Availability of private capital for infrastructure
Key findings

• The amount of private capital available for infrastructure has more than quadrupled over the last 10 years. Most private capital is raised in North America and Europe.

• Greater availability of private capital for infrastructure has translated into more investment.

• Infrastructure capital investment has been concentrated in North America, Europe, and Asia over the last decade.

• Capital investment continues to provide high returns, attracting yet more private capital for infrastructure.

• The greater market value of infrastructure funds’ investments reflects greater availability of capital but also greater levels of dry powder.

• Some regions have attracted more infrastructure AUM than other regions.

• Limited availability of projects and high hurdle rates have led to a significant accumulation of dry powder, mostly in North America and Europe.

• Private capital raised for greenfield infrastructure projects is harder to invest than capital raised for brownfield and secondary projects.
The amount of private capital available for infrastructure has more than quadrupled over the last 10 years.

- Funds use private capital to invest in infrastructure equities or in infrastructure companies. The options available to private investors are determined by what is available in the retail funds management market. Some private investors invest directly in infrastructure at the project level.
- In the last decade, private infrastructure capital raised by funds quadrupled from about USD34 billion in 2010 to USD129 billion in 2021.
- During the pandemic, the volume of capital raised dropped slightly, but it remained above the 2018 level and recovered to a new record of USD129 billion in 2021. Early in 2022, private infrastructure capital raised by infrastructure funds had already reached 2021 levels (USD122 billion); if the trend continues, capital raised by the end of 2022 is expected to hit a new record high.
- This increase reflects the growth in the number of investors with long time horizons who are seeking high-quality infrastructure assets that generate stable, long-term returns; diversification focused on sustainable assets; and attractive risk-adjusted performance.
- Despite a decline in returns due to rising interest rates in the first half of 2022, the asset class remains attractive for private investors as its inflation-hedging potential is relatively stronger than that of other investment options. Investors are allocating more capital than ever towards infrastructure to mitigate inflation risk.
Most private capital is raised in North America and Europe.

- Globally, most private infrastructure capital was raised in North America and Europe over the last 10 years, and especially over the last six years. In 2020, due to the pandemic, the amount of capital raised in those regions declined slightly, but in 2021 the amount continued its previous upward trend.

- On average, Asia attracted only 13% of the total private capital for infrastructure from 2020 to 2021. However, of all the regions, Asia recorded the biggest increase since 2010, growing almost seven times. Asia is also the only region in which the amount of private capital raised for infrastructure increased in 2020 over the previous year. This increase was followed in 2021 by a 62% decline, as fewer projects reached financial close due to an uneven post-pandemic economic recovery in the region.

- Over the past decade, Oceania, Latin America, and Africa also saw growth in private infrastructure capital flows into funds, but not by enough to increase those regions’ share of total capital raised. Capital levels in these regions are significantly smaller than levels in other regions.
Greater availability of private capital for infrastructure has translated into more investment.

- The availability of more private capital for infrastructure (from more funds raised, funds invested, and reinvestment of gains made on investments) has resulted in an increase in infrastructure investment by funds.
- From 2010 to early 2020 (before the onset of the COVID-19 pandemic), private capital raised generally outpaced private capital invested; the only exception was in 2011. During the pandemic in 2020 and 2021, private capital raised was outpaced by private capital invested.
- Since 2017 the pace of funds being called up for investment was generally able to keep up with funds raised, as fund managers did well in managing higher levels of risk in investing in newer technologies, including digital assets and renewables.

Source: Preqin (2022c, 2022h), data as of 23 September 2022.
Note: Investment data refers to capital called up for investment. This amount includes management fees. Capital called may exceed 100% due to recycling of capital.
Availability of private capital for infrastructure

Infrastructure capital investment has been concentrated in North America, Europe, and Asia over the last decade.

- Over the last 10 years, most private infrastructure capital was raised for and invested in North America, Europe, and Asia. These regions have also been better able to accelerate investment as they increased the amount of capital raised.
- In almost all regions, capital invested (or committed) decreased during the pandemic in 2020. However, in Asia, capital invested increased during the pandemic.
- The trends reversed in 2021 with investment increasing in several regions, most notably in North America. A sizeable share of the funds raised in North America in 2021 targeted investment in Europe. In Asia, while the funds raised for investment increased in 2021, the invested capital declined.
- In Latin America and Africa, private capital inflows from funds in other regions boosted investment.
- In contrast, Oceania’s level of private capital investment points to private capital outflows to other regions.

Private infrastructure capital invested by funds by region, 2010–2021
(USD bn)

Source: Preqin (2022c), data as of 23 September 2022.
Note: Region of origin refers to location of the funds’ headquarters.
Availability of private capital for infrastructure

Capital investment continues to provide high returns, attracting yet more private capital for infrastructure.

- Favorable risk-adjusted returns have continued to attract investor funds into infrastructure. Growth in private capital available for infrastructure is partly due to high returns on these investments.
- On average, funds earned a net internal rate of return (IRR) of 14.3% on invested private infrastructure capital, including earnings plus value of the assets held. The returns varied widely between different funds – the maximum net IRR was 448.0%, driven by higher return expectations fueled by the strong performance of the global commodities market.
- Despite recent increases in market uncertainty in the current economic climate, the median net IRR has remained around 10% over the preceding decade. Median net IRR also remained the same across sectors and regions.
- Returns on invested capital increase the pool of capital available for reinvestment.

