

White paper

# RENEWABLE ENERGY DEBT

Accelerating the path to net-zero





## Introduction

Picture a world where energy is abundant, affordable and clean. Imagine an environment where the air we breathe is free from pollution. More renewable energy infrastructure is needed if we want a clean energy world to become a reality. Renewable energy construction debt could help finance this future and accelerate our progress in getting to net-zero.

Recent macroeconomic developments may have also helped. Investors are no longer held back by ultralow interest rates in the choices they make. Interest rates are rising as you can see in figure one.

The source of that yield could also be linked to very different risk factors that typically govern traditional fixed income. This could offer investors significant diversification benefits if the yield they earn is uncorrelated and unique compared to yield earned from traditional fixed income.

One example is renewable energy debt, which is used to construct the renewable energy infrastructure needed for a net-zero future. The additional benefit from investing in this asset class is that it exposes bond investors to yields that are directly earned from financing the construction of a future low-carbon economy.

As a private market asset class, renewable energy construction debt also offers the added benefit of low exposure to public market volatility, further increasing the possible diversification benefits for investors. It is typically secured against the infrastructure it is financing, which helps lower credit risks further. Plus, it is generally short dated, meaning it is frequently rolled over and refinanced, reducing duration risk.

Funding the construction of renewable energy infrastructure is a long-term trend which means that this asset class is set to grow rapidly. Subsequently, credit quality is expected to continue improving over time, while decent liquidity is also offered. Overall, investors are faced with the unprecedented opportunity to play an instrumental role in financing the critical transition towards a low carbon world, which also helps them diversify their portfolios.

Figure 1

### 10-YEAR GERMAN BUND YIELDS ARE NO LONGER NEGATIVE<sup>1</sup>

in %



Investors now have a far better choice of options for where they wish to earn a yield. While previously, investors were forced to take on excessive credit risk for the yield they desired, today they can choose how that yield is earned. They can choose to earn a yield for instance that is sustainable and finances a net-zero emissions future.

<sup>1</sup> Investing.com

**This white paper will be broken into two parts:**

- In **part one** we will focus on the reasons why renewable energy construction debt should be included in a well-diversified fixed income portfolio. This will include examining the unique risk premium investors can expect to earn and how this can add further diversification to a fixed income portfolio. We will cover the benefits of renewable energy construction debt, while monitoring the junior secured higher yielding part of construction debt. Finally, we will look at how renewable energy debt can be added to an investment portfolio as part of a broader investment strategy. This includes the advantages of an evergreen or open-ended fund structure for short-dated loans versus a more traditional closed ended fund structure.
- **Part two** will cover the importance of having an experienced investment team that is able to source and access the best renewable energy construction debt opportunities in the private market. This section will cover the techniques used to assess the quality of the deal flow and the methods used to construct a well-diversified portfolio of renewable energy debt that has ample liquidity. This includes building a debt portfolio that buys, sells and reinvests on a continuous basis in an open-ended fund structure.

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## 1. Part one: The benefits of the asset class

Interest rates have risen significantly following the pandemic. But for more than a decade prior to these interest rate hikes, investors had to weather rock bottom interest rates that had never been experienced before in financial history. During this decade-long period, investors were forced to take on significant amounts of credit risk in a relentless quest for yield.

Thankfully, this era is now over and the pressure on investors to find yield wherever they can has abated. They now have the leeway to recalibrate their portfolios. Interestingly, this not only gives them the ability to earn a decent yield on higher quality debt, but it also offers them a chance to invest in areas they perhaps would not have considered before.

This is where renewable energy construction debt comes in. As the world races towards a low-carbon economy, there is an increasing need for bond investors to help finance this transition. Renewable energy construction debt not only delivers an appropriate yield in the current higher interest rate environment, but it also allows investors to have a positive impact on our future by financing a cleaner energy world.

But first, let's be clear about what we are discussing. We are focusing on renewable energy debt that is used to finance the construction of renewable energy infrastructure (such as solar PV, energy storage and wind). This differs markedly from the long-term operational debt typically associated with the renewable energy debt sector's more mature assets. This form of financing which we will make a case for is short dated, focusing solely on the construction phase and not the operation of the asset itself.

