Infrastructure: Anatomy of a Deal

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The current low yielding environment, coupled with ongoing macroeconomic uncertainty, has resulted in many investors looking towards private assets as safe havens.

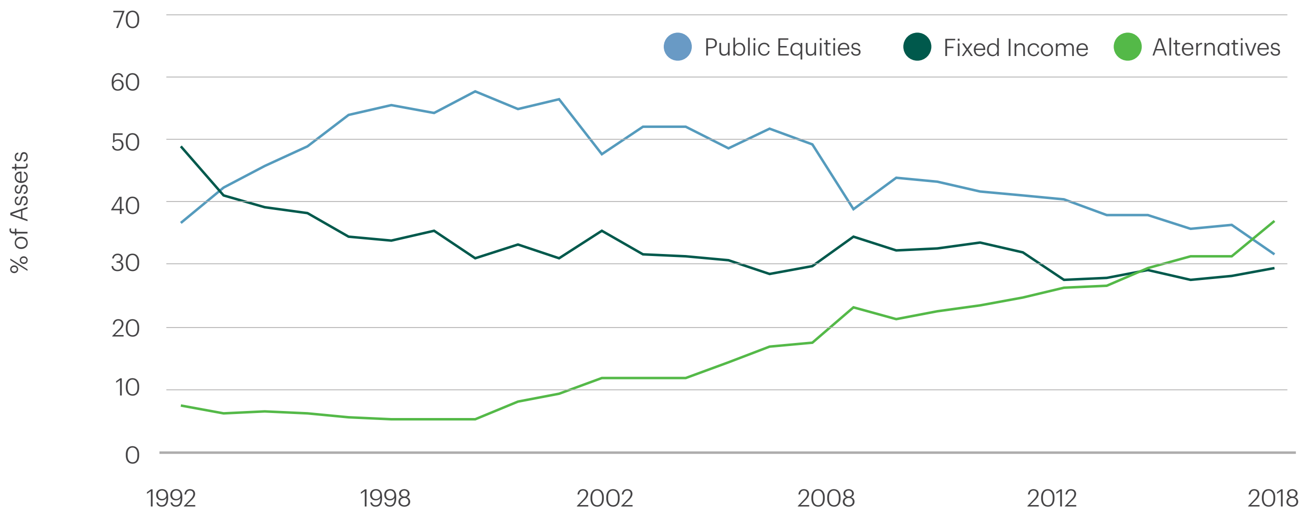
However, investing on a private basis requires extensive due diligence to determine the appropriate compensation for the risks taken. To effectively do this requires a comprehensive methodology that is capable of not only capturing the return potential of private investments, but also assess their risks.

Within this paper, TD Asset Management ("TDAM"/"We") will provide an in-depth overview of our due diligence methodology for private infrastructure debt and equity investments; outlining how we are able to achieve higher risk-adjusted returns for our clients. We will broadly discuss current opportunities within the infrastructure market and assess them through our due diligence process. Finally, we will highlight the performance of our private debt and infrastructure equity offerings, highlighting how they are uniquely tailored to perform in the current macroeconomic environment.

Infrastructure Market Opportunity

The search for yield has seen institutional investors substantially increase their allocations to private assets over the last 20 years. The Pension Investment Association of Canada survey[1] shows that allocations to alternative assets **(see Chart 1)** has recently surpassed allocation to stocks and bonds.

