American Investment Council

1: "Global Infrastructure Outlook," Oxford Economics, Macro Consulting Team, September 7, 2017.
2: "Infrastructure Strategy 2024: Creating Value Through Operational Excellence," Boston Consulting Group, Wilhelm Schmundt, et al., March 2024.

Case studies

Quinn Residences

Build-to-rent homes meet new demand: Quinn Residences is a developer of single-family houses in the southeastern US, with its headquarters in Atlanta. It currently has developed 33 communities across multiple states, for a total of 4,744 homes. One of its newer concepts, Harmony Heights, is a build-to-rent development in Commerce, Georgia. The company has partnered with PE backers for a handful of years now, initially being acquired by Conversant Capital, Monarch Alternative Capital, and others through an estimated $750 million buyout in 2021. Since then, Quinn has utilized a couple debt packages to help fuel further growth and build even more homes. The build-to-rent model is likely popular now in an era of mortgages returning to levels of at least 6%, which has prompted demand from prospective homeowners that Quinn Residences, with the capital and advisory help of its PE backers, has stepped in to meet.

Vero Networks

Connecting underserved communities: Vero Networks is a fiber network builder and operator that aims to provide multiple network and connectivity services to communities that are underserved or even completely lacking any access to fiber-optic broadband.[4] Most recently, Vero received $80 million of development capital from Hamilton Lane and Delta-v Capital in August 2024.[5] This infusion of capital will go toward further build-out of multiple fiber networks across the nation, such as Vero's recent completion of a 25-mile, fully underground, multiconduit fiber network between Mechanicsburg and Dublin in Ohio,[6] which will enhance connectivity in that larger Columbus region, especially because demand for datacenter operations in that area has risen considerably. Vero Networks has drawn on such private capital to build out fiber networks spanning 237 markets across 20 states since its founding in 2017.

NET Power

Powering the transition to clean fuel: Taken public via a special acquisition purpose vehicle, NET Power is a novel platform that is designed to produce electricity from natural gas while capturing nearly all atmospheric emissions. Most recently, the company received nearly $1.5 billion of development capital through a private placement alongside its public listing in summer 2023, with participation from entities including Constellation Energy, Oxy Low Carbon Ventures, and more. The company was created as a platform in 2010 by 8 Rivers, an infrastructure-focused firm. In recent financial reports, the company noted that among other projects, its first utility-scale operation near Midland-Odessa in the Permian Basin remains on schedule, with initial power generation set to occur between the second half of 2027 and the first half of 2028.[3] NET Power serves as a useful example of how private capital can also fuel the development of new technologies in enterprises to help foster the transition to cleaner energy overall, while still enabling the production of critical fuels.