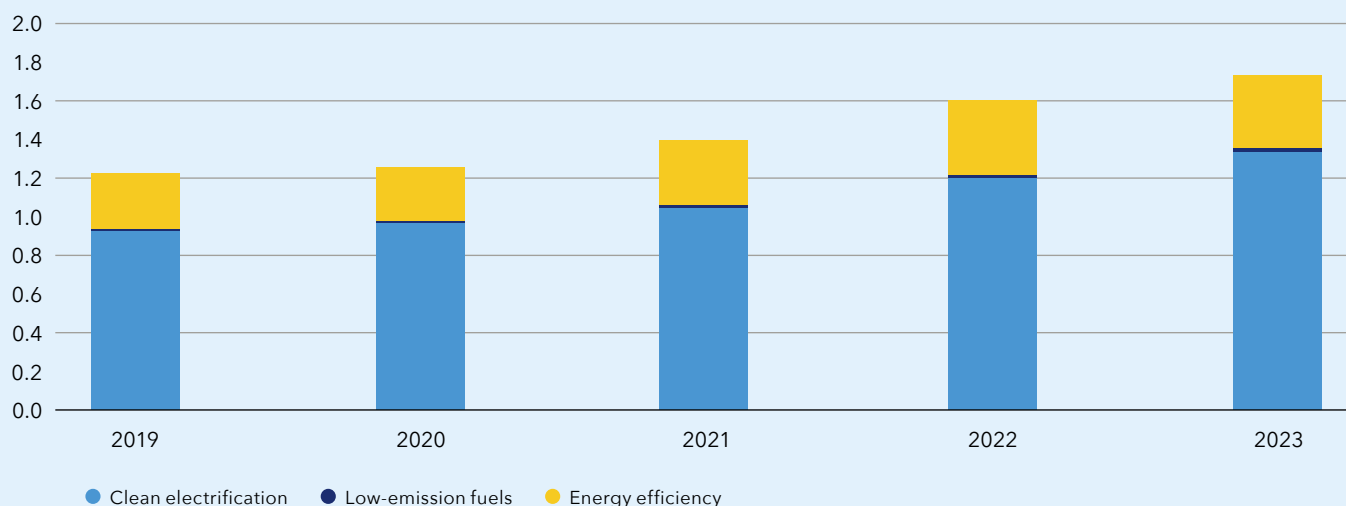
With this in mind, let's continue. We believe there are some powerful reasons why investors should allocate part of their fixed income portfolios to renewable energy construction debt.

### 1.1 A large and relatively liquid market

There is actually no shortage of deal flow opportunities for renewable energy construction debt, and this is expected to increase in the coming years. The European "Green Deal" has already set a very strong political message that Europe plans to reach the ambitious goal of climate neutrality by 2050. Subsequently, the estimated investment in renewable energy infrastructure is likely to reach US-Dollar 1.7 trillion by the end of 2023 (see figure 2).

Figure 2  
**INVESTMENT IN RENEWABLE ENERGY INFRASTRUCTURE  
CONTINUES TO GROW<sup>2</sup>**

Annual investment in US-Dollar trillions



Although most of the interest has so far focused on operational projects, there are investing opportunities at an earlier entry point in the value chain in constructing renewable energy infrastructure. A huge amount of financing is needed and governments themselves cannot provide this financing alone, which is where the private debt market is needed to fill the gap.

Large scale short term financing from the private debt market will be crucial in helping energy companies construct renewable energy infrastructure that will allow them to diversify their energy mix away from fossil fuels. This creates a large and liquid market for short-dated renewable energy debt.

For investors, it means that an experienced and well-connected investment team can construct a relatively liquid and diversified portfolio of short-dated private debt in this market. Duration can be achieved through ongoing reallocation into new projects. In case of an open-ended fund for this rather liquid asset class, investors have the freedom to enter and exit or trim and expand their allocation to renewable energy debt.

### 1.2 Renewable energy debt is usually secured

For more efficient use of equity, renewable energy projects often use senior as well as junior secured debt to obtain funding for the construction phase. This type of debt is typically tied to the physical infrastructure of the renewable energy project itself. This arrangement helps lower the credit risk for investors compared to equity investments. If the borrower is unable to meet their obligations, the asset that backs the debt can be used as a source of repayment. In other words, if things go wrong, the physical renewable energy infrastructure can be sold or utilised to pay back the debt, reducing the risk for the investors.

Additionally, once this renewable energy project is completed, it is expected to generate a steady and predictable stream of cash flows in the future. These calculable cash flows serve as an added layer of security for investors, further reducing credit risk by demonstrating the debtor's potential to service their financial obligations in case the project cannot be sold as planned.

