2020 Market Outlook

2020 Infrastructure Outlook

Global listed infrastructure’s strong 2019 performance was driven by a confluence of factors: (1) a healthy fundamental outlook across most infrastructure sectors, supported by modest global economic growth, (2) declines in cost of capital concurrent with a return to record low interest rates in a number of developed economies, (3) demand for “defensive” equities largely agnostic to political risk in a world of heightened geopolitical uncertainty, and (4) the need for infrastructure network augmentation due to structural shifts in network architecture (most notably in the utilities and communications sectors—e.g., decentralization of the electricity grid through increasing renewable power load and 5G/IoT buildout for communications infrastructure). While we do expect a moderation in some fundamental trends going forward, specifically in transportation infrastructure where volume/traffic dynamics have generally been running above trend until recently, our outlook for infrastructure securities in 2020 is constructive on a fundamental basis.

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Furthermore, because there is considerable debate as to whether we are “mid-cycle” or “late-cycle” from an economic perspective, and questions remain about the impact of a Phase One U.S.-China trade agreement, as well as the outcome of a 2020 U.S. presidential election, we believe infrastructure securities are likely to continue to serve as a safe-haven for many investors looking for companies with relatively resilient and predictable cash flow profiles. Valuation and regulatory changes are primary risk factors, but we view the former as a risk borne by all long-duration assets, including fixed income and non-infrastructure equities. Encouragingly, value remains at the company-level which is expected to be supportive of positive returns for the asset class going forward.

In order to provide more color around our 2020 infrastructure securities outlook, including growth drivers and risk factors, we have broken down our outlook by infrastructure super-sector on the following pages.

**Sector-Level Outlook: Utilities**

Both network utilities and renewable power companies exhibited strong 2019 performance due to declines in interest rates and a desire by investors to own companies with relatively predictable, stable cash flow profiles agnostic to the numerous global macro uncertainties (trade-related, political) faced by investors. While these aspects have certainly been the main drivers of performance recently, perhaps underappreciated is the strong fundamental environment that many network utility and renewable companies currently operate in, in particular in North America. In the U.S., utility company capital programs are generally enabling above-average growth rates across all utility services—electricity, gas, and water—each due to a different driver. In electricity, the need for renewable power tie-ins and the need to accommodate different flow patterns and more decentralization due to increasing renewable sources of power is driving growth. Eventually, the electrification of the transportation system and broader ‘Internet of Things’ (IoT) uses will require further network enhancement. In gas, growth is driven by aging pipe replacement and conversion from oil-based heat in the Northeast U.S. In water, companies are focused on pipe replacement, new resource development in an ever-evolving climate, and M&A “roll-ups” through the absorption of inefficient, municipally-owned networks. Due to these trends, we anticipate mid-to high single digit rate base, earnings per share, and dividend growth for U.S.-based utilities through the medium term.

**DISPLAY 1**

<table>
<thead>
<tr>
<th>SECTOR</th>
<th>Utilities</th>
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<tbody>
<tr>
<td><strong>2020 FUNDAMENTAL OUTLOOK</strong></td>
<td></td>
</tr>
<tr>
<td>• North America: stable to improving</td>
<td></td>
</tr>
<tr>
<td>• Europe: stable</td>
<td></td>
</tr>
<tr>
<td>• Australia: stable to negative</td>
<td></td>
</tr>
<tr>
<td>• EM (Asia, Latam): mixed</td>
<td></td>
</tr>
<tr>
<td>• Renewables: positive</td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>KEY GROWTH DRIVERS</th>
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<tbody>
<tr>
<td>• Highest levels of asset base growth exist in EM and North America; European and Australian growth is largely non-existent outside of renewables-related activity</td>
<td></td>
</tr>
<tr>
<td>• Key drivers of growth are gas and water pipe replacement, renewable tie-ins, and system hardening/reinforcement due to grid decentralization (i.e., shift to smaller renewable fleets)</td>
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</table>