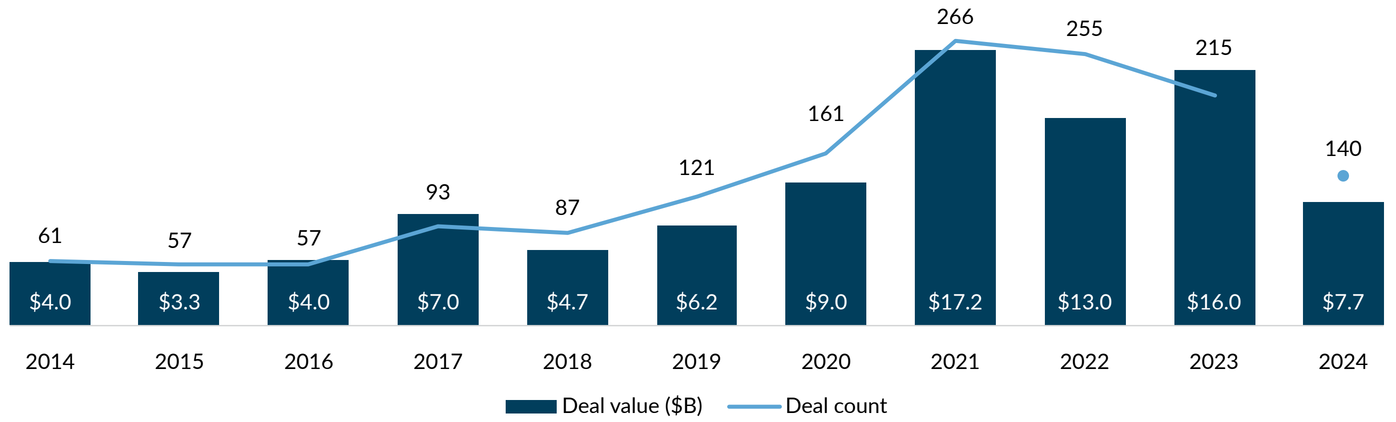
BrightNight

Renewables— powered by AI: BrightNight develops renewable energy infrastructure, especially power plants. Based out of West Palm Beach, Florida, the company most recently garnered $440 million of development capital from Goldman Sachs Asset Management in August 2024 but has also drawn capital for expansion from other firms over the years. The company has developed a proprietary AI-powered software platform for design and operation of renewable power plants, which debuted in spring 2024. Around the same time, the company also noted that its joint venture with Cordelio Power in Arizona had secured a $414 million construction credit facility to build its Box Canyon solar project.[7] Currently, that project is estimated to produce enough electricity to power 77,000 homes and businesses, offsetting about 600 metric tons of carbon emissions per hour.[8] Ultimately, the Box Canyon project itself is just one part of the broader Arizona slate of projects that, if completed, could attain a 2-gigawatt portfolio of renewable assets that would create over 800 jobs.

3: "NET Power Reports Second Quarter 2024 Results and Provides Business Update," NET Power, August 13, 2024.
4: "About Us," Vero Networks, n.d., accessed October 7, 2024.
5: "VFN Holdings, Inc (Vero) Secures $80 Million in Preferred Equity Financing to Accelerate Fiber Construction Growth," PR Newswire, Vero Fiber Networks, September 16, 2024.
6: "Vero Networks Completes Conduit and Fiber Network Between Mechanicsburg and Dublin, OH, Enhancing Diversity and Reliability," Vero Networks, July 9, 2024.
7: "BrightNight and Cordelio Power Achieve Financial Close on $414M Project Financing for 300 MW Box Canyon Project in Arizona," BrightNight, May 13, 2024.
8: Ibid.

Trend analysis

Construction & engineering PE deal activity

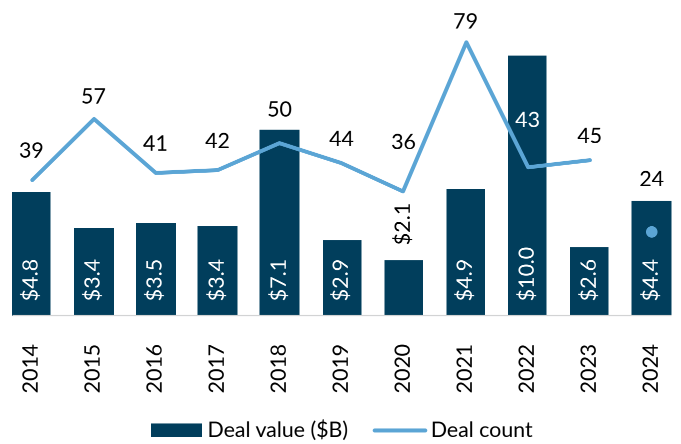


Source: PitchBook • Geography: US
As of September 6, 2024

PE firms have dialed up their activity in construction & engineering (the firms that design, plan, and construct infrastructure), cutting 140 deals in 2024 to date for an aggregate of $7.7 billion. To cite just one example, a consortium of PE firms acquired special technical service (for example, electrical installation and inspection) provider Loenbro for $218 million in February 2024. Given the company's scale, it services builders across installation, inspections, and maintenance of multiple types of infrastructure.

