How to control the new infrastructure cycle: Tim Whittaker on where investors really create value

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Partner contribution

From energy transition to digital infrastructure: how private infrastructure is reshaping the playing field of risk, appreciation and opportunities for institutional investors.

Infrastructure is developing faster than ever. The boundaries between traditional and new infrastructure assets are shifting due to the energy transition, digital connectivity and changing regulation. What once seemed like a relatively stable, contract-driven asset class today requires a much more dynamic and future-oriented approach.

For institutional investors, this raises fundamental questions. How do you value infrastructure assets under uncertainty, structure deals that can withstand political and technological changes, and balance risk, return and impact across greenfield and brownfield strategies? And where exactly are the most convincing opportunities today?

Few people are as well positioned to answer these questions as Tim Whittaker, an infrastructure investment specialist with more than twenty years of experience in transactions, investment strategy and applied research. Together with Professor Cyril Demaria, he teaches the **Investing in Private Infrastructure** program at the Amsterdam Institute of Finance.

In this interview, Whittaker reflects on the structural shifts that are changing the infrastructure landscape, the pitfalls that deals can derail, the tools investors now need, and why even seemingly safe regulated utility companies require a fresh look.

How energy transition and data are redrawing the infrastructure landscape

Infrastructure was traditionally mainly associated with long-term utility assets under stable contracts. That picture is now incomplete. Asked where he sees the biggest structural shifts in private infrastructure, Tim Whittaker starts with the scale and speed of change. "The asset class is developing in a way that makes it almost unrecognizable compared to ten years ago. That brings new challenges, but also interesting opportunities."

For most infrastructure investors, talks today are dominated by two themes: the energy transition and the digital economy. "In the energy transition, investors used to focus mainly on transmission, distribution and renewables. Today, the landscape is much wider and more interconnected. Storage, grid flexibility, smart meters, charging infrastructure for electric vehicles and demand-controll technologies all become critical parts of the system. Infrastructure is no longer just about capacity expansion, but increasingly about enabling system stability."

A similar shift is visible in the digital economy. "There we see enormous interest in data-driven assets, and rightly so. These assets have in fact become essential infrastructure. Economically, they behave like traditional utility companies, with high fixed costs and relatively stable cash flows. But the extra dimension of technologically driven aging and rapid demand growth makes them more dynamic and operationally intensive than what we used to label 'infrastructure'."

This changing reality also requires a different mindset among investors. "The traditional mindset of infrastructure investors, where you own long-lived assets under stable contracts, is tipping over. The most successful investors and investors have moved from passive capital providers to long-term managers of complex enterprises, with the aim of providing high-quality services to their customers."

Beyond the narrative 'infrastructure is equivalent to stability'
Infrastructure investments often combine a long horizon with political risk and technical complexity. Asked about the most common pitfalls in the way investors assess or structure infrastructure deals, Whittaker doesn't have to think long. “The first is to lean too much on the idea of 'infrastructure equals stability'. Even contracted assets can have significant exposure to demand shifts, counterparty risk, volatility in input prices and political recalibration. Stability must be demonstrated with evidence, not assumed.”

That works in both directions. “Investors can create a lot of value if they are able to manage or even create stability for the asset. But just as well, a lot of value can disappear if the investor does not sufficiently realize that these are large, complex assets.”

According to him, a second pitfall is treating risk as something static. “Many models rely on linear forecasts, while the underlying drivers, political policy frameworks, technologies and consumer behavior can change significantly over a horizon of twenty or thirty years. A good investor must recognize that and manage the assets in such a way that the value is maximized when new risks arise.”

Finally, investors often underestimate operational complexity. “Large European utilities, for example, are incredibly complex to run, but in the past investors have paid a premium for that and then lost their money." What he says distinguishes the best investors is "a deep understanding of governance, incentives and operational capabilities."

Bridge between theory and practice: tools for today's investors

In the Investing in Private Infrastructure program, Whittaker and Professor Cyril Demaria guide participants through appreciation, fund structures and realistic case simulations. "One of the goals is to give participants tools that they can immediately apply in their daily work. We focus on building a bridge between conceptual understanding and practical execution."