Even if the type of debt is junior, it still holds a superior position to equity investments in the capital structure. This means that in times of economic contraction, or when the project faces financial difficulties, obligations to service this debt through coupon payments are prioritised over any returns due to shareholders, such as dividends. Consequently, this preferential treatment safeguards the interests of debt investors and provides them with a higher claim on the project's future cash flows compared to equity investors.

<sup>2</sup> International Energy Agency. (2023). World Energy Investment 2023: Overview and Key Findings. Paris, France: International Energy Agency. Retrieved from <https://www.iea.org/reports/world-energy-investment-2023/overview-and-key-findings>

In essence, investing in renewable energy construction debt, presents a compelling opportunity for those seeking a robust and sustainable investment at a time when the world is moving towards a low-carbon economy. By being directly tied to the physical infrastructure and its associated future cash flows, and by offering a preferential claim over the project's or company's obligations, it provides a unique combination of risk mitigation and potential return on investment.

### 1.3 Less exposure to public market volatility

Renewable energy debt is also largely shielded from public market whims and is less exposed to the often unpredictable, day-to-day fluctuations experienced in equity markets. This relative insulation from market volatility offers a measure of stability and predictability, which can help an investor dampen down public market volatility within their broader portfolio. It therefore complements portfolios that may already hold asset classes like equities or high yield bonds, by providing an alternative and uncorrelated source of yield.

The other benefit from being a private asset class is that the way risk is managed differs from public markets. Deals are carefully structured and diligently scrutinised and can be more tailored to the needs of the investor, which differs from publicly traded equity and debt.

Detailed due diligence is a hallmark of private debt markets, which offers an additional layer of investor security. The rigorous vetting process that precedes private debt issuance allows investors to have a comprehensive understanding of the underlying project's risks and rewards, which can help lead to more informed investment decisions.

### 1.4 Renewable energy debt supports ESG

This is perhaps the most obvious benefit. Our planet urgently needs to tackle climate change. Nations worldwide have already pledged to dramatically reduce their carbon emissions. Many have pledged to get to net-zero emissions by 2050.

The clock is ticking, our planet is heating up, and while we recognise the need for immediate, drastic measures, these also require substantial financial resources.

This is where renewable energy construction debt can really help. We need to build a vast amount of clean energy infrastructure and time is running out. This is an asset class that can directly impact and aid the rapid decarbonisation of our global economy.

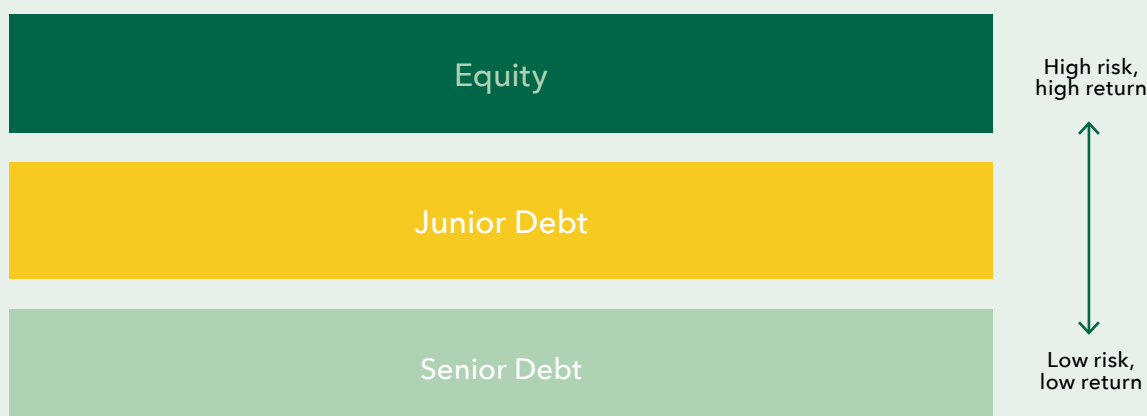
It is poised to become a key component of many future investment strategies, aligning financial objectives with the ambition to generate sustainable, long-term returns.