<table>
<thead>
<tr>
<th>RISK FACTORS TO MONITOR</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>• Regulatory – lower allowed returns in a persistently low interest rate environment</td>
<td></td>
</tr>
<tr>
<td>• Politicization of customer bills by populist politicians</td>
<td></td>
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<table>
<thead>
<tr>
<th>BEST IDEAS</th>
<th></th>
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<tbody>
<tr>
<td>• Fundamentally: North America</td>
<td></td>
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<tr>
<td>• Valuation: Europe, EM</td>
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</table>
In terms of risks for the sector, for 2020 we view the primary risks to be regulatory and valuation. From a regulatory perspective, we are monitoring the level of allowed returns provided by regulators in this low interest rate environment. Interestingly, while this has evolved into a significant risk for utilities outside the United States—most notably in Australia and parts of Europe where allowed returns are set in a formulaic fashion—we have yet to see a material erosion in allowed returns for utilities in the U.S. Allowed Returns on Equity (ROEs) have moved modestly lower in some instances, though they remain very healthy at high single digit/low double digit nominal levels. From a spread to risk-free rate perspective, allowed returns stand at very healthy spreads. Turning to valuation, it is true that network utilities in many countries trade at premiums to historical averages and what would typically be justified by the current level of rates; however, when looked at in the context of “late cycle” economic trends as well as declining betas over time (see chart in Display 3), we believe valuation does not present as much of a risk to the sector as it first might appear. Furthermore, as we have seen a recent rotation by investors out of “defensives” into cyclical companies, the premium of network utilities relative to the broader equity markets has largely dissipated. As a result, we are constructive on both network utilities and renewable power companies going forward in 2020, with a bias toward North American assets given the higher growth levels and better allowed returns discussed earlier. Assets outside of the U.S. selectively are also attractive on a valuation basis, albeit at lower levels of rate base growth.

### Renewables buildout is driving significant growth for utilities:

**Display 2**  
Global Renewable Power Generation Installed Capacity (GW) 2017 vs. 2040

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<thead>
<tr>
<th></th>
<th>2017</th>
<th>2040</th>
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<tbody>
<tr>
<td>Solar - 10x increase</td>
<td>398</td>
<td>4,420</td>
</tr>
<tr>
<td>Wind - 5.5x increase</td>
<td>515</td>
<td>2,819</td>
</tr>
<tr>
<td>Hydro - 1.6x increase</td>
<td>1,270</td>
<td>2,096</td>
</tr>
</tbody>
</table>

Source: IEA, World Energy Outlook 2018, Sustainable Development. Report date: November 2018. Forecasts and/or estimates provided herein are subject to change and may not actually come to pass.

### Cost of capital continues to decline for utilities, justifying in part the expansion of trading multiples:

**Display 3**  
U.S. Utilities (XLU) One-Year Betas

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<tbody>
<tr>
<td>Beta</td>
<td>1.0</td>
<td>0.8</td>
<td>0.6</td>
<td>0.4</td>
<td>0.2</td>
<td>0.0</td>
<td>0.2</td>
<td>0.4</td>
<td>0.6</td>
<td>0.8</td>
<td>1.0</td>
<td>0.8</td>
<td>0.6</td>
<td>0.4</td>
<td>0.2</td>
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Fundamentally, energy infrastructure had a strong 2019 as in-place assets operated with high utilization rates, and the macro environment for energy in North America has been constructive, with production volumes at or near record levels. In addition, midstream company balance sheets are in excellent shape and dividend coverage is strong, placing the companies in a better position to weather the next downturn, whenever it might occur. Despite this operating and financial strength, however, share price performance for energy infrastructure was mixed, as public markets investors’ appetite for energy investments has declined post the 2015 energy downturn. Furthermore, there is concern by some about the prospects for future growth, as new project approvals have become increasingly held up by environmental and political challenges. In our view, energy infrastructure companies remain an area of opportunity in 2020 as many energy infrastructure stocks currently trade at meaningful discounts to private market assessments of value. We do believe some selectivity is necessary, however, as some companies are better poised to highlight the discrepancy between intrinsic value and current share prices than others (most notably, smaller companies that can be absorbed by private equity). While we acknowledge that much of the large-scale build for energy infrastructure companies is over, due to extensive capital build-out in North America over the past decade, we believe energy infrastructure companies are poised to be able to continue to grow modestly and produce attractive returns on invested capital going forward. Despite changes in energy policy and changes in various countries’ energy mix, many of the marquee assets owned by energy infrastructure companies we invest in are likely to be highly utilized for the foreseeable future. Specific areas of opportunity for growth remain export and storage facilities. Primary areas of risk are associated with companies with high levels of exposure to basins or customers where drilling activity may moderate next year (e.g., in the Marcellus/Utica, STACK/SCOOP).

