

August 2019 Opinion

North American¹ Investors and European Infrastructure A Solution for Capital Deployment, Portfolio Diversification and Long-Term Cash Flow Visibility²

When it comes to private infrastructure, North American institutional investors have considerable dry powder to allocate.³ The North American infrastructure market is one of the largest in the world and commonly represents the first choice for domestic investors. However, opportunities in North America are concentrated in the energy sector, and may offer limited scope for portfolio diversification.⁴ Moreover, North American projects are often in the core plus/ value add space, and cash flow may not always match the long-term predictability objectives of institutional investors.⁵

The European infrastructure market, however, may offer a solution to North American investors, supporting portfolio diversification away from energy.⁶ Moreover, European assets in the core/ core plus space often benefit from mature regulatory and concession frameworks, supporting long-term income visibility. In Europe, private infrastructure returns demonstrated a stable performance⁷ due to several factors, including a wider portfolio diversification potential by sector and country, and a larger availability of assets in the regulated or contracted space. In addition, North American investors allocating to European infrastructure denominated in EUR may also gain a premium from currency hedging, improving return expectations further.⁸ With competition concentrated at the larger end of the market in both regions, Europe also offers a wider set of opportunities in the middle market space where we observe less competition and more sensible pricing.⁹

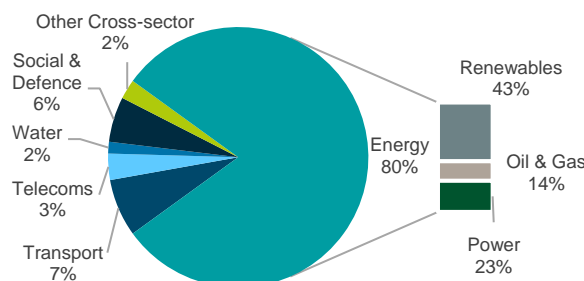
North American Market Focused on Energy

Historically, transaction opportunities in North America have been concentrated in energy-related sectors. Renewables, oil & gas and power projects accounted for about 80% of the total number of transactions achieving financial close between 2009 and 2019, with the majority of these projects in the greenfield space. At the same time, transportation deals accounted for 7% of total transactions, a level materially below the European average, where transportation accounted for over 30%.¹⁰

Looking at the pipeline of upcoming transaction opportunities, investors interested in accessing the North American market today may continue to find limited opportunities for portfolio diversification. Although the pipeline seems more diversified than in the past, energy-

related deals should still account for 64% of the pipeline, while transportation accounts for a limited 13%.¹¹

NORTH AMERICAN TRANSACTIONS (2009 - JULY 2019)
 (NUMBER OF PROJECTS REACHING FINANCIAL CLOSE)



Source: Infrastructure Journal, July 2019. U.S. and Canada transactions only. Data from the Infrastructure Journal transaction database exclude following categories: Mining, Oil & Gas Petrochemical, Oil & Gas Upstream, and Oil & Gas Downstream. Past performance is not indicative of future results.

¹ In this opinion paper, we refer to the United States of America and Canada only.

² Any forecasts provided herein are based on DWS's opinion at time of publication and are subject to change.

³ Based on Preqin database as at 7 August 2019. Past performance is not indicative of future results.

⁴ Based on Infrastructure Journal database, as at July 2019. Past performance is not indicative of future results.

⁵ Core Infra = 'Low Risk' in MSCI Infrastructure Investment Style Matrix, includes brownfield assets in geographically mature markets, with significant component of income yield, predictable and regulated revenues, long-term investment horizon, and an investment grade rating profile. Core+ = 'Moderate Risk', includes brownfield assets with some development risk, in mature markets, with relatively predictable revenues and income and capital, generally contributing equally to total return. Value Add Infrastructure = 'High Risk', includes assets in geographically mature or maturing markets with market-based revenues with a high degree of volatility, capital return component is primary driver of total return. Any forecasts provided herein are based on DWS's opinion at time of publication and are subject to change.

⁶ Based on Infrastructure Journal, as at June 2019. There is no guarantee that the forecast will materialize.

