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EQuilibrium

Will infrastructure deliver for investors?

HIGHLIGHTS

- Institutional investors are looking to infrastructure as a solution for a wide range of current challenges, from inflation hedging and yield to impact goals and climate risk mitigation, according to Nuveen's EQuilibrium survey.
- This paper digs into those findings to explore the spectrum of infrastructure investments that span public and private markets, and the investment attributes that underpin investors' expectations.
- Nuveen experts discuss this diverse range of investment opportunities and whether infrastructure will meet those investor expectations.

Infrastructure is the backbone of every economy. It's an expansive sector that includes assets and services that are essential to a productive society.

It covers power generation — from electricity and gas to renewable energy — and the transmission networks that deliver that energy to homes and places of work. It's transportation, from roads and rail to seaports and airports, and water and waste management. It includes social infrastructure, such as health and educational facilities, and digital infrastructure like communications networks and data centers.

Businesses and consumers have high expectations when it comes to the services provided by infrastructure. But so do institutional investors when it comes to infrastructure investments, according to Nuveen's recent global institutional investor survey.

Respondents most often cited infrastructure as their top pick for a whole variety of investment goals from inflation mitigation and yield to impact and climate risk. It was also the category that saw the biggest year-over-year jump in the number of institutions who were planning to increase allocations to alternatives.

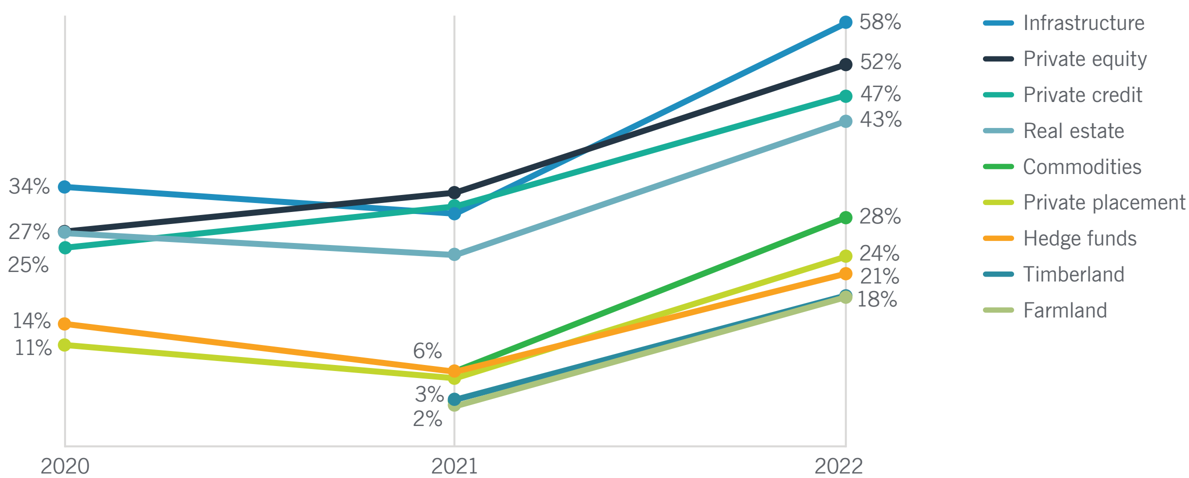
Figure 1: Investors turn to infrastructure to address myriad risks and goals

Top 3 asset choices for:	1	2	3
Inflation-risk mitigation	**Private infrastructure**	Public equities	Commodities
Alternative allocation	**Infrastructure**	Private equity	Private credit
Alternative credit	**Infrastructure debt**	Senior middle market debt	Real estate debt
Impact	Energy innovations	**Infrastructure projects**	Affordable housing
Climate risk strategy	**Infrastructure**	Public equity	Private equity

Source: Nuveen EQuilibrium Survey, 2023.

Figure 2: Infrastructure to see the biggest increase in alternative allocations

Which alternative investments do you plan to adjust allocations to in the next two years?



Percent of institutional investors planning alts allocation increases over the next two years (trend data 2020–2022)
2022 Overall (n=579 respondents currently investing or planning to invest in alternatives)
2021 Overall (n = 583 respondents currently investing or planning to invest in alternatives)
2020 Overall (n = 537 respondents currently investing or planning to invest in alternatives)
Source: Nuveen EQuilibrium Survey 2023

Biff Ourso
Global Head of Nuveen Infrastructure

Jay Rosenberg
Head of Public Real Assets

OPPORTUNITIES AND RISKS IN PUBLIC AND PRIVATE INFRASTRUCTURE

Q: How do you explain infrastructure's popularity among investors?