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1 The infrastructure assets a company already owns, and therefore does not need to buy in order to execute a particular capital expenditure strategy.
With U.S. oil and gas production continuing to increase, pipeline and midstream companies should benefit:

**DISPLAY 5**
**U.S. Crude Oil Production**
*Thousand barrels per day*

![Graph showing U.S. Crude Oil Production from 2010 to 2019. The production has been increasing over time.](image-url)

Source: U.S. Energy Information Administration. Data as of August 31, 2019

**DISPLAY 6**
**U.S. Natural Gas Production (Gross Withdrawals)**
*Million cubic feet per day*

![Graph showing U.S. Natural Gas Production (Gross Withdrawals) from 2010 to 2019. The production has been increasing over time.](image-url)

Source: U.S. Energy Information Administration. Data as of August 31, 2019
The communications sector overall has produced industry-leading returns over the past couple of years on the back of a number of favorable thematic trends for wireless tower companies—healthy organic leasing rates in the U.S. and other countries, M&A opportunities in Europe, the potential for future acceleration in leasing once 5G deployments are initiated by wireless carriers, and the potential for new carrier entrants (in particular in the U.S. with Dish Networks ready to deploy should the Sprint/T-Mobile merger prove successful). In addition to these trends, tower companies have benefited from the lower-for-longer interest rate regime, secular growth drivers agnostic to geopolitical trends and concerns over trade, and a unique structural combination within the infrastructure universe—i.e., high and improving Return on Invested Capital (ROIC) with low capital intensity. Fortunately for investors going forward, we see these favorable trends continuing in 2020, with the only real risk being valuation. It is true that until recently, valuations have been near peak levels for tower companies both in the U.S. and Europe. While this is partially justified by the lower rate regime/lower cost of capital and elevated level of leasing growth, even adjusting for these elements we view valuations as full and at a premium to private market valuations. Encouragingly, share prices more recently have started to move lower, making the companies relatively more attractive, and given the high growth rates of the companies (most are growing cash flow at high single digit to mid-teens percentages per year), companies are expected to quickly grow into current valuations. Elsewhere in the communications sector, satellites and data centers also present areas of opportunity but have more mixed fundamental pictures.
Performance in transportation infrastructure in 2019 was generally favorable, outside of select emerging markets transportation companies and those companies facing regulatory resets in the next couple of years. Such performance was driven by healthy traffic/volume trends outside of freight rail in North America, where volume trends are running negative in the mid-to-high single digit percentage range. For airport companies in particular, traffic trends surprised on the upside in 2019 relative to expectations heading into the year. Looking forward, we expect a moderation in traffic trends across most transportation assets toward long-term trend-line levels outside of freight rail, which we expect to continue to deteriorate until it bottoms around the mid to later part of 2020. While we believe this deceleration in growth rates is a modest negative relative to the very healthy rates exhibited over the past few years, we would reiterate this is more a decline to trend rather than a material slowdown. Of note for the airports, the proliferation of Low Cost Carrier routes allowed for material traffic growth above trend for the past several years.

Speaking to valuation and regulation, we view current valuations in transportation as generally favorable, with greater opportunities for investments at discounts to intrinsic value relative to the utilities and communications sectors. Regulation is a risk for select companies in 2020 as allowed returns are reset lower on the back of lower interest rates, but in our view this risk is already well-flagged and should not be a source of downside surprise for companies in the near-term. As with utilities, discussion of the cost of transportation infrastructure burden on end customers is an increasing topic of debate by some politicians and bears monitoring, but we do not view that as a material risk over the near-term. In conclusion, we view the transportation sector as an area of significant opportunity in 2020, both from the perspective of valuation and fundamentals.