⁷ Based on Preqin, "Preqin Infrastructure Funds Statistics Database", as at September 2018, Notes: Infrastructure fund of funds and secondaries have been removed. Past performance is not indicative of future results.

⁸ Based on DWS proprietary methodology estimating hedging costs on the basis of a three year interest rate swap differential between currency of investor domicile and currency of investment destination, as at 7 August 2019.

⁹ Any forecasts provided herein are based on DWS's opinion at time of publication and are subject to change.

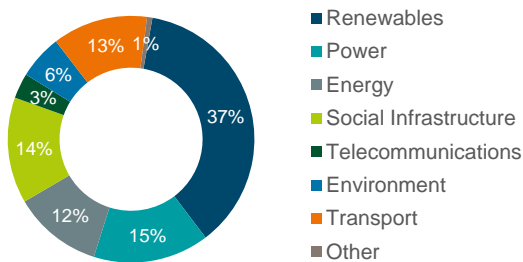
¹⁰ Based on Infrastructure Journal, as at July 2019. Past performance is not indicative of future results.

¹¹ Based on nraNews, as at July 2019. There is no guarantee that the forecast will materialize.

U.S. Public Finance Drives Infrastructure Investment

Today U.S. private infrastructure investment falls short compared with European peers particularly for transportation opportunities, including airports, toll roads and mass transit, but also for water networks and social infrastructure, all sectors that have historically relied on financing from Federal, state, and local governments.¹²

NORTH AMERICAN TRANSACTIONS PIPELINE (NUMBER OF PROJECTS)



Source: InfraNews, as at July 2019. U.S. and Canada infrastructure pipeline only. There is no guarantee that the forecast will materialize. Past performance is not indicative of future results.

Municipal bonds play a key role in funding U.S. infrastructure.¹³ The availability of this competitive source of funding is one of the factors that has limited private funding in infrastructure in transportation. In contrast, the telecommunication sector, along with energy infrastructure – including oil and gas pipelines, thermal power generation, and electricity grids – has benefitted from substantial private investment in the past.¹⁴

To date, most U.S. States have a Public Private Partnership (PPP) framework, but its use has been limited so far, and the regulatory regime varies by state.¹⁵ The PPP market is likely to gain ground over time given recent legislative measures.¹⁶

Canada: A Mature PPP Framework Focusing on Social Infrastructure

Canada has one of the most developed PPP frameworks globally, which has been the key driver behind the development of infrastructure, particularly in Ontario and British Columbia. Canadian PPP projects include mainly greenfield projects, with social infrastructure accounting for the majority of the pipeline.¹⁷

¹² S&P Global, 'Developing U.S. Infrastructure', March 2017.
¹³ MSRB, 'Municipal Securities: Financing the Nation's Infrastructure', 2017.
¹⁴ S&P Global, 'Developing U.S. Infrastructure', March 2017.
¹⁵ Based on InfraNews, Country Factbooks, "USA", as at August 2019. Past performance is not indicative of future results.
¹⁶ Moody's, 'U.S. Public-Private Partnership Market Steadily Growing', 10 March 2016.

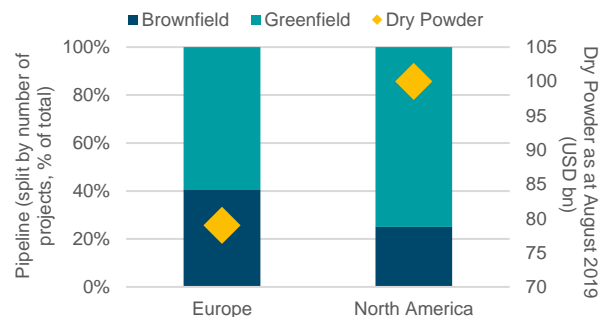
With most PPP projects in the hands of buy-and-hold investors, the secondary market for infrastructure assets is more limited compared to Europe.