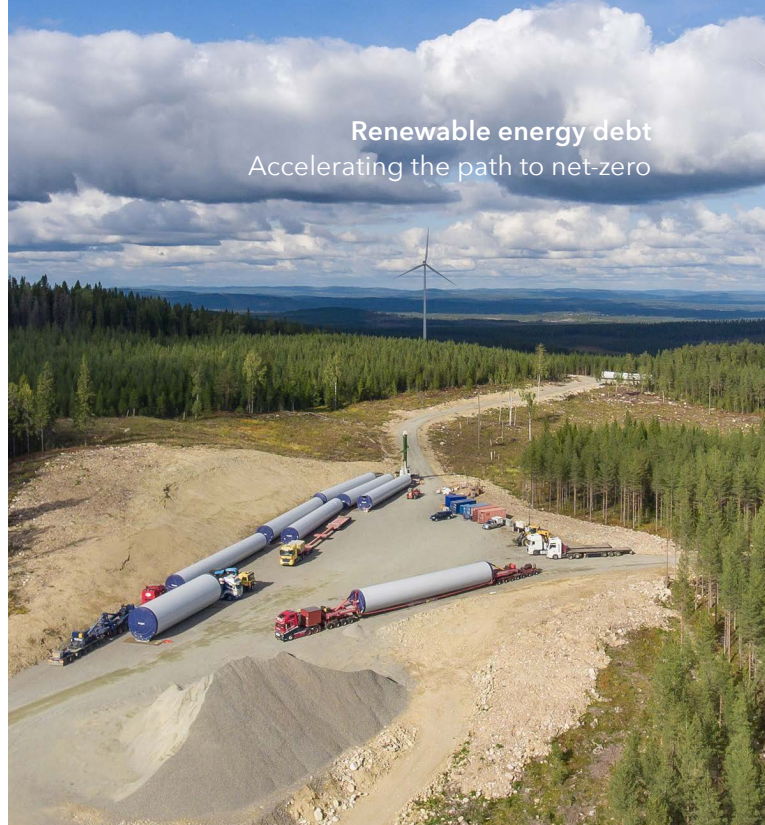
But the potential of renewable energy construction debt stretches beyond its environmental benefits. There are notable social upsides too. The establishment of renewable energy projects ushers in new job opportunities in the areas they inhabit. The transition from fossil fuels to cleaner energy sources can enhance public health by improving air quality and reducing pollution.

In short, renewable energy construction debt is not just a financial instrument - it is a catalyst for a healthier planet and a brighter future for us all.

Figure 3

## JUNIOR DEBT IN THE CAPITAL STRUCTURE





## 1.5 How to build a high yielding renewable energy construction debt portfolio in an open-ended fund

The current rise in interest rates has fundamentally changed the way fixed income investors approach debt. Moving away from the previous era of ultra-low interest rates has given investors more options in the pursuit of higher yields. They are no longer compelled to take on excessive credit risk to achieve the desired returns they are after.

This shift in conditions has made renewable energy construction debt particularly attractive. In addition to the benefits we have discussed earlier, renewable energy construction debt is also incredibly useful for the portfolio construction process. Let's discuss why.

### Flexibility in structuring renewable energy construction debt

Private debt is a versatile asset class that offers significant flexibility in its structure. An experienced investment team has the freedom to negotiate various features and covenants directly with the borrower. This includes the ability to choose between floating or fixed-rate coupon payments based on their objectives. The debt's maturity can also be tailored through negotiation.

Typically, seasoned investment teams have extensive experience in this market, spanning decades. They possess well-established networks and strong connections within the renewable energy industry, ensuring a steady stream of potential deals.

Unlike public market debt, which is subject to issuance seasons and portfolio managers scrambling for desired bond allocations, renewable energy debt can be issued at any time because it is done privately and directly. Furthermore, as the push towards achieving net-zero emissions gains momentum in the coming decades, the supply of renewable energy debt is expected to remain abundant. This is especially true for renewable energy debt that is linked to construction.

Linking back to this point, construction debt is particularly interesting because its characteristics arguably make it a separate asset class to renewable energy debt linked to long-term financing operations. This is a unique asset class that will benefit from increasing liquidity over time due to our long-term transition to a low carbon economy. It is worth mentioning that a well-planned structure of renewable energy projects can significantly reduce construction risks and might therefore even be accepted by senior lenders.

### Matching future liabilities

The other benefit that this asset class in the right fund format offers, is the ability to help insurance companies achieve returns that help match their liabilities.

Renewable energy construction debt not only offers an alternative source of yield that is uncorrelated to other asset classes (such as high yield debt) - it also offers other benefits. Typically, being short dated in nature, this offers a degree of interest rate protection, which helps preserve purchasing power and addresses the long-term objectives of investors.

The other reason why renewable energy debt works well with liability matching is because of the flexibility the investment team has in negotiating directly with borrowers. This allows them to customise the debt they offer to match their investment needs. Coupon payments can be tailored as floating rate or fixed rate, depending on the specific objectives of the investor.

