

# Infrastructure investing — A primer

Private markets insights

welcome to brighter

An abstract graphic on the right side of the page consists of several 3D geometric shapes, primarily triangles and trapezoids, stacked and overlapping to form a stepped, upward-sloping structure. The colors are vibrant and varied, including shades of yellow, red, pink, purple, green, and cyan. The shapes are rendered with soft shadows, giving them a three-dimensional appearance against the teal background.

## What is infrastructure investing?

Infrastructure is an asset class that emerged in the mid-1990s and has continued to gain greater acceptance from institutional investors over time. The market is now over US\$100 billion strong in terms of capital raised per year, with more than 100 funds closed annually.<sup>1</sup> Infrastructure is typically considered in a portfolio context alongside other private markets asset classes, such as private equity and real estate. However, infrastructure investments share certain attributes that make them unique and are meant to provide steady, reliable returns across a wide variety of economic conditions. Returns are generally inclusive of a cash yield, which is beneficial for investors who seek income as well as total return.

Infrastructure is defined as the basic physical and organizational structures needed for the operation of a society or enterprise. Traditional infrastructure subsectors include social infrastructure (schools, hospitals, etc., typically built under public-private partnership frameworks), utilities (gas, water/waste and electricity networks), transportation (toll roads, airports and seaports) and energy infrastructure (power generation and midstream assets, such as pipelines).

More recently, newer subsectors within infrastructure, such as digital infrastructure (telecommunications towers, data centers and fiber optic networks) and energy transition infrastructure (renewable energy but also energy storage/efficiency), have become more mainstream. The asset class continues to evolve, with certain logistics assets (such as food supply chains/cold storage, heavy goods vehicle trailers and short-line rail assets), healthcare and education businesses (for example, private hospitals and elderly care homes) and infrastructure services businesses (such as industrial equipment leasing) also increasingly featuring within portfolios.

This paper will primarily focus on private markets infrastructure equity investing. However, investors should also be aware that it is possible to access the asset class through listed infrastructure equity strategies and private markets infrastructure debt strategies. As with any asset class, investors should first consider the strategic role of an investment within an overall portfolio context.

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<sup>1</sup> Infrastructure Investor 2020 fundraising statistics.

## Infrastructure risk and return categories

Infrastructure equity investing is typically divided into four main risk categories: core, core plus, value add and opportunistic. These are commonly accepted classifications used by investors to assist in portfolio construction and ensure appropriate diversification when allocating to the asset class. However, these classifications are also affected by factors such as an asset's development stage (that is, brownfield or greenfield<sup>2</sup>) and geography (that is, developed or emerging market), among others.



### Core infrastructure

This is considered the most stable form of infrastructure equity investing, as these assets tend to be the most essential to society or otherwise largely de-risked (that is, brownfield in nature). Returns are generally derived from income with limited upside through capital gains, and assets are commonly held for the longer term (more than seven years). Revenues and cash flow are generally governed by either rate regulation, availability agreements (which provide for the payment of revenue as long as a facility is able to operate) or long-term contracts with highly creditworthy counterparties, such as governments, municipalities and top-tier industrial companies.



### Core-plus infrastructure

These assets have some similarities with core infrastructure; however, there is generally more variability associated with the cash flows of core-plus assets. Income is still a component of overall returns, but there is also scope for greater capital appreciation. The holding period for core-plus assets is typically more than six years. Core-plus infrastructure still primarily consists of brownfield assets. These assets are typically less monopolistic than core infrastructure and may include a growth/GDP-linked component or some other form of asset or contract optimization.



### Value-add infrastructure

These investments typically include less monopolistic assets, assets that have a material growth, expansion or repositioning orientation, and certain greenfield assets. The holding period for value-add infrastructure is generally shorter than for core-plus infrastructure and typically ranges from five to seven years. Returns are primarily from capital appreciation rather than ongoing income.



### Opportunistic infrastructure

These assets that have the highest degree of risk but also return potential. Assets can include those in development, those located in emerging markets, those subject to a high degree of volumetric or commodity price exposure, or those under financial distress and in need of significant repositioning. In general, opportunistic infrastructure assets share many characteristics with private equity investments. Holding periods typically range from three to five years, and returns are almost entirely from capital appreciation.

<sup>2</sup> Brownfield assets are those that are operating on a standalone basis or undergoing some form of expansion. A greenfield project is a project under development and/or construction.

Key characteristics of each infrastructure risk category are set out in Figure 1 below.