Elevated interest rates likely slowed the pace of transactions in 2024, but given the high levels of dry powder and an expectation of interest rates to fall, we can expect investment to pick back up. Also, there could be a surge of dealmaking toward the end of the year. In short, PE firms are piling into construction and/or engineering firms. Given current economic pressures—but more importantly the longer-term trends of housing shortfalls and critical infrastructure upgrades—PE firms are betting on longer-term value in builders and service providers in these aspects of infrastructure, including technical expertise and operational innovations from existing networks of talent. Focuses on energy efficiency and resilience for different climates or changing environments are also prompting construction & engineering professionals to stay on top of new standards and cost-effective solutions for implementation.[9]

Building products PE deal activity



Source: PitchBook • Geography: US
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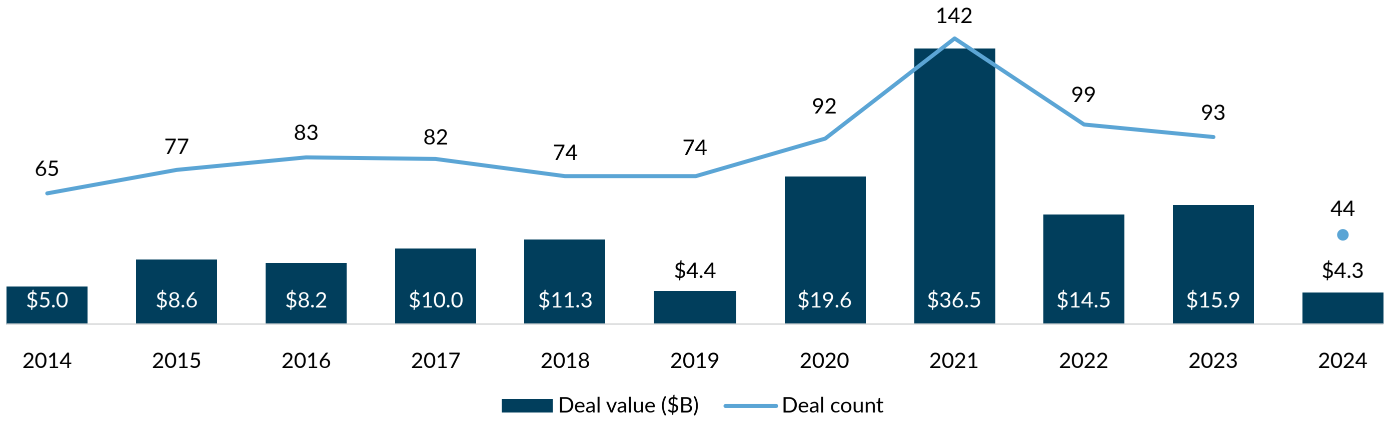
Last but not least, beyond just infrastructure, the US housing shortage of approximately 4.5 million homes is another driver of PE activity in building products and construction firms.[10] Although many PE firms focus on financing packages for developers, some are now making a foray into development. One example is Azora Advenir's recently announced plan to deploy $3 billion over the next five years to in part build at least 10,000 new single-family rental homes.[11]

9: "U.S. Building Performance Standards in 2023 and Beyond," 3BL CSRwire, CBRE Group, February 15, 2024.
10: "The U.S. Is Now Short 4.5 Million Homes as the Housing Deficit Grows," Zillow, June 18, 2024.
11: "Advenir & Azora Create $3BN+ Partnership to Address National Housing Shortage," Azora, October 3, 2024.

Communications & networking PE deal activity



Source: PitchBook • Geography: US
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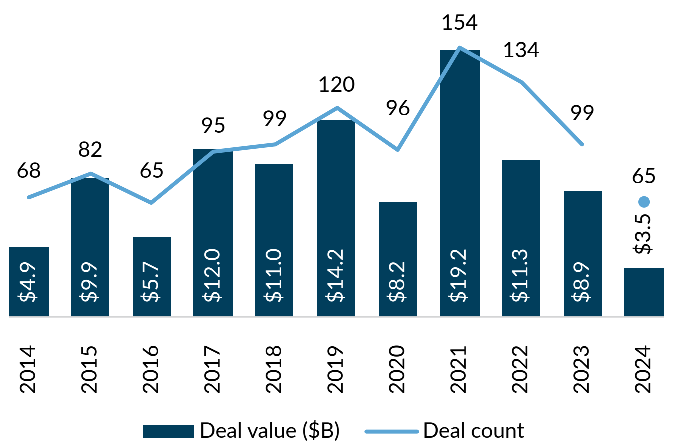
Rent-to-own properties are likely to also be a focus for PE firms, as more favorable tax policies to encourage home ownership are likely in the next few years.

