

How Artificial Intelligence (AI) and Digitalization Are Fueling an Infrastructure Boom

Introduction: How Digitalization and AI are Driving the Infrastructure Super-Cycle

Infrastructure is the foundation of the global economy, providing essential services that enable the movement of people, goods, commodities and data, as well as storage. The ongoing “infrastructure super-cycle” is characterized by significant efforts to modernize these assets, incorporating new technologies like renewable energy and data networks. A key catalyst of this infrastructure super-cycle is the energy-intensive growth of digitalization and AI.

Current energy infrastructure, encompassing both energy grids and transportation, is constrained and aging. To meet the rapidly increasing demands of digitalization and AI, substantial new investments will be necessary. We believe that utility and energy infrastructure companies stand to benefit significantly from this trend, presenting a substantial opportunity for investors to benefit from potentially strong, risk-adjusted returns.

“A query powered by AI such as ChatGPT can consume nearly 10 times more electricity than a traditional search engine query.”



10x



0.3 watt-hours
(Google search)

Vs.



2.9 watt-hours
(ChatGPT)

Source: International Energy Agency, 2024.

Investment in Transmission Potentially Poised to Double

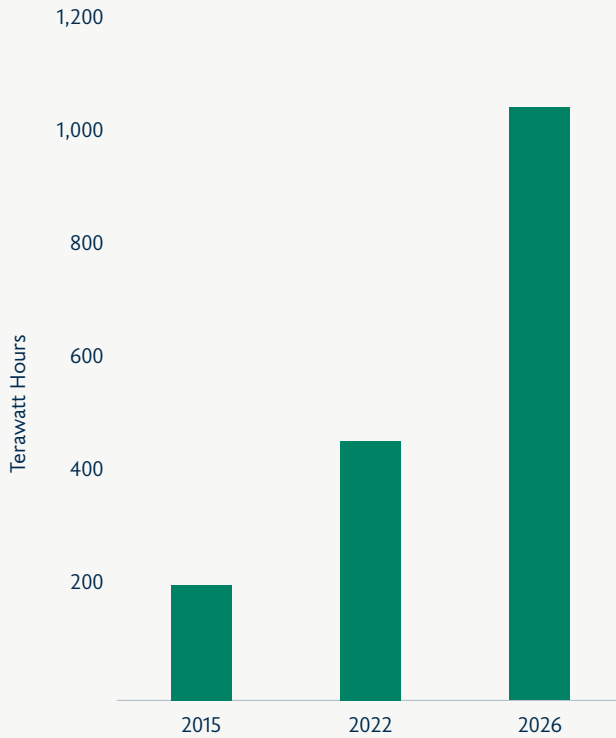
Digitalization is the function of using processing capabilities to convert a large amount of data to a digital format, which enables the data to be utilized in new ways and for new processes. AI and automation, which feed off of digitalization, can enable organizations to be faster, more efficient and more profitable. However, AI requires much more computing power and electricity consumption. For example, a query powered by an AI tool, such as ChatGPT, can consume nearly 10 times more electricity than a traditional search engine query. Accordingly, the increased power and data load required to support AI will necessitate a wholesale rewiring and upgrading of existing infrastructure ranging from power generation to transmission to data centers.

As a result, we believe the main beneficiaries of this megatrend within infrastructure will be the regulated utility power and energy infrastructure sectors.

Global investment in transmission must nearly double in size in order to sustain demand, reaching over \$600 billion annually, to add or refurbish more than 80 million kilometers of grids by 2040—equivalent to the entire existing global grid. With billions needed to maintain and upgrade the energy grid, regulated utilities are well positioned to benefit, as their profit structure rewards infrastructure investment—the more they invest, the higher their potential returns.

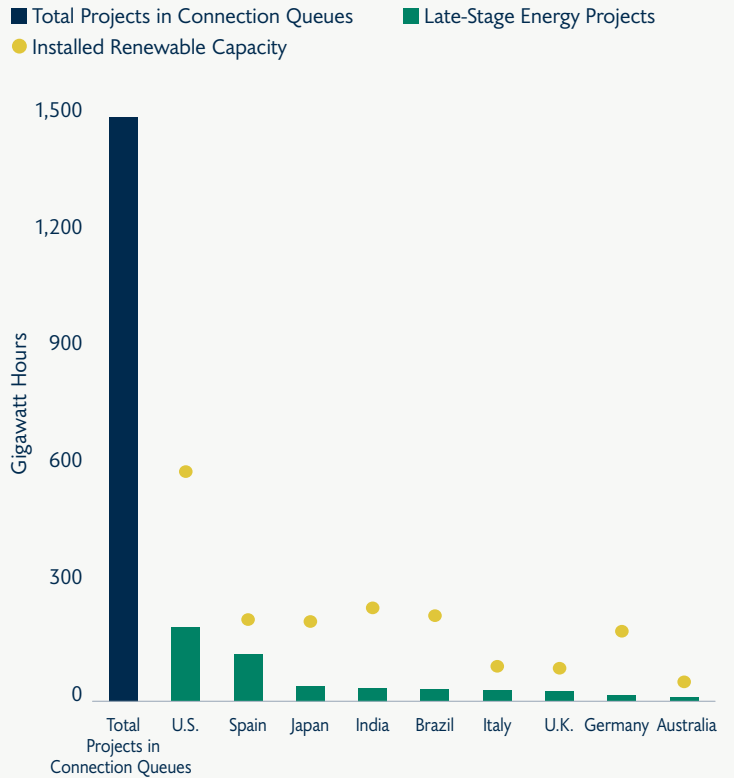
AI Is Driving Data and Electricity Demand Amid Constrained Supply and Aging Infrastructure

Global Data Center Energy Consumption Forecast



Source: IEA, 2024.