**Figure 1. Infrastructure investment characteristics by risk profile**

Risk profile	Typical subsectors	Typical revenue drivers	Manager net IRR targets	Yield expectation	Implied capital gain expectation	Holding period (years)
 Core	<ul style="list-style-type: none"> <li>Gas, electric, water/waste and multi-utilities</li> <li>Contracted and renewable power generation</li> <li>PPP assets</li> <li>Mature, top-tier airports, seaports or toll roads in major markets</li> </ul>	<ul style="list-style-type: none"> <li>Rate regulation</li> <li>Long-term contracts with governments or creditworthy counterparties (such as quasi-governmental entities)</li> <li>Availability concessions with government agencies</li> </ul>	6%–9%	5%–7%	1%–2%	7+
 Core plus	<ul style="list-style-type: none"> <li>Contracted thermal power generation</li> <li>Contracted renewable power generation with some development risk</li> <li>Contracted oil and gas midstream assets</li> <li>Toll roads, airports, seaports with greater GDP sensitivity</li> </ul>	<ul style="list-style-type: none"> <li>Long-term contracts</li> <li>Concession arrangements subject to some volumetric/GDP-linked risk</li> </ul>	9%–12%	4%–6%	5%–6%	6+
 Value add	<ul style="list-style-type: none"> <li>Greenfield assets under construction (de-risked to core plus once commissioned)</li> <li>Early stage oil and gas midstream</li> <li>Data centers and fiber optic networks</li> <li>Assets undergoing meaningful expansion</li> <li>Assets undergoing meaningful repositioning</li> </ul>	<ul style="list-style-type: none"> <li>Long-term contracts on greenfield assets</li> <li>Short-term contracts</li> <li>Contracts with less creditworthy counterparties</li> <li>Revenues reliant on meaningful ramp-up through GDP or demographic growth</li> </ul>	12%–15%	2%–3%	10%–12%	5–7
 Opportunistic	<ul style="list-style-type: none"> <li>Infrastructure assets in developing markets</li> <li>Special situations, such as assets undergoing transition or financial distress</li> <li>Merchant power generation</li> <li>Merchant oil and gas midstream processing assets</li> </ul>	<ul style="list-style-type: none"> <li>Traditional revenue profile but with meaningful exposure to both volume and pricing risk</li> <li>Likelihood of revenue volatility</li> </ul>	15%+	0%	15%+	3–5

Source: Mercer.

**Note:** The Net IRR targets are consistent with return expectations set out by active infrastructure investment managers and will therefore vary from Mercer's long-term capital markets assumptions. Actual returns will differ from expected returns, and the above are not meant to represent a guarantee of performance.

## Reasons for considering allocations to infrastructure

There are a number of reasons investors have been adding unlisted infrastructure exposure to portfolios over the past decade. Some of the most important include:

### 01/ Intrinsic value

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Many infrastructure assets have intrinsic value. By this, we mean that they are quasi-monopolistic and provide essential services to society. True infrastructure tends to act as a store of value throughout the economic cycle, not least because of the significant capital expenditure often required to build and maintain infrastructure assets.

### 02/ Unique return drivers

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The return drivers for infrastructure are unique because they are driven by the mechanisms that govern the economics of respective projects (that is, regulatory framework, concession agreements, long-term contracts or local GDP). They are also generally not directly subject to capital markets volatility. Returns are derived by the overall performance of the assets, not by market beta.

### 03/ Low correlations to other asset classes

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Because infrastructure assets have unique return drivers, their returns are generally not well-correlated to publicly traded equity or debt markets. For example, from 2008 to 2020, J.P. Morgan calculated the correlation coefficient of private markets infrastructure to both global bonds and global equities as -0.1.<sup>3,4</sup>

### 04/ Low volatility<sup>3</sup>

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As mentioned previously, many infrastructure investments have monopolistic characteristics and deliver essential services underpinned by regulation, concession arrangements or contractual agreements. In addition, cash yield is typically a significant component of investment returns from core and core-plus infrastructure. These characteristics generally allow private markets infrastructure investments to perform well on a relative basis throughout the economic cycle.

### 05/ Absolute returns and inflation protection

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Many infrastructure assets have some form of innate inflation linkage, either from clauses in the contracts that govern the assets' revenue or from regulatory frameworks that may contain pass-through mechanisms. The degree of linkage varies by asset type and time horizon, but this means infrastructure assets have the potential to deliver real returns to investors. This inflation linkage, along with the combination of unique return drivers, low correlation<sup>5</sup> to other asset classes and low volatility described above, allows for the performance of infrastructure investments to be measured on an absolute return basis.