For building products, while supply chain snarls and raw materials oddities remain factors, they have mostly unwound. Experienced PE firms taking a longer view are looking to capitalize on revamping older housing stock and building in less expensive regions as migration from the coasts continues. That requires product variety in building for current housing styles and, in some cases, harsher climates, plus operational savvy in identifying cost-effective means of acquiring new materials and navigating supply chains that can help builders meet environmental regulations. This culminated in many large deals so far this year but at a lower volume compared with outlier levels of activity in 2021, which were driven by dealmaking ebullience. However, at $4.4 billion, aggregate PE deal value remains robust compared with historical averages.

Another key aspect of infrastructure, PE dealmaking in the digitalization of everything remains healthy if off record highs, though a surge in year-end dealmaking could boost figures further. Communications, networking, IT services, and logistics/supply chain tech are all focus areas for PE fund managers

Logistics & supply chain tech PE deal activity



Source: PitchBook • Geography: US
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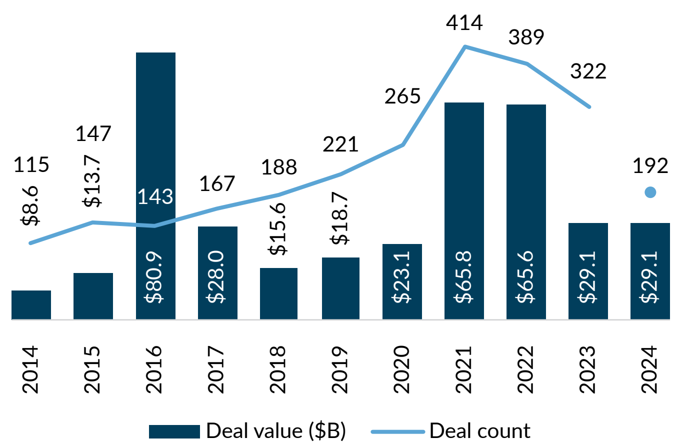
IT services PE deal activity



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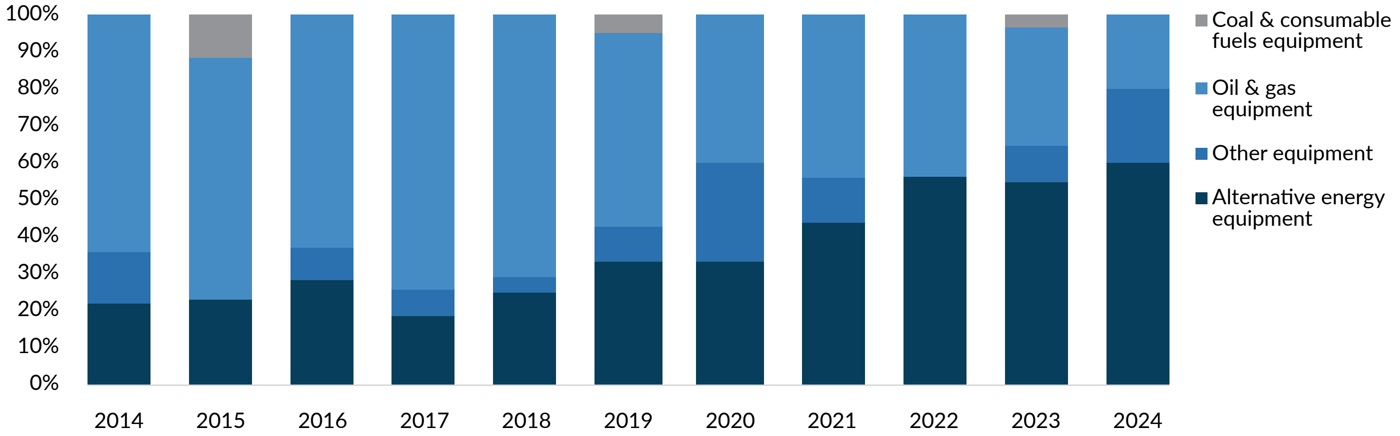
Share of energy equipment PE deal count by subsector