Biff: More and more are recognizing its growth potential, and this is partly due to the three Ds driving infrastructure's growth. The first is digitalization. Technology has transformed so many aspects of modern life, and digital assets are now a vital component of a modern economy's infrastructure. This can be physical assets like data centers, communications towers and fiber networks.

Decoupling is the second D. Companies are looking to reduce concentration, costs or other risks in their supply chains. This likely will include moving production capabilities that are currently offshore closer to end markets. Recent clean energy policies in the U.S. and Europe have created incentives for domestic manufacturing. These actions will change the flow of goods, which impact the underlying infrastructure required to support.

Decarbonization is the third. As companies, governments and consumers look to reduce carbon emissions and make the transition to a net zero world, the implications and investment opportunities in clean energy and related infrastructure are massive.

Government policy globally is making a big difference. In the U.S., we have the Inflation Reduction Act with tax credits to incentivize investment in clean energy generation, hydrogen and energy storage among other areas. There's also provisions for U.S.-made inputs to spur industrial manufacturing growth and investment across the value chain. Initially, clean energy spending related to the bill was anticipated to be around $400 bn, but some are now estimating it could reach over a trillion in new investment.

Similar policy measures are being enacted in Europe with Repower EU and the Green Deal Industrial plan to support the transition away from carbon and reduce reliance on Russian oil and gas. Countries in Asia — Australia, South Korea, Japan — also have clean energy policies supportive to the development of the clean energy industries.

Jay: Along with these structural trends reshaping the global economy are infrastructure's compelling investment properties. Infrastructure assets are often monopolistic or quasi-monopolistic due to the essential services they provide, their sheer size and capital-intensive nature. Given how necessary infrastructure is to how we live, demand for its services or output is relatively stable. The limited competitive threats and inelastic demand characteristics makes it less sensitive to economic cycles and changes in market conditions.

It's also a source of stable income since cash flow is generated from long-term contracts, concessions or stable fee-based revenue streams. Mechanisms are in place for many infrastructure assets whereby returns adjust with inflation and cost of capital. The income and capital preservation characteristics make for relatively low correlation and beta, and attractive returns.

Q: What can investors in infrastructure expect in a high rate, high inflation environment?

Biff: The effect of higher interest rates on infrastructure debt is nuanced. It depends on the asset, the financing structure and also sector trends. We are very conservative in our use of leverage. So higher rates to date haven't posed an undue risk to our portfolios. However, higher inflation and rates mean the costs of greenfield projects and capital expenditure are going up, so the economics need to be closely studied before moving forward with new investments.

Monitoring the market and valuations, particularly in the U.S., we saw a slight slowdown in the deployment of capital in the first half of 2023. But bid-ask spreads have started to adjust, with seller expectations moving closer to buyer expectations and the market seems to be opening up, potentially more in favor of buyers.

For infrastructure debt investors a rising or higher rate environment can be a different story. Some infrastructure debt is structured with a floating rate coupon, which provides interest rate protection in an increasing rate environment.

Jay: The returns for many infrastructure assets can adjust with changes in inflation or cost of capital, which is an advantage in this environment. This is especially prominent in highly regulated assets or industries. So when cost of capital, energy and other input costs are rising, operators can pass through the cost to consumers or realize higher returns.

Q: How do the investment attributes differ between private and public infrastructure?

Biff: The underlying return drivers at an asset level are largely similar across private and listed infrastructure, but one would expect listed infrastructure to exhibit greater volatility than private assets which are less frequently valued. Private infrastructure also benefits from individual asset selection and the value-creation employed by experienced investment managers. Also, certain assets are more likely to be accessed in private markets than public, for example, distributed power generation and some social infrastructure assets such as medical or educational facilities.

Jay: Listed infrastructure prices will respond more quickly to changing conditions as it is a much more liquid market.

Some types of investments are more readily available in public markets compared with private. This is especially the case in many mission-critical infrastructure assets around the world — such as transmission and distribution utilities and airports, where listed companies are significant owners or operators.

There is greater scope for diversification in public infrastructure. Investors can diversify across regions and countries, as well as sectors. This means investors can more easily tilt portfolios toward or away from specific themes. In addition, public infrastructure portfolios can be adjusted relatively quickly to adapt to varying market environments with factors such as beta or cyclicality being fine-tuned.