<sup>3</sup> J.P. Morgan. *Guide to Alternatives*, as of August 31, 2020. Returns were calculated using quarterly data from June 30, 2008, to March 31, 2020.

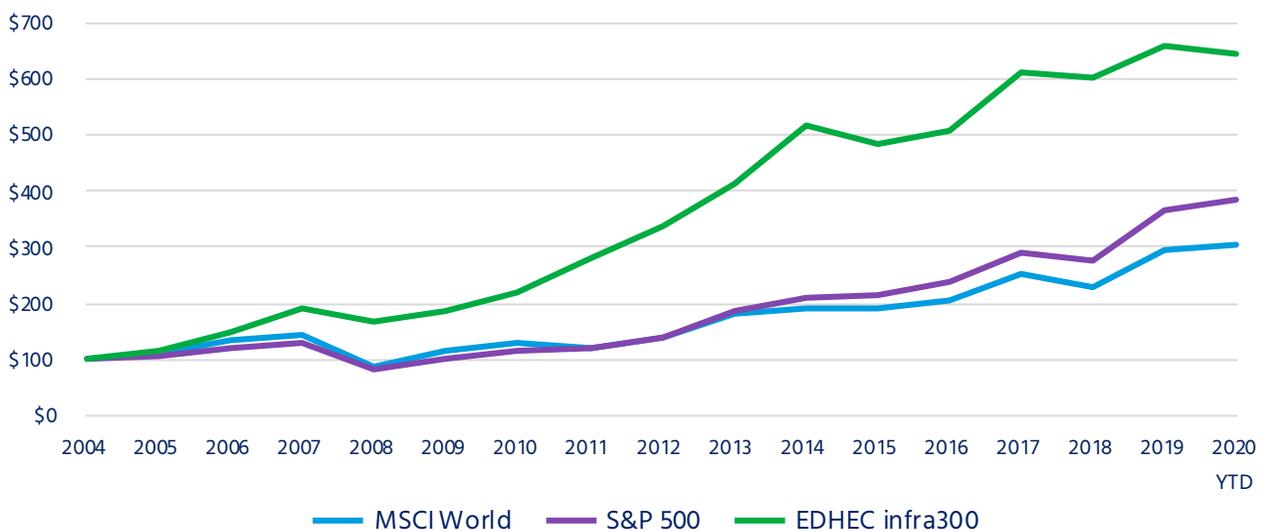
<sup>4</sup> Correlation calculations have not been adjusted for the smoothing effect of lagged and estimated interim returns. Doing so could potentially result in different correlation and volatility values.

<sup>5</sup> Ibid



In addition to the above points, we also note that private markets infrastructure has historically been a strong performer. Figure 2 below sets out the cumulative returns for the EDHEC infra300 index (an index designed to track private markets infrastructure returns) compared to the S&P 500 and MSCI World Indices.

**Figure 2: Cumulative historical return comparison of \$100 invested over time: EDHEC infra300 index versus S&P 500 TR and MSCI World TR Index**



Source: Mercer. **Bloomberg**

**Notes:** 2020 figures are as of September 30, 2020, in USD. The EDHEC infra300 index is designed to track the different TICCS® segments of the unlisted infrastructure reference universe identified as the 22 national markets qualifying as “principal” or most-active markets (IFRS 13). It was created and is maintained by EDHECinfra, a venture of the EDHEC Business School.

## Implementation options

There are various ways to implement private markets infrastructure investments. Fund types include open-end, closed-end or fund-of-fund options. In all cases, investors should ensure they construct well-diversified allocations to the asset class, focusing on quality investment managers, given infrastructure's illiquid nature and idiosyncratic risk/return drivers.