Compared to public market debt, there is also a continuous flow of investment opportunities because it can be issued privately at any time without the constraints of public market quarterly cycles. Furthermore, with the increasing focus on achieving net-zero emissions, the pipeline of renewable energy projects is expected to remain robust, ensuring a steady supply of investment options for investors seeking to match their long-term liabilities effectively.

In an open-ended fund format, investors can maximise the benefits derived from the liquidity and short-term nature of this asset class. This contrasts with a closed-ended fund where investments are held for a fixed term, restricting flexibility. In an open-ended fund, investors have the liberty to choose when to invest and when to withdraw their capital commitments without jeopardising the stability of the fund. This is largely due to the short-term nature of construction debt and the consistent liquidity generated from maturing debt within the fund. Consequently, capital calls within the pre-agreed limits do not pose a risk to the fund. Investors also gain the ability to customise the duration of their investment to suit their preferences.

**Using renewable energy construction debt as an alternative source of risk premium**

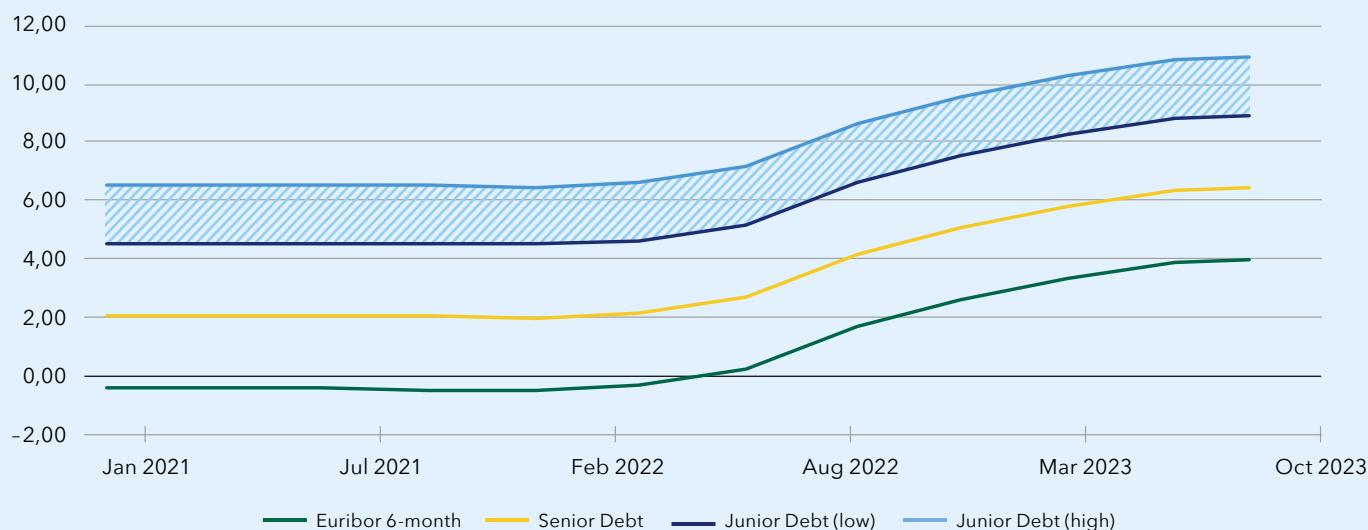
This is not difficult to understand and it is typically what most multi-asset teams would be looking for when considering this as an asset class to add to their portfolio. Unlike traditional fixed income assets, renewable energy construction debt provides exposure to a distinct risk premium connected to financing the construction of renewable energy infrastructure for a future net-zero economy. Sponsors of renewable energy projects often have the opportunity to generate a significant premium once their projects reach operational status. This is why construction debt, which serves as a vital stepping stone to bringing projects to operational status, also command a premium. This is particularly true for the junior secured debt segment, which offers an additional risk premium of 3% and more compared to senior construction debt.

Considering the current interest rate environment, investing in junior debt within this specific asset class can yield gross returns of 9 percent or higher. These potential returns are for risks that are well-understood and can be effectively mitigated through structured financing, asset security and cross-secured portfolio financing strategies.

From a portfolio construction perspective, renewable energy assets in general could form a very important building block in a portfolio that is expected to last as we transition to a low carbon world.

**TYPICAL RENEWABLE ENERGY CONSTRUCTION DEBT MARGINS<sup>3</sup>**

in %







## 2. Part two: How to construct a renewable debt portfolio

To construct a renewable energy debt portfolio well, you need a mixture of skills and resources. Let's run through some of these.