Chart 1: Asset Mix Trends within Canadian Pension Plans

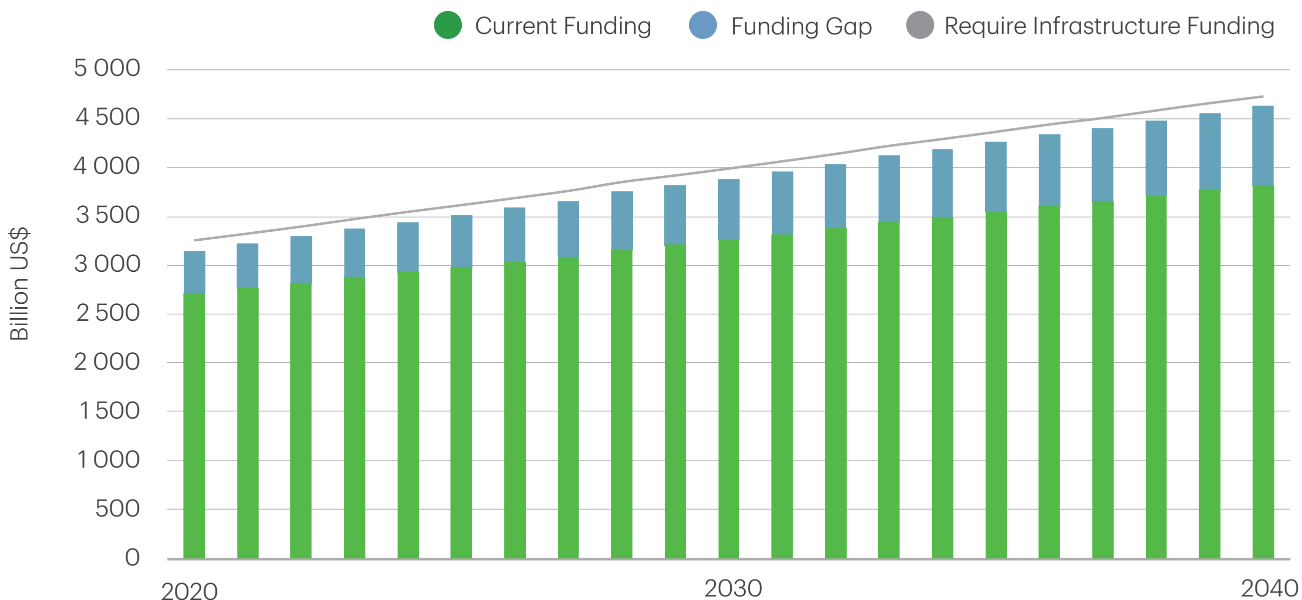


Source: Pension Investment Association of Canada, as of Dec, 31, 2018

More specifically, private debt and equity investments in infrastructure assets have become increasingly popular due to their low risk profile, cash flow predictability and the diversification effect they provide, relative to traditional securities available in the public markets.

But while demand in the infrastructure space is growing, the supply of investible opportunities has lagged. The G20 Initiative[2] estimates that $80 trillion must be invested over the next 20 years to cover the world's infrastructure needs[3] **(see Chart 2)**.

Chart 2: Infrastructure Market Opportunity



Source: Oxford Economics and Global Infrastructure Hub, a G20 initiative.

[1] Pension Investment Association of Canada, 2018 Asset Mix report can be found here. [2] The G20 Global Infrastructure Initiative recognizes the importance of investment in boosting demand and lifting productivity and growth. The Global Infrastructure Initiative shall be a multi-year program to support public and private investment in quality infrastructure. [3] Global Infrastructure Outlook: Infrastructure investment needs 50 countries, 7 sectors to 2040 here.

We define infrastructure as physical assets that provide essential services to surrounding communities with monopolistic attributes that may come from strategic location or aregulatory protection.

Examples include airports, toll roads, regulated utilities, long-term care facilities, independent power producers, etc.

Even with governments globally promoting spending as a means of boosting job creation and economic growth, the gap in infrastructure spending persists. While there is seemingly political will to engage in infrastructure spending, the procurement process may take years and ultimately inhibit the deployment of capital.

The inefficiencies and limited capabilities of public-sector financing has created an opportunity for the private financing of infrastructure projects. For investors, this is good news, as it widens the private transaction opportunity set.

However, investing on a private basis requires extensive due diligence. Rather than rely solely on third-party equity or credit analyst reports available for public investments, managers must conduct their own comprehensive analysis.

The process involves devoting significant time and effort to analyzing every angle of a transaction to ensure risks are properly identified, assessed for materiality, and mitigated before investing.