Source: PitchBook • Geography: US
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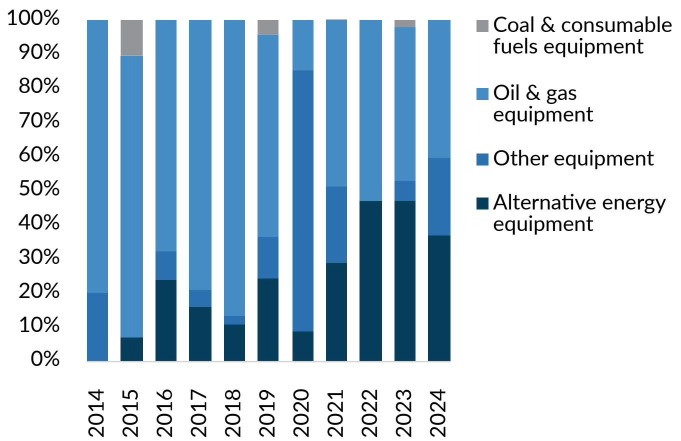
as they look to capitalize on surging demand for datacenters, existing telecom assets that require longer-term capital to refurbish for faster throughput and load capacity, and logistics.

PE firms are also raising billions in bonds via their telecoms companies to expand broadband into rural areas, especially in anticipation of advances beyond 5G.[12] IT services in particular are likely to see a surge in year-over-year deal value as many companies and assets in this realm pertain to datacenters, which can be fruitful assets for both communities and PE backers. AI remains a primary driver, with remarkable sums of investment likely to trickle over into many regions—BlackRock, Global Infrastructure Partners, MGX, and Microsoft recently struck a partnership to invest $100 billion in further datacenter and energy infrastructure construction.[13]

Other key examples showcase a specific focus on AI and elsewhere. KKR and Energy Capital Partners recently partnered to invest up to $50 billion in a blend of energy generation and datacenter projects.[14] Additionally, a club of PE firms led by Apollo, The Baupost Group, and others agreed to provide $750 million in new financing alongside $750 million in additional funding from the CHIPS and Science Act to Wolfspeed, the world's largest producer of silicon carbide tech (a key component in semiconductors).[15] These deals showcase how PE firms are joining in a general push to advance AI, foundational

Share of energy equipment PE deal value by subsector



Source: PitchBook • Geography: US
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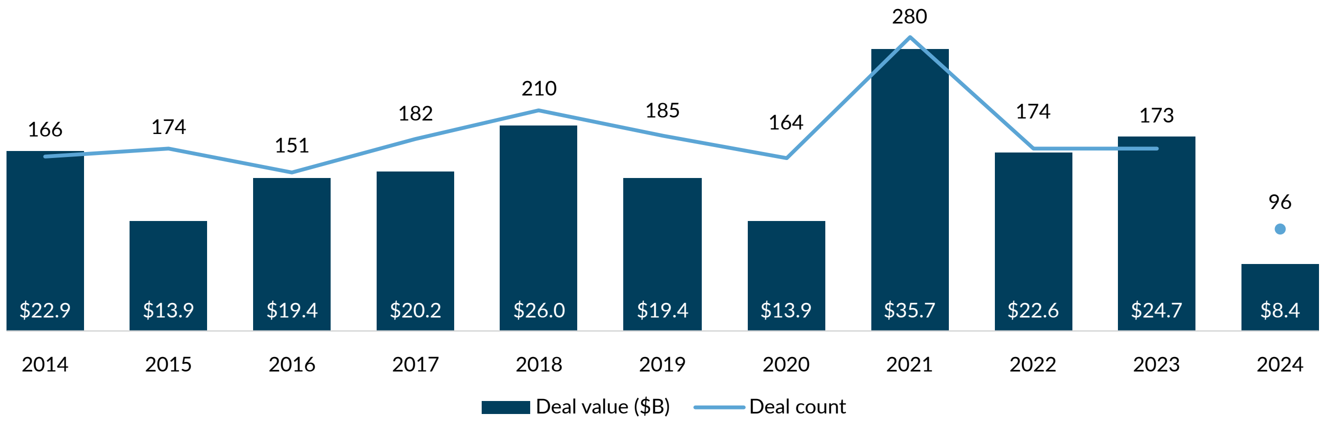
tech like chips, and diversified energy sources. They are not quite public-private partnerships by traditional definitions, but in practice they are.