### 2.1 Access to local knowledge and an established network

This is extremely important. An experienced investment team should know this asset class well, but also have access to the right deal flow in the local markets they serve. These are teams that typically have previous experience originating loans and structuring debt for energy companies or banks in traditional lending markets. This gives them an edge when working with renewable energy sponsors looking to finance the construction of renewable energy infrastructure, which traditional banks might not be able to accommodate. Their past work history gives them access to a book of clients who they have helped in the past.

### 2.2 Partnering with experienced sponsors

Creating or buying a construction loan for renewable energy infrastructure also requires a sound understanding of how the industry works. To be successful, experienced sponsors are selected for running these types of projects. The sponsor is involved in every aspect of the construction process from start to finish, and this is to ensure that the finance raised from the loan has been spent properly.

You need to be able to assess the sponsor for the level of experience they bring to the project. The sponsor needs to be able to effectively manage contracts, get the right equipment and secure offtake agreements in the right structure and at the right moment in time.

As a lender, understanding these dynamics becomes crucial for evaluating the robustness of the proposed project.

### 2.3 Portfolio construction with a risk-focused mindset

In a high interest rate environment, renewable energy debt may become less prevalent in operational projects. This due to the potentially lower return expectations caused by the higher costs of leverage, particularly concerning junior debt. As a result, it is probable that a substantial segment of a future junior renewable energy debt portfolio would concentrate on financing short-term construction debt facilities instead.

Such a portfolio would exhibit a high turnover rate, necessitating advantageous deal access to efficiently manage a high volume of deal flows while maintaining a risk-oriented approach. A positive outcome of this scenario is that it fosters substantial market liquidity due to the steady stream of deal flow the portfolio receives. This environment enables the development of long-term or open-ended portfolios, offering investors the flexibility to invest at their discretion and redeem their holdings at a convenient time.

The other benefit is that the portfolio can be constructed in such a way that it offers a unique risk premium for investors. For instance, it could consist of a blend of both floating and fixed rate debt, which allows the portfolio to generate a decent spread over traditional nominal bonds consistently over time.

### 2.4 Examples of potential investment opportunities

There are many different types of renewable energy infrastructure that need financing. Examples include wind power, photovoltaic solar energy, hydropower and battery storage.

There is a lot to consider when financing the construction of these types of projects. For instance, careful due diligence is needed to assess the feasibility of these projects to ensure that they are economically viable. A simple check like ensuring the project owners have the correct permits to begin construction, need to be carried out.

When financing these projects, there also needs to be a clear view on the investment time horizon. The sponsor needs a good understanding of what their future ability to sell these projects at a certain price will be once constructed.

In our own junior debt portfolio, we have successfully financed more than 50 different projects or portfolios for more than a decade. This includes across many European countries as well as in the Asia-Pacific region in developed countries like Japan and Australia. Our technological experience spans from wind and solar, to hydropower and battery storage. Diversification is achieved by spreading investments across various technologies and countries, as well as by including a large number of projects, often grouped together into portfolios, which effectively reduces the risk of defaults.



## Conclusion

Renewable energy construction debt presents a compelling opportunity for investors seeking both financial returns and a positive impact on the environment. By allocating part of their fixed income portfolios to renewable energy construction debt, investors can benefit from several advantages.

Firstly, renewable energy construction debt operates in a large and relatively liquid market. The increasing focus on climate neutrality and the significant investment in renewable energy infrastructure will provide a steady stream of deal flow opportunities in the future. This enables investors to construct a relatively liquid long-term portfolio.

Secondly, renewable energy construction debt is usually secured by the physical infrastructure of renewable energy projects being constructed. This lowers credit risk for investors, as the assets backing the debt can be utilised to repay obligations if the borrower fails to meet them. The anticipated cash flows from completed projects further enhances security during the construction phase and reduces credit risk.

Constructing a renewable energy debt portfolio requires access to local knowledge, an established network, and expertise in structuring debt. Experienced investment teams with deep industry knowledge can source and negotiate deals effectively, while also customising debt to meet the needs of both lenders and borrowers. A risk-focused mindset also supports portfolio construction that aligns with investor objectives and takes advantage of the unique risk premium offered by renewable energy debt during construction.

In summary, renewable energy debt combines financial opportunities with the chance to play a vital role in the transition to a low-carbon world by financing renewable energy infrastructure. It offers investors attractive yields, reduced credit risk, stability and ESG benefits. By incorporating renewable energy debt into their portfolios, investors can contribute to a cleaner and greener economy while diversifying and de-risking their credit portfolios.

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