Figure 3: Infrastructure's opportunity set

Transportation

- Airports
- Ports
- Rail/public transportation
- Toll roads
- Bridges
- Construction/ concessions
- Parking lots

Energy and utilities

- Renewable energy
- Electric transmission
- Pipelines
- Biofuels
- Gas utilities
- Water infrastructure
- Electric utilities

Communications

- Cell phone towers
- Data centers
- Fiber optic networks
- Satellite systems

Social infrastructure

- Hospitals and health care facilities
- Government outsourcing facilities management
- Educational facilities
- Student housing

Source: Nuveen

Time horizon and liquidity needs are also obvious considerations when assessing the attributes of public and private infrastructure. How often are investors likely to rebalance? How tactical do they want to be? The answers to these kinds of questions should help inform allocations between public and private assets.

Q: Where do you currently see the opportunities in infrastructure?

Biff: With the rapid growth in data, the definition of essential infrastructure is evolving quickly in the digital sector. This will lead to increased investment in areas such as data centers, small cells, fiber as well as businesses that enable modern communications, support the cloud and deliver critical IT business functions and services.

Other areas of legacy infrastructure has seen an underinvestment in technology, so it makes sense to expect a move toward greater technological integration in assets and companies.

Private mid-market opportunities in infrastructure services businesses are also an area that should benefit from the boost to infrastructure from government policy particularly in the U.S. These companies are providing essential services, often mandated by law, to support the wider infrastructure environment and are often supported by multi-year contracts. Businesses that repair and maintain rail cars is a recent example from our portfolio.

Jay: Opportunities are more widespread now versus the past few years as we see more favorable conditions across most sectors and geographies. A focus in our portfolios that has remained consistent through the past few years has been North American energy infrastructure, such as gas pipelines. These companies have contracted cash flows typically with escalators that allow revenues to outpace cost increases. Pipelines also tend to have limited maintenance capital expenditures, low labor requirements and long lives. Additionally, they sell excess capacity into strong markets. The growth profile is also enhanced by growing demand for North American energy, most notably liquified natural gas (LNG), to markets outside of North America.

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Waste has similar dynamics with strong mechanisms to pass inflation impacts through to the customer relatively quickly. Waste companies are also set up well if an economic slowdown occurs, as relatively stable demand for their operations converts to sustained pricing power to the companies.

Rising interest rates and a resilient economy have presented some relative headwinds for regulated utilities but we increasingly have a more constructive view due to their lagging cost of capital enhancements to revenues, defensive business models with good cash flow, and earnings visibility amid the potential for slowing economic growth. Furthermore, a supportive policy environment in the U.S., such as the Inflation Reduction Act, is conducive to outsized capex growth opportunities.

Outside of North America, investment opportunities have also become more attractive as the impacts of war and geopolitical risks are better understood and many Covid-related travel restrictions have been lifted.

Q: Where are the opportunities in energy transition and security? How are investors using infrastructure as part of their carbon reduction goals?

Biff: When it comes to the energy transition and decarbonization, the addressable market covers more than clean energy generation. Of equal importance are connected sectors like energy storage, waste-to-energy, energy distribution and transmission. In the U.S. it’s a challenge to move power from remote areas where it’s produced — think of wind turbines in the middle of the country — to the industrial and urban centers where it’s consumed.

We see a role for clean energy generation at both the utility-scale level but also for generation that is more local and distributed where production is closer to the end consumer. Both strategies will be important. Investments in these sub-sectors will be critical to reaching net zero carbon goals by 2050.

Infrastructure debt strategies will also have a critical role to play. There are a lot of the emerging clean energy and carbon reduction technologies that will require significant scale-up capital over the coming years, and infrastructure debt can serve as part of the capital solution.

Jay: Public market sectors that will benefit the most from the energy transition include electric utilities that have elevated capex opportunities as they need to reduce their carbon intensity, pure play renewables, like wind, solar and hydroelectric, and electric transmission, which Biff points out is vital to the growth of renewable energy. Many established energy companies are at the forefront of energy transition, while others are integral to the supply chain.

Certain transportation could also benefit as behaviors change in favor of lower carbon options. So that's opportunities in mass transit, such as switching from short haul flights in Europe and Japan to less carbon intensive passenger rail, and in freight rail instead of trucking.

Investors are actively looking to reduce carbon exposure. We see that with the growing interest in our global clean infrastructure strategy (that focuses on companies making meaningful contributions to the energy transition, the management of waste, and the provision of water) and in our global real estate carbon reduction strategy.

Q: Are investors' infrastructure expectations realistic? What are the risks to their assumptions?

Biff: The short answer is yes; infrastructure's advantages, like inflation protection, provision of essential services and inelastic demand across cycles, means it can serve many investment objectives. But the caveat to that is only as part of a broadly diversified portfolio. This includes diversification both across asset classes and within. A combination of infrastructure equity and debt can provide more complete asset class exposure.