Meanwhile, under the global impetus to shift to different sources of energy production, US PE firms are taking a measured strategy by prioritizing deals in both renewables and

12: "Private Equity Borrows Billions To Bring You Broadband Internet," The Wall Street Journal, Matt Wirz, August 29, 2023.
13: "BlackRock, Microsoft Partner on Massive New AI Infrastructure Fund," The Wall Street Journal, Jack Pitcher and Connor Hart, September 17, 2024.
14: "Wall Street Giants to Make $50 Billion Bet on AI and Power Projects" The Wall Street Journal, Katherine Blunt, October 30, 2024.
15: "Wolfspeed Announces $750M in Proposed Funding" Wolfspeed, October 15, 2024.

Materials & resources PE deal activity



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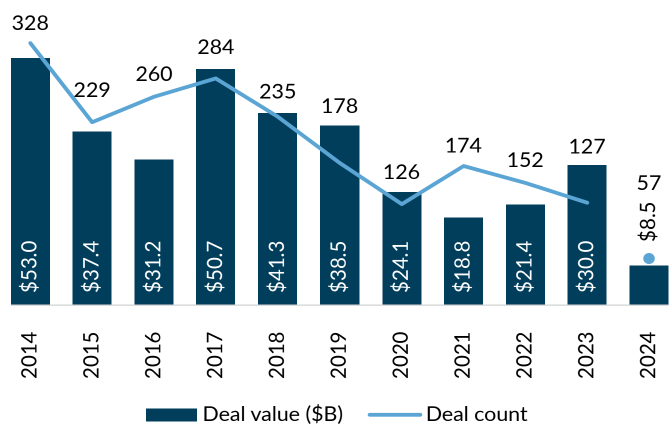
oil & gas. For example, as natural gas remains much cleaner than coal in terms of emissions and is unlikely to be replaced as a critical component in national energy infrastructure, it remains popular among sector-focused energy PE players.

At the same time, many of those firms are also looking to acquire stakes in or outright own renewables power generation, most commonly in solar or wind assets, to benefit from the increasing demand for renewables-generated electricity and decreasing costs of maintenance as the cost of solar panels continues to fall. As a result, no fewer than 47 PE firms cut deals in both traditional energy production and renewables in 2022, while 16 have done so in 2024 to date, with more likely to come. The proportion of PE deals in renewables such as wind and solar assets has hit a record in the same time frame. PE fund managers are clearly focusing on developing a hedged energy portfolio that both capitalizes on growing demand for renewables and abides by current industry realities. In 2022, PE firms also spent a record sum on energy infrastructure and storage—including battery manufacturers—in a peak of 63 transactions.

While the aforementioned cost of financing did lead to a temporary slowdown in dealmaking, it is anticipated with more rate cuts that PE enthusiasm will pick up. The peak in 2022, however, is another example of PE firms funding the revamping of critical energy storage that will make any large-scale shift to renewables feasible, while also maintaining operations of oil & gas pipelines across the nation.

Oil & gas PE deal activity



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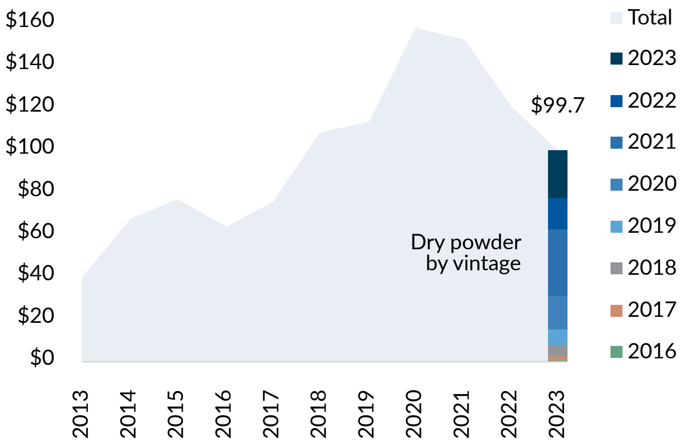
It is also worth stressing that some research has found PE ownership of materials and oil & gas companies actually leads to less emissions and toxic chemicals usage—a December 2020 study found that PE control has led in some cases to a 70% reduction in the use of toxic chemicals and a 50% reduction in carbon dioxide emissions.[16] Such a reduction could have many causes, but it is likeliest that professional PE ownership helps reduce risks as PE firms often have holding periods of at least a few years and wish to be cost-effective in any regulatory matters, which usually entails compliance.

