# Building on Infrastructure Investing

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**Anu Rajakumar:** Infrastructure is an asset class typically characterized by its stable cash flows, low correlations to traditional asset classes, and inflation hedging properties, but with a number of potential disruptions ahead from lower growth, high interest rates, and elevated inflation, does the value proposition still hold? And if so, how should investors allocate to this asset class? My name is Anu Rajakumar, and today I'll be diving deeper into this topic with our head of infrastructure, Michael McCarthy, who's going to share more about the opportunity set ahead for this important investment category. Mike, thank you for coming on the show.

**Michael**: Thanks, Anu. Excited to be here.

**Anu**: So Mike, let's start off with a little bit of context around this investment space. Talk us through the evolution of private infrastructure investing and how it's informed today's opportunity set.

**Michael**: Sure. The first dedicated infrastructure funds were actually set up in the mid-'90s, and they originated from Australia. Local pension funds there were both early investors, adopters and sponsors. They sort of banded together to promote such funds and took them more globally to other investors in the early 2000s. So this also corresponded with a burst, in the technology media and telecom bubble, the dot-com bubble. And it sort of allowed these pensioner investment funds to reconsider their traditional stock bond and real estate allocations and consider new ways to diversify. This was a history of reevaluation that I see repeating itself, where asset allocations are being reevaluated for greater diversification and it's specifically happening at a time when our infrastructure investment needs are very, very clear.

**Anu**: Absolutely. And, you know, speaking to investors, this is something that is front and center. How do we find diversifiers, and how we're going to restructure our asset allocation going into this new environment? You know, you mentioned just at the end there at a time when our infrastructure investment needs are very clear. So let's dig into that. Tell us about what are the infrastructure needs, and what are the key themes that you are specifically focused on right now?

**Michael**: Sure. You know that reference there is really to a once-in-a-generation energy transition that is probably the largest thematic in the market at the moment. We really have a need to decarbonize our electric grid and indeed our economies. And countries and governments have been doing a good job lately of legislating towards that, but we need broader adoption. So that is a major investment opportunity and theme. The other major theme that we talk about is digitalization. This is sort of 5G, the internet of things, cloud computing, big data.

There's a real opportunity set. This data goes, you know, over the airwaves to towers through fiber connectivity and into data centers. And all of that is privately invested in, and really requires investment to keep up with our pace of data generation. I mean, the global mobile data traffic has grown 20% over the last five years from machines and machines, and just organically developed data is projected to grow at 28% over the next five years. And perhaps this data I like best here is that we as users have spent more and more time on social media sites. In 2012, we were only spending 90 minutes a day and now it's up over two and a half hours.

**Anu**: Wow. That's why I cap my usage of social media every day to 20 minutes. So I get that guilty reminder.

**Michael**: Although Podcasts are great.

**Anu**: Podcasts totally different, so [laughs]. That's education.

**Michael**: And then the two other themes that we like to think about one our supply chain and logistics. So, throughout the pandemic, we really saw the impact of strained supply chains and the rising costs in shipping goods. While that's come down from its peak, at one point it was sort of, uh, pre-pandemic a cost for instance $1,300 approximately to ship a container from China to the US West Coast. That went almost as high as $20,000. And today it's between $2,000 and $3,000. So we're still two to three times where we should be, but obviously, we've seen how some duress can really stress the supply chain. So the shift in global logistics will require further investment.

And the last one is urbanization. And this is really a trend of deferred maintenance and underinvestment in cities and in particular, a shift in work-from-home and travel patterns and even where people are choosing to live as a result of sort of work-from-home policies and the pandemic people are moving away from some of the biggest cities and into mid-tier cities. And when you add those people up in those mid-tier cities who haven't had investment in their infrastructure, there's a huge need.

**Anu**: Yeah. You know, I think on that last theme that you mentioned, the urbanization one, you know, which captures public transportation and tollways, highways, et cetera. I think that's what people often associate with infrastructure. And you know, I believe there's a general perception that governments typically fund those kinds of projects if you will. But I guess my question for you is, so how do private investors partner with these public bodies, the governments in this area, to accelerate progress? And how does that, I think you probably focus on the US, but how does that also happen globally?

**Michael**: Sure, yeah, you know what, everyone has a role to play, and I think that it's a different answer in each jurisdiction, but there are some common themes. So historically and traditionally, infrastructure has been thought of as a government domain, something funded by general tax revenues as you pointed out. That has shifted over time for various reasons.

Today in the US, for instance, we regulate private investment in key sectors such as, electricity distribution or utility distribution. And we've encouraged investment in sort of generation assets to sort of promote efficiency. And on the digital theme, you know, that's really been a private domain, but certainly, again, governments can play a role by providing grants for subsidies where needed to sort of allow everyone to participate. And they do that effectively because they can subsidize the cost where it's needed to reach rural markets, for instance, with highspeed fiber.