In addition to PPPs, the Canadian energy market is particularly large, with power generation and renewables deals accounting for a substantial part of the deal flow. Historically, transportation has accounted only for 11% of transaction volume, while the telecommunication sector accounted for a limited 3%.¹⁸

Europe: An Opportunity for Diversification into a Mature Investment Environment

Europe represents a leading global market for infrastructure investment for its market size and track record, offering opportunities that range from the mature Western European countries, to the fast growing economies of Eastern Europe.¹⁹

PIPELINE BY PROJECT TYPE AND DRY POWDER (COMPARISON BETWEEN EUROPE AND NORTH AMERICA)



Source: InfraNews, Prequin as at July 2019. U.S. and Canada infrastructure pipeline only. There is no guarantee that the forecast will materialize. Past performance is not indicative of future results.

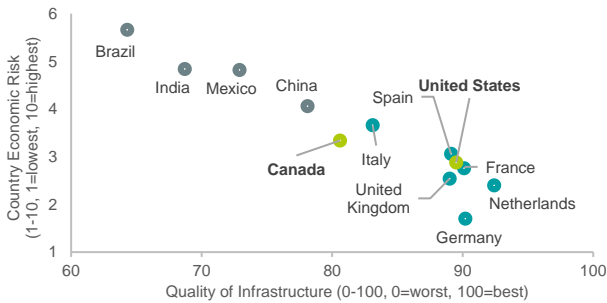
While today competition for good quality infrastructure is high, dry powder in Europe is lower than in North America²⁰, particularly in the middle market. Moreover, Europe offers a dynamic secondary market. The pipeline of European opportunities is more skewed towards brownfield assets in the core/ core plus space, compared with North America, and therefore matches well with investment strategies focusing on long-term income stability.²¹

While Western European markets display a mature investment environment and low levels of country risk, largely comparable to Canada and the U.S., in Europe

¹⁷ Based on InfraNews, Country Factbooks, "Canada", as at August 2019. Past performance is not indicative of future results.
¹⁸ Based on Infrastructure Journal, as at July 2019. Past performance is not indicative of future results.
¹⁹ World Economic Forum, as at August 2019.
²⁰ Based on Prequin, as at July 2019.
²¹ Based on InfraNews, as at July 2019. There is no guarantee that the forecast will materialize.

infrastructure regulation is transparent and generally has a longer track record in comparison to North America.²²

COUNTRY RISK AND QUALITY OF INFRASTRUCTURE (NORTH AMERICA, EUROPE AND EMERGING MARKETS)

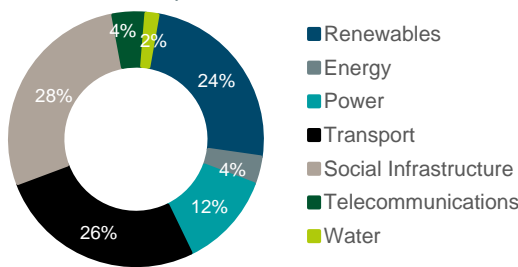


Source: Oxford Economics, World Economic Forum "Global Competitiveness Report 2018", as at August 2019. Past performance is not indicative of future results.

We believe that the European markets with the most relevant fundamentals for long-term infrastructure investment are the United Kingdom, Germany, the Netherlands, Belgium, the Nordics and France, as well as Italy, Spain, and Portugal, which combine slightly higher risk/return potential with conducive market fundamentals.²³ A quality regulatory framework is a key variable for long-term infrastructure investment, providing protection from the volatility of the political cycle, a variable to be considered today in several European markets, including the U.K., and supporting long-term return predictability.

Europe: An Opportunity for Portfolio Diversification Across Sectors

EUROPEAN TRANSACTIONS PIPELINE (NUMBER OF PROJECTS)



Source: Infrastructure Journal, as at June 2019. There is no guarantee that the forecast will materialize. Past performance is not indicative of future results.

Europe represents a key market for global infrastructure investment for both economic and social infrastructure. We currently observe high levels of transaction activity, and the

²² Based on Oxford Economics, World Economic Forum "Global Competitiveness Report 2018", as at August 2019.