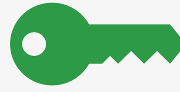
Private Asset Due Diligence

Once an opportunity has been identified, the due diligence process may take several months to complete. Not only does it involve in-depth financial analysis, due diligence also includes site visits, senior management interviews, negotiation of commercial agreements, analysis of the project from a technical point of view, ESG analysis and interactions with independent experts, among others.

Asset Overview

Valuation

ESG



Key Credit Themes

Covenant Quality Assessment

Risk Assessment

After risks have been identified and assessed, and a satisfactory mitigation plan has been formulated, an investor is now able to determine whether they are being properly compensated for the risks taken. In other words, are they paying the right price for this asset? Is the credit spread sufficient, based on a project's credit rating as determined internally by the manager

From Theory to Practice

TD Greystone Infrastructure Fund (Global Master) LP acquired a 51% ownership interest in Ballycadden Wind Farm Ltd., a 24 MW onshore wind farm located in County Wexford, Ireland and **generating revenues under a 15-year power purchase** agreement with a local utility.

TD Emerald Private Debt Pooled Fund Trust participated in the financing of Global Infrastructure Partners' purchase of a 50% interest in Hornsea 1, a 1,200 MW offshore wind farm project located 100 km off the east coast of England in the North Sea near the town of Grimsby. Upon completion, the project will be **the largest offshore wind farm in the world.**

Despite the opposing nature of lenders and borrowers, there is a high degree of consistency across debt and equity when assessing project risks. Because infrastructure is a long-term asset, there is a corresponding long-term alignment of interests between both parties.

Owners and lenders work with a variety of independent consultants to help analyze various aspects of the project. It is important to note that because of the inherent conflict between lenders and owners, each side hires their own advisors including legal, technical, and insurance advisors to name a few.

During the due diligence process, the goal is to **(i) identify risks**; **(ii) assess the potential impact of these risks**; and **(iii) assess whether and how risks can be mitigated or managed**.

In a typical wind farm investment, the below is a high level listing of risks to consider:

- Wind regime
- Construction
- Contractor credentials
- Grid connection
- Legal and tax structure
- Technology and design
- Operations management
- Insurance regime
- Capital structure
- Creditworthiness of revenue counterparty
- Power purchase agreement
- Land access
- Warranties
- Shareholder governance
- Inflation

To illustrate our thinking, we have singled out three risks from the table above and detailed how they can impact a wind farm project and how, through careful due diligence and expert advice, these risks have been managed to our satisfaction.

Wind regime

Risk: Wind turbines generate electricity, however, as we have all experienced, the wind does not below constantly or evenly over time. However, as we have all experienced, the wind does not blow constantly or evenly over time. So the economic viability of a project could be compromised to the extent wind at the site does not blow as strongly or frequently as forecasted. This will be a key driver in determining the proportion of debt and equity in a project.

While the interests of debt and equity investors are aligned over the long-term, reaching a healthy balance between the lenders' desire to maximize the debt service coverage ratio ("DSCR") and owners wanting to maximize returns is one of the most important negotiating points during due diligence.

Impact: An inadequate debt / equity sizing for a given regime may have material economic impact on the lenders and/or owners. For example, revenues may not be sufficient to cover debt service and expenses. Alternatively, electricity generation may not be enough to satisfy the terms and conditions of the power purchase agreement, potentially leading to a contract cancellation.

Mitigate: The risk in wind regime variability is mitigated through the analysis of historical wind data at the site by specialized engineering firms. Owners and lenders each hire their own consultants to validate the energy production and power purchase agreement revenue forecasts derived from the raw data.

In general, lenders size debt based on attaining at least an average DSCR of 1.30x – 1.50x while ensuring a 1.0x – 1.10x DSCR in a 1-in-100-year wind scenario. Combined with healthy coverage ratios, lenders typically require owners to set aside 3 to 12 months of debt payments in a reserve account should the project not perform as expected. Furthermore, lenders may impose a distribution restriction, preventing dividend payments to owners, if the DSCR falls below a certain threshold.