Net internal rate of return (IRR) on private infrastructure capital by fund (%)

Average = 14.3%
Median = 10.1%
Weighted average = 6.9%
Standard deviation = 31%

Funds

Source: Preqin (2022e).
Note: Net IRR is based on realised cash flows as well as the valuation of unrealised assets. These data present net IRR earned by a fund to date (July 2022), after fees and carry, for 290 funds following an infrastructure investment strategy for which net IRR estimates are available.
The greater market value of infrastructure funds’ investments reflects greater availability of capital but also greater dry powder.

- The total market value of infrastructure AUM has grown rapidly from USD170 billion in 2010 to USD1 trillion in 2021 and is poised to reach USD1.87 trillion by 2026 (Preqin (2022g)). This growth indicates that private investors continue to increase allocations of capital to infrastructure assets.

- There are two components to infrastructure AUM:
  1. The biggest component, investment value, has increased seven-fold from USD97 billion in 2010 to USD704 billion in 2021. Investment value is the market value of portfolio investments in primary and secondary markets (including mark-to-market gains).
  2. The second component, dry powder, has quadrupled from 2010 (USD72 billion) to 2021 (USD298 billion). Dry powder includes capital committed by investors and available to fund managers but not yet invested or allocated. Capital committed is the sum of unallocated capital and portfolio returns, minus any disbursements to investors. The current record level of dry powder translates into a greater capacity to deploy capital in the short to medium term as new infrastructure investment opportunities arise, especially in a post-pandemic era with rising interest rates.

While dry powder levels are at their highest, in relative terms, dry powder as a percentage of AUM has gradually declined from a high of 43% in 2010 to 30% in 2021, indicating that a higher percentage of AUM has been deployed towards infrastructure investments.

Cumulative infrastructure assets under management, by component, 2010–2021 (USD bn)

Source: Preqin (2022g), data as of 7 July 2022. 
Note: ‘Dry powder’ refers to capital committed by investors that has not been invested or allocated. Capital committed is the sum of unallocated capital, invested capital, and portfolio returns, minus any disbursements to investors. Preqin’s measurement of dry powder includes only close-ended funds, i.e. funds that issue a fixed number of shares through a single initial public offering (IPO) to raise capital for initial investments.
Some regions have attracted more infrastructure AUM than others.

Cumulative infrastructure assets under management, by component and region, 2010–2021 (USD bn)

Source: Preqin (2022f), data as of 7 July 2022.
Note: Based on the location of investment focus.
Limited availability of projects and high hurdle rates have led to a significant accumulation of dry powder, mostly in North America and Europe.

- There are several possible reasons that available funds are not deployed:
  - The limited availability of bankable infrastructure projects creates a level of demand that exceeds supply of projects. A globally uneven distribution of bankable infrastructure projects exacerbates the shortage of projects.
  - High hurdle rates of infrastructure funds constrain fund managers from investing in infrastructure assets.
  - Trends in hurdle rates have not aligned with trends in returns over time. An analysis of 25 funds established between 2005 and 2021 inclusive, reveals that hurdle rates remained at 8% for over a decade across regions and sectors.
- North America and Europe have experienced a sustained increase in dry powder since 2010. Between 2010 and 2019 these two regions held around 80% of global infrastructure dry powder, a share that increased to more than 86% in 2020 and 2021.
- The current record levels of dry powder provide opportunities for the capital raised to be deployed more quickly as new infrastructure investment opportunities arise, especially in a post-pandemic era with rising interest rates. However, while dry powder represents possibility, it also signifies pressure to allocate those funds, which could lead to investing at elevated prices.

Source: Preqin (2022f), data as of 7 July 2022.
Availabilty of private capital for infrastructure

**Private capital raised for greenfield infrastructure projects is harder to invest than capital raised for brownfield and secondary projects.**

Globally, infrastructure funds that targeted only greenfield projects accumulated the highest share of dry powder in AUM over time, due to the lack of bankable and investment-ready infrastructure projects in the pipeline. Volatility in returns was greater for funds that focused on greenfield infrastructure investment than for funds that targeted only brownfield or secondary infrastructure investments. While greenfield projects offered higher returns, they also presented higher risk. This indicates that accelerating greenfield infrastructure investments requires more risk mitigation than is currently in place, as well as a higher level of support for infrastructure project preparation. A focus on project preparation can help optimise returns and reduce risks on greenfield projects.

### Metrics for a sample of infrastructure funds by project stage

<table>
<thead>
<tr>
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<th>Dry powder (% of AUM)</th>
<th>Return (Average net IRR %)</th>
<th>Risk (Standard deviation of net IRR %)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Greenfield only</td>
<td>43</td>
<td>14</td>
<td>17</td>
</tr>
<tr>
<td>Brownfield only</td>
<td>19</td>
<td>10</td>
<td>11</td>
</tr>
<tr>
<td>Secondary only</td>
<td>18</td>
<td>10</td>
<td>14</td>
</tr>
</tbody>
</table>

Source: Preqin (2022d).

Note: This analysis is based on 136 funds that were classified to be investing in only greenfield projects (41), only brownfield projects (47), and only secondary projects (48) within the infrastructure asset class and with similar average vintage year, as of June 2022. Outlier funds have not been considered, to avoid distorted results. Net internal rate of return (IRR) is the money-weighted return expressed as a percentage. Net IRR uses realised cash flows after fees and carry, distributions, and value of unrealised assets to derive return earned by a fund manager to date. The estimates were either reported directly by the fund or calculated by Preqin. Return is measured by the average of Net IRR earned by funds, while risk is measured by the standard deviation of the net IRR earned by all constituent funds within selected parameters (taken as a single group).