²³ Oxford Economics, World Economic Forum "Global Competitiveness Report 2018", as at August 2019.

²⁴ Based on Infrastructure Journal, as at June 2019. There is no guarantee that the forecast will materialize.

²⁵ Any forecasts provided herein are based on DWS's opinion at time of publication and are subject to change.

pipeline of upcoming opportunities is equally deep, particularly across economic infrastructure.²⁴

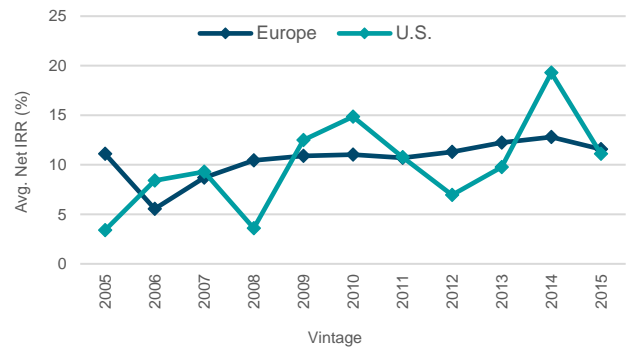
European infrastructure can provide North American institutional investors with an opportunity for portfolio diversification, offering a deep pipeline of transaction opportunities in transportation, a sector where investment opportunities in North America (13% of the pipeline) are more limited compared with Europe (26% of the pipeline).²⁵

Europe: An Opportunity for Return Stabilisation

Historically, private infrastructure funds with North American focus have delivered more volatile returns across different vintages compared to European focused funds.²⁶ This is largely due to the nature of the North American market, which is more skewed towards energy assets that in the absence of a regulated or contracted revenue profile may have a more cyclical performance.²⁷

In Europe, returns demonstrated a more stable performance due to several factors, including a wider portfolio diversification potential by sector and country, and by a larger availability of assets that are regulated or contracted in the long term.

PRIVATE INFRASTRUCTURE FUNDS NET IRRS (2005-2015, BY VINTAGE)



Source: Preqin, "Preqin infrastructure Funds Statistics Database", as at September 2018. Notes: Infrastructure fund of funds and secondaries have been removed. IRR=Internal Rate of Return. For illustrative purpose only. Past performance is not indicative of future results.

Europe: Potential Hedging Gain Opportunity

Today, levered entry return assumptions in mature European markets are in the range of 7.0% to 9.5% (IRR²⁸) for core assets and 9.5% to 13.5% (IRR) for core plus space.²⁹ In addition, looking at total returns, North American

²⁶ Based on Preqin, "Preqin infrastructure Funds Statistics Database", as at September 2018. Past performance is not indicative of future results. There is no guarantee the forecast shown will materialise.

²⁷ Based on InfraNews, Country Factbooks, "USA", as at August 2019. Past performance is not indicative of future results.

²⁸ IRR=Internal Rate of Return.

²⁹ Based on DWS proprietary methodology for ranking unlisted infrastructure sectors as at 30 June 2019. Valuations for 2019 are based on a ten year

investors may benefit from allocating to European infrastructure denominated in EUR and GBP, as returns could be supported by a further hedging gain.³⁰

ENTRY TOTAL RETURN ASSUMPTIONS CURRENCY-HEDGED

(%, AVERAGE 10Y ESTIMATE, ANNUALISED, LEVERED)
RED: HEDGING LOSS, BLUE: HEDGING GAIN, GREY: NO CHANGE

		Investment Destination									
		France	Italy	Germany	U.K.	Spain	Portugal	Sweden	Norway	Finland	Denmark
Investor Domicile Currency	USD	8.8	10.3	8.1	7.6	9.5	10.2	7.2	5.8	8.7	7.9
	CAD	9.0	10.5	8.3	7.8	9.7	10.4	7.4	6.0	8.9	8.1
	EUR	6.8	8.3	6.1	5.6	7.6	8.2	5.2	3.8	6.7	5.9
	GBP	7.9	9.4	7.2	6.7	8.6	9.3	6.3	4.9	7.8	7.0