**Display 9**

**Sector-Level Outlook: Transportation**

**2020 Fundamental Outlook**
- Fundamentals remain positive, albeit companies can experience a slowdown in traffic volumes
- Ongoing investment opportunities exist through government infrastructure plans and privatization
- Subdued cost of debt and equity to continue to fuel companies’ reinvestment strategies

**Key Growth Drivers**
- Traffic growth, particularly in emerging markets and for airports
- Efficiency improvements, mainly for the rail segment
- Investment opportunities from auctions, unsolicited bids, privatization

**Risk Factors to Monitor**
- Regulatory review, with potential resetting of regulated rate of returns
- Traffic slowdown

**Best Ideas**
- Toll Roads
- Airports

Global transportation needs are large and represent a meaningful opportunity over the coming years:

**Display 10**

**Aggregate Global Transportation Needs 2017-2035**

<table>
<thead>
<tr>
<th>Sector</th>
<th>2017-2035 USD Trillions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Roads</td>
<td>18.0</td>
</tr>
<tr>
<td>Rail</td>
<td>7.9</td>
</tr>
<tr>
<td>Airports</td>
<td>2.1</td>
</tr>
<tr>
<td>Ports</td>
<td>1.7</td>
</tr>
</tbody>
</table>

Source: McKinsey Global Institute, *Bridging Infrastructure Gaps: Has the World Made Progress?* Report date: October 2017. Forecasts and/or estimates provided herein are subject to change and may not actually come to pass.
A Comment on a U.S. Infrastructure Plan

With the U.S. presidential election coming up, talk of an infrastructure spending plan has once again resurfaced, with candidate Joe Biden advocating for $1.3 trillion in infrastructure spending, and other candidates similarly expressing the need for a significant increase in infrastructure spending. Our view with regard to a federal infrastructure plan in the U.S. remains as before—implementation of an effective plan at the federal level would be challenging, as much of U.S. infrastructure is planned and funded at the state and local municipal level. We do not view a U.S. infrastructure plan as a prerequisite to be bullish on infrastructure equities; however, approval of such a plan would likely be additive to the already favorable fundamental backdrop for most U.S.-located infrastructure assets.

Outside of a federal plan, we continue to see progress in the U.S. on private funding for transportation infrastructure initiatives in particular, with a number of airport and construction groups participating in various airport projects around the U.S. Certainly from a needs perspective, U.S. infrastructure remains a large opportunity, as studies on the state of U.S. infrastructure continue to indicate material deficiencies relative to appropriate levels. According to the American Society of Civil Engineers most recent Infrastructure Report Card, in which America’s cumulative grade was deemed to be a D+ (Poor, At Risk), total spending needs are in the trillions of dollars over the near term.

Outside of the U.S., we continue to see robust opportunities for investment, with sizable government sponsored programs in Australia, various countries in Europe, and broadly in emerging markets.
Valuation Considerations
From a valuation standpoint, we have maintained the view for some time that the infrastructure securities market is neither universally cheap nor universally expensive. We continue to hold this view at the outset of 2020. Some sectors within infrastructure continue to trade near peak valuation levels, most notably the “defensive” areas of utilities and communications infrastructure, but as we have argued in the past, we believe these premium valuations may persist for some time. Outside of these areas, we have a more constructive view on valuation and see ample opportunities to own high-quality assets at discounts to private market infrastructure value. In terms of risks for the sector in 2020 from a valuation perspective, we do view higher interest rates and broader market rotation into “cyclical” companies as potential near-term risks, but this shift has already occurred to some degree. Furthermore, we would reiterate that many areas of infrastructure are likely to benefit from a reacceleration of the economic cycle, should it occur, most notably in the areas of transportation and energy.

Long-term Investment Proposition for Listed Infrastructure and Investment Characteristics
In summary, we remain constructive on infrastructure securities at the outset of 2020 and believe it can play a defensive, stabilizing role relative to investors other equity allocations.