From an owner's point of view, the lenders' requirement may seem onerous but as long as they can achieve their target return – typically in the range of 7% to 11% depending on the stage of the project, its location, size, and technology deployed – agreeing to these terms and conditions ensures that the long-term financing can be put in place.

Power Purchase Agreement

The power purchase agreement ("PPA") governs the quantity, price and period over which electricity is bought and sold. PPAs come in several flavors but in general, the purchaser is a government agency and pays a fixed price over 15 or more years for a specified quantity of energy, whether it is dispatched or not (i.e. "take-or-pay"). PPAs also cover certain technical aspects of the project such as construction milestones, grid connection and the role and responsibilities of each party.

Risks: PPAs are highly structured contracts with detailed default clauses. Firstly, owners and lenders must ensure the power off-taker is contractually obligated to comply with commercial terms agreed by all parties. Secondly, project participants are exposed to the ability of the contract counterparty to make good on payments over the term of the contract.

Impact: As the sole source underlying the project's revenues, if the PPA fails to provide owners and lenders with required legal protections, or the counterparty fails to deliver on its contractual obligations, any resulting disturbance in revenue generation tied to the contract or the counterparty may have a material impact on returns and DSCR.

Mitigate: The contract is thoroughly reviewed, including by the parties' legal counsels and technical advisors, to identify any risk that can materially impact the economics of the project. For example, some PPAs allow the curtailment of power purchases. Owner and lenders' respective technical advisors conduct scenario testing to measure the impact of curtailment on returns and DSCR.

For lenders, potential revenue volatility is generally mitigated through the ratio of debt-to-equity. A sufficient equity buffer ensures that DSCR does not drop to the equity distribution lock-up covenant. For owners, volatile revenues tied to contract structure may lower the purchase price.

Construction

Investing in infrastructure means dealing with either brownfield (i.e. renovating) or greenfield (i.e. building new) risks. On occasion, a project will change hands but generally, the same group of owners and lenders are in a project early for the long-term.

Risk: Cost overruns, delays, faulty or sub-optimal equipment setup, contractor default and other construction-related risks can all have material impacts on the project. Ultimately, the risk is that there is insufficient financial support to bring the project to a state where it can generate revenues under the PPA.

Impact: Depending on the severity of the event, owners may have to put more money in the project and /or the debt may be restructured.

Mitigate: Hiring qualified contractors, choosing the right equipment supplier and having the proper insurance and warranties in place is paramount. Technical advisors review construction contracts, budgets, and technical drawings to ensure that the project can be completed on time and on budget. Lenders advance funds on a cost-to-complete basis, meaning that there should be adequate debt and equity to complete the project. If not, owners must inject more money. In a default scenario, lenders may exercise their right to seize the project and hire a new team to bring the project to completion.

Following the completion of the transaction's due diligence, a detailed memorandum is presented to a committee comprised of relevant experts for discussion. On the private debt side, a transaction needs to demonstrate financial strength supported by adequate proposed terms and conditions in order to be approved by a TDAM 9-member credit committee, who also approves internal ratings on all investment-grade public bonds. This provides a strong indication that: (1) we can expect the principal value to be maintained over the term of the investment, (2) the loan will be repaid in full upon maturity and (3) the transaction poses minimal or appropriate credit risk as applicable to the fund in which it is being included. Once the presentation and question period is completed, the Chair of the Committee calls a motion to approve the transaction.

On the equity side, the transaction is presented to an investment committee consisting of the COO and the CIO of our Alternatives business, as well as our firm's CIO. This committee's unanimous approval is required and committee meetings are broadly attended by members of the entire Alternatives business, bringing a diverse set of views. This provides each transaction with a thorough vetting of all of the risks and merits, including a separate and distinct review of ESG factors that could have a material impact on the asset over its life. We enter each investment with the confidence, acting as a fiduciary for our clients, to own and operate these multi-generational assets for the entirety of their useful lives.