Figure 3. Typical infrastructure implementation options

	Open-end fund	Closed-end fund	Program approach/fund-of-fund
<b>Strategy and availability</b>	<ul style="list-style-type: none"> <li>• Generally only core/core-plus risk profiles</li> <li>• Limited number of funds in the market</li> </ul>	<ul style="list-style-type: none"> <li>• Full spectrum of core/core plus/value add/opportunistic available</li> <li>• Niche strategies, such as sector- and region-specific, available</li> </ul>	<ul style="list-style-type: none"> <li>• Full spectrum of core/core plus/value add/opportunistic available</li> <li>• Diversification across vintage/manager/strategy, etc.</li> <li>• Niche strategies, such as sector- and region-specific, available</li> </ul>
<b>Return profile</b>	<ul style="list-style-type: none"> <li>• Largely single source of return</li> <li>• High percentage of returns cash yield</li> </ul>	<ul style="list-style-type: none"> <li>• Diversified source of investor returns consisting of dividends and capital gains</li> </ul>	<ul style="list-style-type: none"> <li>• Same as closed-end fund</li> </ul>
<b>Cash yield</b>	<ul style="list-style-type: none"> <li>• Typically 5%–7%+ p.a. over the life of a fund</li> </ul>	<ul style="list-style-type: none"> <li>• Typically slightly lower but still meaningful over the life of a fund</li> </ul>	<ul style="list-style-type: none"> <li>• Same as closed-end fund</li> </ul>
<b>Inflation protection</b>	<ul style="list-style-type: none"> <li>• High degree of inflation protection through regulatory or contractual mechanisms</li> </ul>	<ul style="list-style-type: none"> <li>• Inflation protection varies by risk profile</li> <li>• High degree of inflation protection for core and core-plus funds</li> <li>• Inflation protection for value-add funds varies by strategy</li> <li>• Opportunistic strategies typically not focused on inflation protection</li> </ul>	<ul style="list-style-type: none"> <li>• Same as closed-end fund</li> </ul>
<b>Capital deployment</b>	<ul style="list-style-type: none"> <li>• Pressure to deploy capital to drawdown commitment queue</li> </ul>	<ul style="list-style-type: none"> <li>• Predefined investment period to deploy</li> </ul>	<ul style="list-style-type: none"> <li>• Same as closed-end fund</li> </ul>
<b>Valuation</b>	<ul style="list-style-type: none"> <li>• Subjective valuations performed by independent valuation firms, either quarterly or annually</li> </ul>	<ul style="list-style-type: none"> <li>• Subjective interim valuations, subject to annual audit. Valuations crystalized through sales processes</li> </ul>	<ul style="list-style-type: none"> <li>• Same as closed-end fund</li> </ul>
<b>Holding period and liquidity</b>	<ul style="list-style-type: none"> <li>• Possibly more liquid, although this may not be the case in times of distress or if a fund has restrictive redemption provisions</li> </ul>	<ul style="list-style-type: none"> <li>• Four- to six-year holding period for underlying assets, typically 10- to 12-year term on individual funds</li> </ul>	<ul style="list-style-type: none"> <li>• Same as closed-end fund</li> </ul>
<b>Volatility</b>	<ul style="list-style-type: none"> <li>• Generally lower observed volatility than public equities even during times of distress</li> <li>• Less pressure to divest assets</li> </ul>	<ul style="list-style-type: none"> <li>• Generally lower observed volatility than public equities even during times of distress</li> <li>• Discretion on when assets can be divested</li> </ul>	<ul style="list-style-type: none"> <li>• Same as closed-end fund</li> </ul>
<b>Correlation to public markets</b>	<ul style="list-style-type: none"> <li>• Low observed correlation to public equities</li> </ul>	<ul style="list-style-type: none"> <li>• Low observed correlation to public equities</li> </ul>	<ul style="list-style-type: none"> <li>• Same as closed-end fund</li> </ul>

Source: Mercer.

In general, Mercer strongly recommends that investors consider adopting a program approach for infrastructure investing. This allows for proper diversification across asset types, geographies, risk profiles and vintage years, as well as capturing the highest quality opportunities as they come to market over time.

For ease of implementation, clients may also consider allocating to a fund-of-funds provider, or also consider open-end funds, although risk and return characteristics will vary depending on the specific option chosen.

▀  
**There are various ways to implement private markets infrastructure investments. Fund types include open-end, closed-end or fund-of-fund options.** ▀



## Environmental, social and governance (ESG) considerations

ESG is an important topic within infrastructure. Many infrastructure assets have a large environmental footprint, and most, if not all, have a direct social impact on the stakeholders within the regions in which they are located. Governance is also important, considering that holding structures may be complicated and many assets have concessions, contracts or agreements with government entities. Accordingly, we view ESG as a critical issue that all infrastructure managers should address to execute their investment strategies successfully.