And I think frankly, the opportunity set in those two digitalization themes and energy transition themes will continue to grow with the predominance of private capital. Where governments have been more dominant is sort of in the urbanization space. And I think that there's lessons to be learned in terms of how they've approached their capital plans.

And we've seen some sort of initiatives in that regard. Public/Private Partnerships have come to the fore in various forms over the last couple of decades, and we'll continue to see that. And lastly, I think, you know, independent stakeholders have-have really contributed to the dialogue, the association for, civil engineers in the US for instance, has been putting out since about 1996, their report card on the state of infrastructure in the US and that's gotten lots of media attention. I think it's made folks aware of the infrastructure assets that we have, even when they're unseen and it's called out the need for investment. They've been giving a-a D ranking --

**Anu**: I was going to ask what-what's the grade? Oh gosh, a D. All right.

**Michael**: Exactly. Until the very last, uh, report card, which is now a C.

**Anu**: All right. That's improvement. That's a--

**Michael**: Indeed.

**Anu**: That's good progress. And what about overseas? Any comments about any other countries, Europe or other regions?

**Michael**: Absolutely. You know, I think in Europe they have led the way, in particular on the energy transition. And they have legislated prior to the US, although we've introduced some great legislation just this year to sort of tackle that challenge. And that challenge continues outside developed markets, as well. For instance, in Australia, even though they are a G20 Nation, 60% of their power grid is supplied by coal plants. I mean, that is a-a phenomenal amount of coal production in one country. And similarly in the rest of the world, you know, some of the production of energy is weighted towards emitting, you know, carbon-based fuels.

The last item I'd point to is really this burgeoning need and the G20 estimates that the world would need $94 trillion of investment through 2040 just to support current growth. And sources of investment, or sources of capital support that-that estimate really leave a $15 trillion investment gap. So there's currently a huge opportunity.

**Anu**: Okay. Great. $15 trillion investment gap. That is, um, yeah, that is big. Um, you know, you mentioned, uh, energy transition a lot here, uh, which aligns well with ESG, which is a very popular topic on our episodes. Anything else that you want to our listeners to know as it relates to ESG within infrastructure?

**Michael**: ESG is definitely top of mind for infrastructure investors. One consideration that I think is important for folks to understand is that we do consider all of the E, the S and the G and in particular, we have the mindset that we have to maintain the social license stop rate. As an owner, or a caretaker of a key community asset, you want to be sure that everyone has a voice and you're considering all those stakeholders. And we run our ESG screens very carefully, working with our management teams and our partners. And indeed, all stakeholders who need a voice.

**Anu**: Okay, great. Well, thank you very much for that. You know, just as we wrap up here, Michael, I just wanted to ask you, you know, this is, infrastructure is a little bit of a newer asset class as you mentioned at the beginning of this episode. What are some misconceptions that investors might have about this asset class?

**Michael**: One misconception I would say that is commonly held is around liquidity. And I think that because of the essential long-life assets that are generally held by infrastructure investors and the fact that it's private equity-oriented, folks may rightly assume that they're relatively illiquid, but that is changing. You may have a 50-year life power plant or toll road or beyond, and certainly, there is an expectation that the investors will have a long-term view. But, through the growth of the industry and the maturity of the landscape of investors, we're seeing more and more liquidity option being provided either at a midlife stage or through different vehicles and innovations. So that's definitely, I think where we're headed next.

But I think the biggest misconception is that infrastructure is still predominantly the jurisdiction of governments. We work with governments as a partner and they are our regulators often, but the pendulum has swung, I would say, to a private capital-dominated industry in those major themes that we talked about, energy and communication, and supply chain and logistics to a certain degree.

**Anu**: Excellent. Thank you very much. Michael, I like to end every episode with a bonus question. And this one will be, you know, just the same. so Halloween is right around the corner. So my question for you is, what is your favorite candy?

**Michael**: Oh, yeah, definitely-definitely red licorice.

**Anu**: Red licorice, really?

**Michael**: Yeah. Yeah.

**Anu**: You're one of those [laughs].

**Michael**: I, uh, as a child was told I was allergic to chocolate to keep me away from it. So as a result, it's red licorice.

**Anu**: Oh, I'm going to write that one down for my two young children. That is a good way to wean them off the candy. Um, all right, Michael, this conversation has been very helpful. Lots of insights. I just want to remind our listeners of the four key themes that you had mentioned earlier in the episode. Energy transition was a big one, digitalization, supply chain, and logistics, and urbanization. And you had some really interesting facts, I think, in each of those subtopics. So hopefully, our listeners can walk away with some interesting, food for thought as we continue on in this transitional state of the world where I think infrastructure investing will play a big role. So thank you again for being part of the show.

**Michael**: Thank you. It's been a pleasure.

**Anu**: And to our listeners, if you've liked what you've heard today on *Disruptive Forces*, you can subscribe to the show via Apple Podcast, Google Podcast, or Spotify. Or you can visit our website, www.nb.com/disruptiveforces for previous episodes, as well as more information about our firm and offerings..

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