Why we purchased an interest in Ballycadden:

- Wind resource: Strong wind resource in County Wexford, Ireland with an above average net capacity factor well above the EU average
- Contracted cash flows for 13 years with 2 years of operating history and 25 year asset life
- Turbine supplier Enercon, a top tier equipment manufacturer and 5th largest in the world[4] (+10,000 turbines installed globally) with a strong balance sheet, provided long term robust maintenance contract with an availability guarantee
- Institutional validation: Project finance by top tier European bank already in place

Why we provided financing to Global Infrastructure Partners (GIP) to purchase 50% of Hornsea 1:

- Contracted revenues over the term of the loan by a British government entity (Low Carbon Contracts Company)
- Strong and highly experienced owners: GIP is the largest infrastructure investor in the world. Orsted is 50.1% owned by the Danish government and is the largest developer of offshore wind farms in the world
- Strong alignment of interests: Orsted, which owns 50% of the project, is also the constructor and in charge of the operations and maintenance of the project
- Proven technology: Siemens Gamesa[5] is the largest offshore wind turbine supplier in the world
- Robust DSCR ratios based on 6 years of data at the site

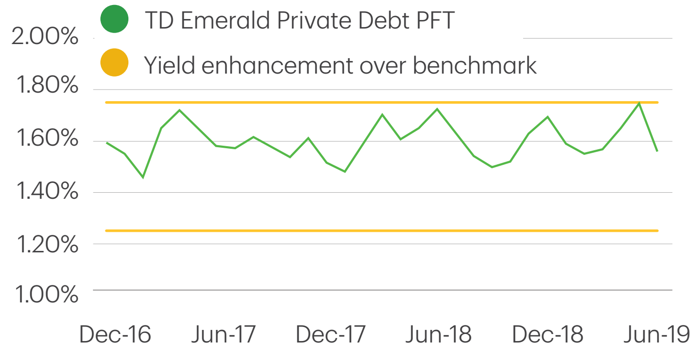
[4] Who were the world's top five wind turbine manufacturers in 2018? here
[5] Siemens Gamesa conditionally awarded largest U.S. offshore wind power order to date: 1.7 GW from Orsted and Eversource, here

The Yield Outcome

Since 2016, TDAM has received over $2.0 billion in private debt commitments. As at September 30th, 2019, TDAM had invested in 49 unique transactions. Through careful project selection and due diligence, the private debt funds have been able to meet or exceed their yield enhancement targets **(see Charts 3a & 3b)**.

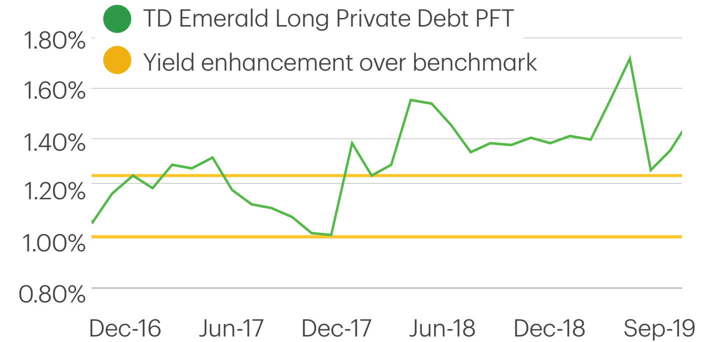
Similarly, the TD Greystone Infrastructure Fund[6] has been successful in building a portfolio that has generated outsized returns with a five year track record of 24.4% **(see Chart 4)** for investors[7]. Currently, the TD Greystone Infrastructure Fund (Global Master) LP holds over 180 individual infrastructure projects across 6 platform investments that were acquired through the successful execution of bilateral, off-market transactions.