ESG reviews are an integrated part of Mercer's manager research process, and ratings are assigned in the course of regular research. Mercer's ESG assessments cover the extent to which portfolio managers integrate ESG factors and stewardship into their investment decision-making processes. These ratings represent our view of the investment manager's capability regarding what they are doing across the four factors: idea generation, portfolio construction, implementation (voting and engagement) and firm-wide commitment. The ratings (ESG1 = highest, and ESG4 = lowest) are available for all GIMD subscribers and included in all reports at no additional cost.

For further details on Mercer's latest research into ESG, please visit <https://www.mercer.com/our-thinking/wealth/responsible-investment.html>.

Many external organizations track the performance of infrastructure managers against sustainability targets. The best known include the United Nations Principles for Responsible Investment (UNPRI) reporting, which evaluates asset manager performance against a set of aspirational responsible investment principles. Global Real Estate Sustainability Benchmark (GRESB) BV is another organization that undertakes ESG assessments of both infrastructure and real estate managers. Participating in the GRESB survey allows investment managers to determine how their ESG programs compare against their peers while providing similar insight to investors.

Although many infrastructure assets have an environmental footprint, there are numerous strategies dedicated to the energy transition (notably, renewable energy). We have seen some managers launch infrastructure impact funds that are meant to have a positive effect on the communities in which they are located. We note that this aspect of infrastructure investing is still nascent and outside the scope of this paper.

In short, we believe ESG is a critical component of infrastructure investing, and it's something we carefully consider when performing due diligence on private markets investment managers.





## Potential risks to consider

Although there are several potential benefits associated with investing in infrastructure within a traditional portfolio, there are still certain risks that investors should consider. The below list is not exhaustive; however, we believe it includes some of the most pertinent risks associated with infrastructure investing.

### 01/ Liquidity risk

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Private markets infrastructure investments are considered to be illiquid and may not be saleable at the time an investor had originally planned for exit. Having a long-term investment strategy and maintaining appropriate levels of liquidity on a total portfolio basis are methods that can be used to manage illiquidity risk at the total portfolio level.

### 02/ Vintage year risk

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Returns for closed-end infrastructure funds may vary due to vintage-year effects of investing and divesting assets across various economic environments. Investors can diversify against vintage-year risk by building out a portfolio over a three- to five-year period, which will allow the portfolio to be constructed throughout various points in an economic cycle.

### 03/ Blind pool risk

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Investors allocating to closed-end private markets infrastructure investments allocate to “blind pools” in which the manager has full discretion to build out the portfolio. There is a risk that the investment manager may construct a portfolio differently from how the strategy was marketed.

## 04/ Environmental risk

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Many infrastructure investments, such as oil and gas midstream assets or conventional power generation, have environmental footprints that must be managed. Failure to do so may result in some combination of land, water or air contamination. The costs associated with an environmental breach include not only remediation but also potential fines and future operating restrictions. There is also the risk of future regulatory changes negatively affecting the conventional power sector.

Proper maintenance and operating procedures, as well as compliance reviews, are key processes that fund managers must utilize to manage environmental risk. Prospective investors should place an emphasis on evaluating a manager's environmental record when conducting due diligence.

## 05/ Legal compliance and regulatory risk

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Infrastructure assets are subject to numerous laws, statutes and regulations. Compliance failures can result in fines, restrictions, increased scrutiny and, at the most extreme, a revocation of the license to operate an infrastructure asset. It is also possible that future laws and regulations may change, which is a risk for which investors need to be prepared.

It is therefore critical for asset owners such as fund managers and direct investors to employ qualified legal and compliance professionals and maintain robust compliance processes to minimize legal compliance risk. Positive relationships with stakeholders such as regulators and governments are also necessary risk-mitigation tools.

## 06/ Operating and technical risk

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Infrastructure investments are often complicated assets or businesses that have unique characteristics. Operating risk is concerned with a business not functioning in an efficient manner. Technical risk is concerned with a design flaw or inadequate resource assessment that can impair an asset's overall ability to operate as intended.

Approaches to mitigating these risks include hiring qualified individuals to operate facilities, implementing appropriate business plans, performing necessary maintenance, hiring qualified engineering teams and contractors when pursuing greenfield construction, and carrying appropriate insurance levels.



**Proper maintenance and operating procedures, as well as compliance reviews, are key processes that fund managers must utilize to manage environmental risk.**



## Conclusion

This primer provides an overview of the characteristics of private markets infrastructure, which we believe is an asset class that offers a compelling blend of risk and return characteristics to investors seeking to diversify and enhance portfolios. Please contact your Mercer representative to discuss this primer further and for assistance in developing an infrastructure investment program.

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