Along with the standard investment risks, manager selection is important as underlying asset selection and investment structure are critical. Investors also need to keep in mind with private infrastructure, there are higher transaction costs and lower liquidity, which usually means higher switching costs and longer holding periods.

Jay: This is a good environment for infrastructure for all the reasons we've discussed. But it's a mistake to paint infrastructure in one broad stroke. The asset class offers a spectrum of opportunities and broad diversification that active managers can use to navigate a changing market.

There are risks that are more pertinent to infrastructure as compared to other asset classes, and those are political, regulatory and unforeseen or natural disasters. In the U.S. for example, we have numerous utility regulators just as we have numerous states, so investors need to account for varying prospects by geography and asset exposure. And regulation and politics can often surprise. For example, in Europe, some governments imposed windfall profit taxes on infrastructure providers after a spike in energy prices.

In the U.S., we've seen utilities come under scrutiny and even go bankrupt from equipment failures that resulted in wildfires. These types of disaster risks are becoming more frequent.

So for investors, liquidity and diversification combined with active management centered around informed decision-making process can enhance returns and mitigate risks in an already attractive asset class.

THE ENERGY TRANSITION: OPPORTUNITIES IN INFRASTRUCTURE

Energy supply disruptions are expected to be a major influence on investment strategies over the next five years, according to our EQuilibrium survey, with 75% of respondents identifying it as the top megatrend.

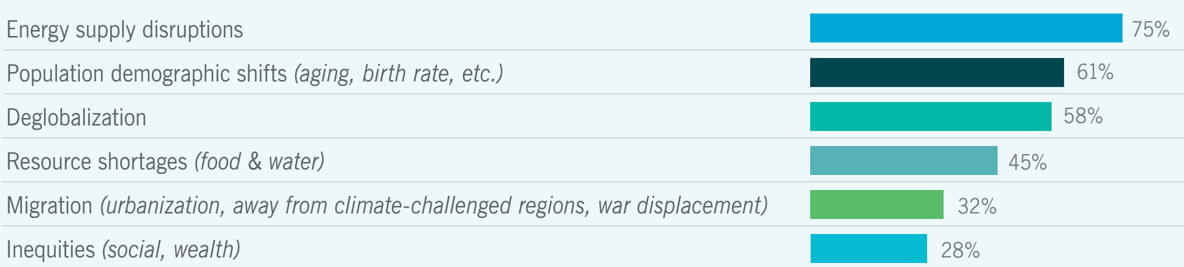
The focus on energy security — reducing reliance on imported fuels and safeguarding energy supplies — is just one element of the energy transition. It also encompasses decarbonizing current sources and the shift to clean energy generation, storage and distribution.

This creates a rich opportunity set for investors. They can create globally diversified portfolios or focus on specific investment themes, such as:

- Renewable energy generation, distribution and storage
- Natural gas storage and distribution
- Decarbonizing energy consumption
- Carbon capture
- Supplying infrastructure raw materials for decarbonization
- Recycling solutions
- Digitalization within the energy sector

Figure 4: Influential megatrends for the next five years

Which of the following megatrends do you expect to be major influences on your investment strategy in the next five years? (n respondents=726)



Source: Nuveen Equilibrium 2023 Survey

Infrastructure is at the forefront of the energy transition. Investors can tap into infrastructure in a number of ways depending on their investment objectives and asset allocation strategy. At Nuveen, our main investment themes focus on the energy transition, transportation, digital, and environmental and social sectors. We invest across the capital structure in assets and projects around the world, from development to construction through to operations.

	Investment objectives and themes						
Strategy	Income	Capital appreciation	Region	Public	Private	Debt	Equity
Global infrastructure	✓	✓	Global	✓			✓
Global clean infrastructure		✓	Global	✓			✓
Global clean energy	✓	✓	Global		✓		✓
Project finance debt	✓		Global		✓	✓	
Energy infrastructure credit	✓	✓	North America		✓	✓	
Energy transition credit	✓	✓	Europe		✓	✓	
European core renewables	✓	✓	Europe		✓		✓
Commercial property assessed clean energy (C-PACE)	✓		U.S.		✓	✓	

Source: Nuveen

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For more information, visit nuveen.com.

Additional resources

EQuilibrium 2023 survey

Endnotes

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Concentration in infrastructure-related securities involves sector risk and concentration risk, particularly greater exposure to adverse economic, regulatory, political, legal, liquidity, and tax risks associated with MLPs and REITs.

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