New Energy 'Connection Queues' Creating an Energy Capacity Development Bottleneck



Source: IEA, 2023.

New projects need to apply for grid connection and wait for approval before proceeding, making grid connection queues a growing bottleneck to developing new energy capacity.



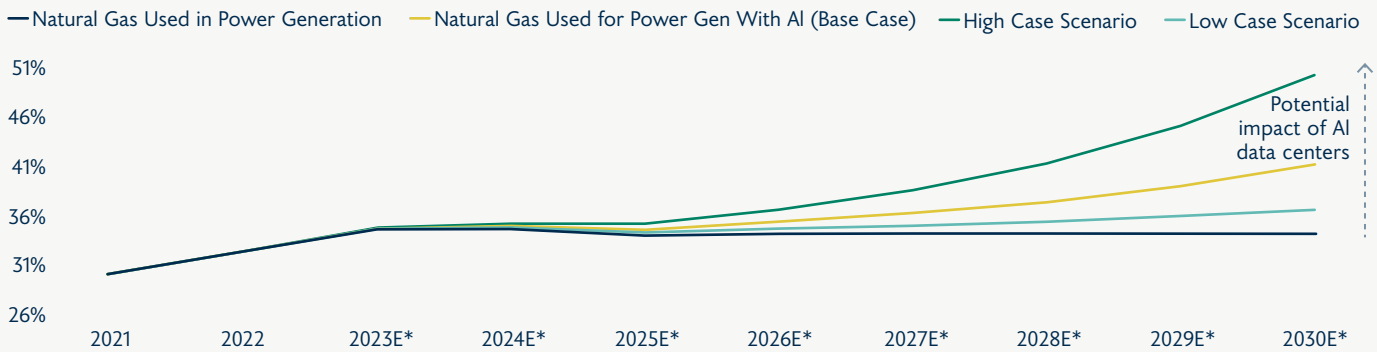
+50%

Advanced-Economy Energy Grids That Are More Than 20 Years Old

Source: IEA, 2023.

Midstream infrastructure—i.e., facilities transporting energy from its source to where it is used—also potentially stands to benefit significantly. As renewable energy alone cannot fulfill the immediate and growing electricity demands of AI and data centers, natural gas infrastructure companies, including pipeline owners and operators, will need to provide the essential infrastructure to transport natural gas from supply points to demand centers. Indeed, as the chart below illustrates, data center power demand could result in a nearly 20% increase in natural gas demand from power generators through the end of the decade, or around 7 billion cubic feet per day.

Forecast Natural Gas Consumption by Power Plants



Source: Wells Fargo Equity Research, “AI Power Surge—Quantifying Upside for Renewables & Natural Gas Demand.” As of March 21, 2024. There is no assurance that such events or projections will occur, and actual outcomes may be significantly different than those shown here. * Estimated

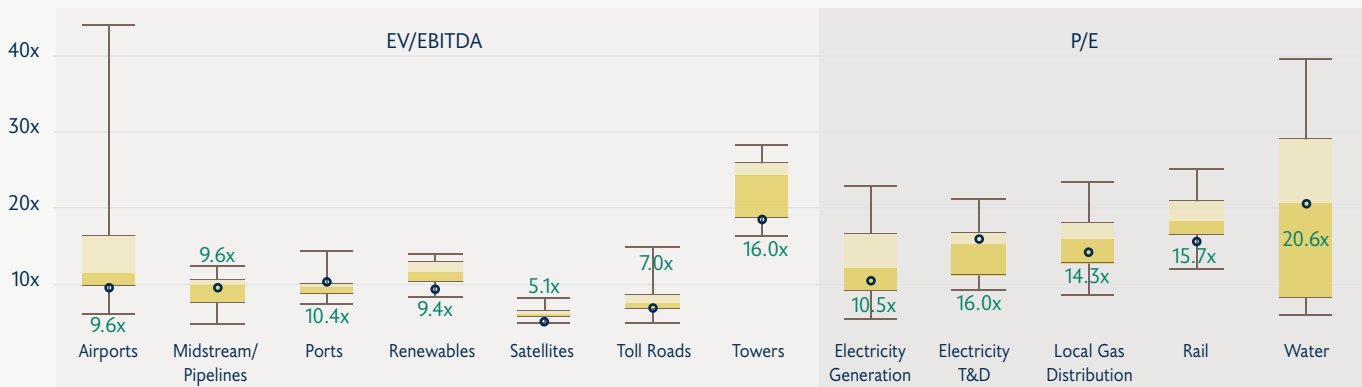
Where We Are Today—A Potentially Attractive Valuation Entry Point

Many of the companies best positioned to capitalize on this digitalization trend—whether regulated utilities with key data center hub locations or midstream operators with extensive gas pipeline networks—are publicly traded.

With global interest rate policies approaching a potential turning point and valuations at multi-year lows, we believe that listed infrastructure offers a potentially attractive entry point for investment.

Most Infrastructure Subsectors Are Trading Near Five-Year Lows

▬ Historical Max/Min ○ Current Multiple ■ 25m/75m Percentile Historical Range ■ Median



The current multiple of the Airports subsector reflects an abnormally wide dispersion of valuations due to the dyssynchronous recovery of airport earnings in various geographies. We believe a more representative valuation multiple range of ~15x to ~16x using 2023 or 2024 EBITDA estimates better captures a more normalized forward-looking valuation level. Source: Brookfield Public Securities Group, FactSet. The universe and subsector classifications are defined by Brookfield Public Securities Group. See disclosures for additional information. As of August 31, 2024.

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