Chart 3a: TD Emerald Private Debt PFT



Source: TDAM Internal

Chart 3b: TD Emerald Long Private Debt PFT

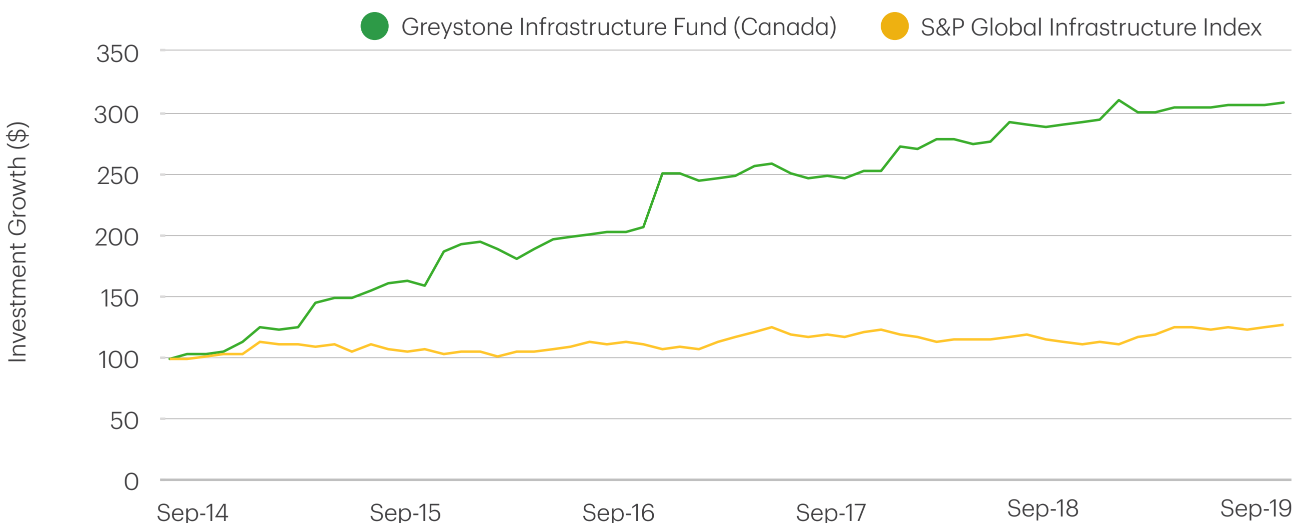


Source: TDAM Internal

Incremental Yield: Our private debt funds have met or exceeded their yield enhancement objectives over their benchmarks

Chart 4[8]: TD Greystone Infrastructure Fund

Chart illustrating the growth of $100 invested into the fund, from inception to Sep-19



Source: TDAM, Bloomberg Financial L.P. The S&P Global Infrastructure Index is not investable. All returns are are Gross of Fees.

Enhanced Return: The TD Greystone Infrastructure Fund has strong long-term performance with a 24.4% 5-year annualized return, as of September 2019.

[6] The TD Greystone Infrastructure Strategy includes TD Greystone as of Nov 1 Infrastructure Fund (Global Master) LP, TD Greystone as of Nov 1 Infrastructure Fund (Canada) LP, and TD Greystone as of Nov 1 Infrastructure Fund (Canada) LP [7] Combination of contracted core asset plus value-add opportunities to generate capital appreciation. [8] The TD Greystone Infrastructure Fund (Canada) LP and the TD Greystone Infrastructure Fund (Canada) LP II (the "Feeder Funds") invests in units of a master fund, the TD Greystone Infrastructure Fund (Global) LP (the "Master Fund"). The Master Fund invests in the allowable infrastructure investments outlined in its Investment Policy. Performance shown represents the performance of the TD Greystone Infrastructure Fund (Canada) LP Class B Shares from September 1, 2014 to December 31, 2014 and TD Greystone Infrastructure Fund (Canada).

Conclusion

The infrastructure sector can offer significant opportunities over the next 20 years as the world needs over $80 trillion in infrastructure investment. As governments have limited resources, TDAM believes that the private ownership and financing of infrastructure assets represents the best way to help achieve incremental yield / return, lower risk and portfolio diversification relative to securities available in the public markets. TDAM has a robust due diligence framework in place and experienced investment professionals who can identify, assess and mitigate risks to ensure that our investors will own and/or finance projects that will help meet their investment objectives. ■

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