First of all, participants get a much sharper picture of how to value infrastructure assets under uncertainty. "We go beyond simple DCF models and look at how you integrate regulatory trajectories, technological change and downward scenarios into cash flow models. That is extra important today, now that markets struggle with themes such as cannibalisation in renewables or changing regulatory incentives in utility sectors."

The second pillar is deal structuring. "Based on cases, participants learn how governance rights, shareholder agreements and risk-sharing mechanisms influence outcomes at least as much as valuation itself. Understanding the fund economy, incentives and the relationship between GP and LP is also an important part of being able to assess opportunities with more confidence."

Finally, the cases help participants to think through real trade-offs. "Whether it's a greenfield offshore wind project or the acquisition of an existing regulated utility, they see how operational, regulatory and financial factors interact." The goal, he explains, is "to develop the ability to ask better questions, question assumptions and use a more disciplined, evidence-based approach to infrastructure investment."

Where opportunities lie today: renewables, digital and utilities

The program covers both greenfield and brownfield investments, in renewables, digital infrastructure and utilities. Asked where he sees the most convincing opportunities today, Whittaker opts for a system-wide view. "In both greenfield and brownfield markets, opportunities are currently determined by macroeconomic conditions, policy direction and the changing role of infrastructure in the real economy."

"With renewables, the main challenge is no longer just building capacity, but dealing with cannibalisation. By cannibalismation we mean the effect where periods of very high production from renewable sources, for example on very sunny or windy days, reduce electricity prices, sometimes even to negative levels. As more capacity is added, each additional megawatt can reduce the realized price for all existing producers."

In that light, co-location and flexibility become crucial. "That's why co-location with storage is becoming increasingly important. By combining renewables with batteries or other flexibility solutions, projects can shift their production from periods of low prices to times of higher system value. I believe greenfield opportunities combining renewables and storage as integrated flexibility assets, rather than stand-alone production, are among the most attractive areas for new investment."

On the digital side, we see a related story. "In digital infrastructure, the demand for data, connectivity and low latency continue to support investments in data centers and fiber optics. But these assets are becoming more operationally intensive, with energy, cooling and technology cycles all carefully included in the underwriting."

In regulated utilities, higher inflation and the energy transition still create significant investment needs, but the focus of regulators is shifting. "Regulators are increasingly focusing on affordability. This increases the value of efficient operators and regulatory frameworks that balance consumer protection with credible long-term investment signals."

Balancing risk, return and impact therefore requires what Whittaker calls a system approach. "The most convincing opportunities often lie where investors help solve system bottlenecks, such as flexibility in electricity markets or bottlenecks in digital networks, rather than simply adding more of the same capacity."

Lessons from regulation: assumptions about 'safe' utilities revised

For more than twenty years, Whittaker worked at the intersection of research and practice in infrastructure investments. A recent development has further sharpened his thinking. "What really made me think is the impact of rising living costs on utility regulation in Europe. For years, regulated networks were seen as relatively stable because allowed returns were predictable and supported long-term investments. But now that energy and utility bills have become a politically sensitive topic, regulators in multiple EU markets have begun to reduce permitted returns and put much more emphasis on affordability for households."

This is more than a temporary adjustment. "Even well-regulated utilities are now exposed to a new form of regime risk that is not primarily driven by ideology, but by social pressure. It underlines that stability in this sector is conditional: regulatory frameworks that once protected returns can quickly adjust when consumer affordability becomes a priority."

For investors, the lesson is clear. "We need to stress-test valuations on scenarios where allowed returns fall, costs can no longer be fully passed on, or investment plans are more rigorously assessed. The long-cherished assumption that regulated utilities provide stable, isolated returns needs to be reviewed in light of these developments."

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Meet the expert
Tim Whittaker PhD, Director EDHEC Infrastructure & Private Assets Research Institute
Whittaker is an infrastructure investment specialist with more than twenty years of experience in transactions, investment strategy and applied research. He has worked extensively within the entire infrastructure asset class and brings a strong combination of academic depth and practical expertise to investment decisions. Whittaker received a PhD in Finance from Griffith University, a Master of Finance (Business) from Queensland University of Technology and a double bachelor's degree in Commerce and Economics from the University of Queensland. Throughout his career, he has contributed to the further development of knowledge and practice in the field of infrastructure investments, with a focus on rigorous analysis, innovation in portfolio composition and narrowing the gap between research and implementation.
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