16: "Does Private Equity Ownership Make Firms Cleaner? The Role Of Environmental Liability Risks," University of Pennsylvania, Aymeric Bellon, December 28, 2020.

Looking forward

Infrastructure dry powder ($B)



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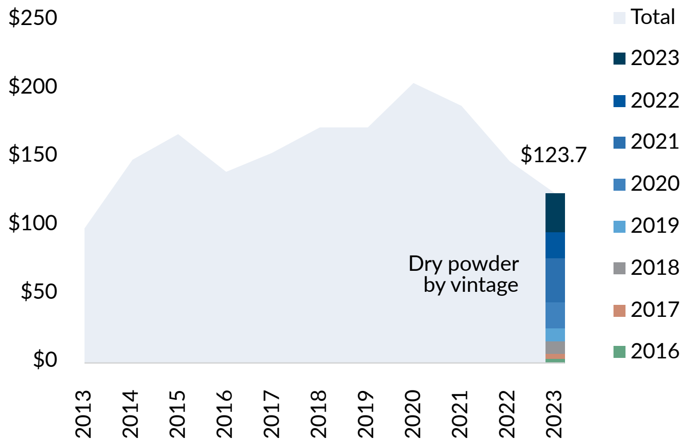
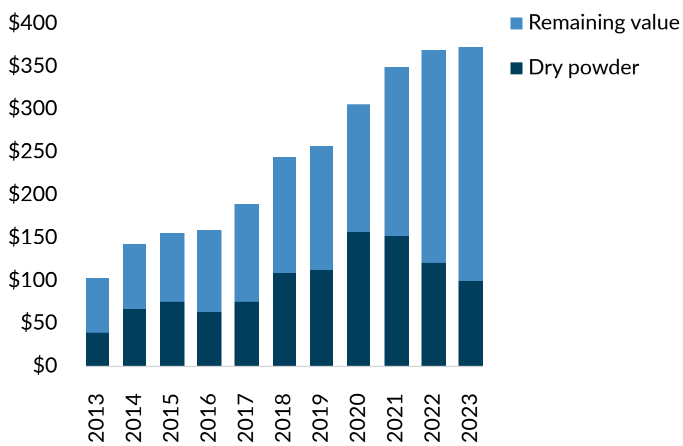
Real assets dry powder ($B)



Source: PitchBook • Geography: US
As of December 31, 2023

As is evident from the $12 trillion figure cited at the beginning of this report, there is much work to do and vast sums of capital required to do it. Private fund managers have not been idle. More so than other asset classes, infrastructure fund managers have been able to swiftly deploy record sums of dry powder over the past few years. However, that still leaves plenty of dry powder ready to deploy in renewables, the energy transition, logistics, and construction projects to tackle the US housing shortage, grid upgrades, and more. The US now has $123.7 billion of real-assets-dedicated capital to disburse, the bulk of it in fund vintages from 2021 onward. In infrastructure, $99.7 billion was in PE firm coffers ready for investment as of the end of 2023. Although fund managers have successfully worked down capital overhang in the slew of opportunities present in the past few years given dislocation in oil & gas markets and government pushes for the energy transition, nearly $100 billion more remains to invest. Moreover, the spate of dealmaking in the infrastructure-related segments detailed above has produced a record sum of infrastructure AUM, totaling $373.1 billion. Remaining value—the value of the unsold, unliquidated infrastructure holdings PE firms have on their books—has grown rapidly in the past few years. Given that infrastructure investments are longer term, this sum may only rise further in the coming years, especially as PE dealmakers gear up to supply the revamping of aging infrastructure and transition to newer technologies. In all, infrastructure investment and the rapid accumulation of record levels of AUM in PE portfolios are set to continue for the foreseeable future.

Infrastructure AUM ($B)



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Methodology

Reports are prepared in accordance with PitchBook's methodology, which is described in detail on the PitchBook report methodologies page. All industry breakouts utilize PitchBook industry codes and/or a combination of PitchBook verticals.

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