Source: Based on DWS proprietary methodology for ranking unlisted infrastructure sectors as at 30 April 2019. Total returns for 2019 are based on a ten-year dividend discount model and a terminal value at exit and assume a 50%/50% allocation across core and core plus infrastructure. Dividend yields, leverage, growth, exit assumptions and discount rate vary by country and sector. Hedging cost/ gain estimated on the basis of a three year interest rate swap differential between currency of investor domicile and currency of investment destination as at 8 August 2019, assumed to be rolled over for the remaining investment period (7 years) at the same conditions. Past performance is not a guide to future returns. There is no guarantee the forecast shown will materialise. Forecasts are not a reliable indicator of future returns. Forecasts are based on assumptions, estimates, views and hypothetical models or analyses, which might prove inaccurate or incorrect.

European Strategy: Asset Selection and Middle Market Focus

We believe European private infrastructure will continue to offer a solid risk-adjusted premium over long-term government bond yields. However, not all infrastructure investment opportunities are currently attractive. Liquidity has increased prices in all asset classes, including infrastructure. To seek target returns, asset selection, appropriate due diligence and price discipline are key.

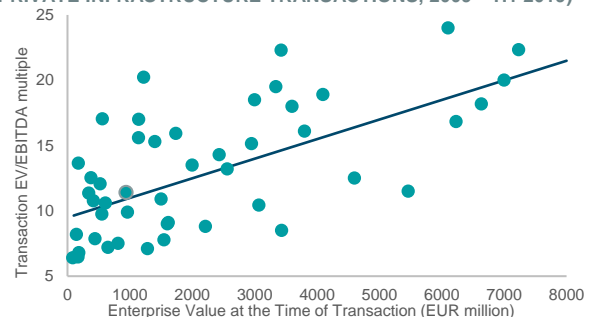
Dry powder is concentrated at the larger end of the market, driven by a growing number of direct investors and infrastructure funds looking to deploy large ticket sizes in competitive auction processes. This is reflected in higher multiples (EV/EBITDA) for transactions at the larger end of the market. We estimate an increase of 0.15x (EV/EBITDA)

dividend discount model and a terminal value at exit. Dividend yields, leverage, growth, exit assumptions and discount rate vary by country and sector. There is no guarantee the forecast shown will materialise.

³⁰ Hedging cost/ gain estimated on the basis of a three year interest rate swap differential between currency of investor domicile and currency of investment destination, as at August 2019. Any forecasts provided herein are based on DWS's opinion at time of publication and are subject to change. There is no guarantee the forecast shown will materialise.

for every additional EUR 100 million in Enterprise Value over the period from 2009 to the first half of 2019.³¹

TRANSACTION MULTIPLES AND ASSET SIZE (PRIVATE INFRASTRUCTURE TRANSACTIONS, 2009 – H1 2019)



Source: DWS, InfraNews, June 2019. For illustrative purposes only. Past performance is not indicative of future results. The information herein reflects our current views only, are subject to change, and are not intended to be promissory or relied upon by the reader. There can be no certainty that events will turn out as we have opined herein.

Over the same period, the average private infrastructure equity investment in North America was at USD 740 million, compared with an average of USD 367 million for transactions in Europe. The smaller average investment size in Europe versus North America may signal that investors should be able to access a greater number of assets in Europe for a given portfolio, supporting further diversification.³²

Therefore, we believe that investors may want to consider assets in Europe, particularly in the middle market where we observe less competition, and may want to focus on limited auction or strategic bilateral transaction processes.³³

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³¹ Source: DWS, InfraNews, June 2019. For illustrative purposes only. Past performance is not indicative of future results. The information herein reflects our current views only, are subject to change, and are not intended to be promissory or relied upon by the reader. There can be no certainty that events will turn out as we have opined herein.

³² Based on transactions in InfraNews from 2009 to July 2019, as at July 2019. Past performance is not indicative of future results.

³³ Any forecasts provided herein are based on DWS's opinion at time of publication and are subject to change.

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