Furthermore, we believe some allocation to infrastructure securities may be particularly prudent in the current environment given the ongoing presence of geopolitical uncertainties and some “late cycle” signs in a number of countries. While an allocation to listed infrastructure securities may be particularly favorable in this part of the economic cycle and with a number of global macro risks still present, it is important to keep in mind that infrastructure securities can play a valuable role within an investor’s overall asset allocation due to a number of characteristics that persist throughout the economic/business cycle:

• FAVORABLE RISK-ADJUSTED RETURNS
  – On a historical basis, global infrastructure securities have generated higher returns with lower volatility relative to global equities
  – Prospectively, infrastructure companies are expected to continue to produce strong, stable cash flows despite general market uncertainty

• ASSET CLASS WITH GROWTH
  – Infrastructure offers a baseline level of growth equal to GDP growth in the countries where the assets are domiciled; in other instances, where there is a secular growth theme, growth can be much higher
  – Infrastructure spending plans in various countries, should they materialize, may provide for growth rates in excess of GDP for assets within those countries

• INFLATION HEDGE
  – On a historical basis, global infrastructure securities have performed better in high inflation environments relative to global equities
  – For many companies, cash flows are explicitly hedged to inflation either through the terms of the regulatory compact or commercial/concession contracts

• AN ABILITY TO GENERATE CURRENT INCOME
  – Global infrastructure securities have frequently offered an above-average dividend yield relative to global equities

In addition, given the ongoing need for developed economies to repair, replace, and augment existing infrastructure, developing economies to construct new networks to meet the needs of their growing populations, and all economies to adjust their infrastructure networks to accommodate and adapt to technological innovation, we anticipate solid growth and return prospects for infrastructure going forward. With their imbedded and largely inelastic demand profile, high barriers to entry, and above market-average growth rates in many asset types and geographic regions, we believe infrastructure securities are poised to continue to provide the favorable risk-adjusted profile relative to other assets that they have in the past.

2 Source: Morningstar, Morgan Stanley Investment Management. Data for the period July 14, 2008 through December 31, 2019. Returns as measured by annualized returns, volatility as measured by quarterly standard deviation. Global infrastructure securities is represented by Dow Jones Brookfield Global Infrastructure Index, global equities by Standard & Poor’s Global BMI Index. The Dow Jones Brookfield Global Infrastructure Index was first calculated on July 14, 2008, at the market close. Past Performance is not indicative of future results. The information shown herein is provided for illustrative purposes only and not representative of any Morgan Stanley product or strategy. It is not possible to invest directly in an index. Investing involves risks including the possible loss of principal. Diversification does not protect an investor against a loss in a particular market; however it allows an investor to spread that risk across various asset classes. Equity securities are more volatile than bonds and subject to greater risks. Companies within the infrastructure industry are subject to a variety of factors that may adversely affect their business or operations. Investments in foreign markets entail special risks such as currency, political, economic, and market risks.
**Risk Considerations**

Diversification does not protect you against a loss in a particular market; however it allows you to spread that risk across various asset classes.

There is no assurance that a portfolio will achieve its investment objective. Portfolios are subject to market risk, which is the possibility that the market values of securities owned by the portfolio will decline. Accordingly, you can lose money investing in this strategy. Please be aware that this strategy may be subject to certain additional risks. Companies within the infrastructure industry are subject to a variety of factors that may adversely affect their business or operations, including high interest, leverage and regulatory costs, difficulty raising capital, the effect of an economic slowdown or recession and surplus capacity, and increased competition. Other risks include technological innovation, significant changes in the number of end-users, an increasing deregulatory environment, natural and environmental risks, and terrorist attacks. In general, equity securities values also fluctuate in response to activities specific to a company. Investments in foreign markets entail special risks such as currency, political, economic, and market risks. Investments in small- and medium-capitalization companies tend to be more volatile and less liquid than those of larger, more established, companies. The risks of investing in emerging market countries are greater than risks associated with investments in foreign developed markets. Non-diversified portfolios often invest in a more limited number of issuers. As such, changes in the financial condition or market value of a single issuer may cause greater volatility. Illiquid securities may be more difficult to sell and value than publicly traded securities (liquidity risk).

**RISK/RETURN DEFINITIONS**

**Standard Deviation** measures how widely individual performance returns, within a performance series, are dispersed from the average or mean value.

**Dow Jones Brookfield Global Infrastructure Index** is a free float-adjusted market capitalization weighted index that measures the stock performance of companies that exhibit strong infrastructure characteristics. The Index intends to measure all sectors of the infrastructure market. The **Standard & Poor’s Global BMI Index** is a broad market index designed to capture exposure to equities in all countries in the world that meet minimum size and liquidity requirements. The index includes developed and emerging market countries. The indexes are unmanaged and returns do not include any sales charges or fees. Such costs would lower performance. It is not possible to invest directly in an index.

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