

Project Finance Bonds: Financing the Future

Introduction & Background

In a time marked by significant shifts in infrastructure demand driven by the energy transition and the development of new technologies, project finance has emerged as a pivotal financing mechanism. Following the 2008 financial crisis, the stricter regulation on banks and their lending requirements has led to the emergence of project finance bonds (PF bonds). These bonds present an innovative solution to avoid such regulatory constraints, thereby allowing firms access to long maturity capital market financing for large-scale projects. In this article we dive into the world of PF bonds, highlighting their differences from conventional debt financing, and spotlighting the key sectors where project finance has been and is beginning to play a central role.

Project finance is typically used for funding large infrastructure and capital-intensive projects, such as energy facilities, natural resource extraction, infrastructure development, and other initiatives with long-term revenue generation. Traditionally, a project finance deal includes both the sponsors, which are the equity investors and companies running the project, and the syndicate of banks that provide the lending facility. This form of financing relies primarily on claims against the financed asset or project's cash flows, rather than on the project sponsor, resulting in a limited or non-recourse loan agreement. Limited recourse lending traces its origins to the financing of ancient Greek maritime voyages, but only became commonplace for large scale infrastructure projects with the development of the North Sea oil fields in the 1970's and 80's.

A PF bond is an umbrella term that covers an array of bond products that have the same non-recourse characteristic as project finance loans. The emergence of PF bonds was preceded by the banking crisis, in wake of the wider 2007-2008 global financial crisis, when banks became subject to much stricter monitoring, disclosure standards and liquidity requirements. Their emergence was also pushed by increased investment in the energy transition, which totalled \$755bn in 2021, a 27% YoY increase. This capital is mainly deployed in “green” projects, often financed by a special type of project bond, green bonds.

But how did the crisis lead to the growing use of PF bonds? Well, traditionally, banks would finance large infrastructure and capital-intensive projects through loan arrangements, but a difficult regulatory environment, exacerbated by Basel III, has seen this source of financing not being able to keep up with the increasing number of green projects, alongside more “traditional” projects, such as infrastructure projects. This is where capital markets came in and provided PF bonds, as a complement to bank financing, and recently even as a more attractive alternative. Historically, PF bonds were only used to finance a project after its construction phase was completed, to avoid assuming too much risk. Recently, there has been a shift in the deployment of PF bonds towards riskier projects, in their initial phases.

The Market for PF Bonds

In 2017, PF bond issuances reached record highs at the time, with global volumes of \$64bn. The three categories of projects financed with PF bonds were power projects (\$25.5bn, 40% of total issuances), infrastructure projects (\$23.3bn, 36.6% of total) and natural resource projects (\$14.9bn, 23.4% of total).

The US led the pack in terms of the value of bonds issued, with \$19bn worth of bonds issued in 2017. The UK is next, with \$8.7bn in the same year. EMEA issuances increased from \$17bn in 2016 to \$25bn worth of PF bonds issued in 2017. Latin America seems to be the largest emerging market for PF bonds, with issuances nearly doubling in the 2016-17 period, from \$5bn to \$9bn. In Brazil, financing infrastructure and energy projects with PF bonds is

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becoming increasingly more common. BTG Pactual [B3: BBTG11], a commercial bank, has committed 50bn reais (\$9.96bn) in financing for energy and infrastructure, split between more than 50 projects. Another example is Banco do Nordeste do Brasil (BNB) [B3: BNBR4], which told BNamericas in a press conference that it allocated 2.07bn reais (\$0.41bn) to finance PV solar mini and micro-generation systems between 2019 and June 2023, all in the form of green bonds.

PF Bonds – Considerations and Characteristics

PF bonds, as mentioned before, are different from corporate finance bonds, having their cash flows directly linked to revenues generated by the specific project it finances. This can include income generated by tolls, power purchase agreements or lease payments. Their issuance typically involves the creation of a special purpose vehicle (SPV) which issues the bonds, commonly named “ProjectCo” or “the issuer”. ProjectCo has the purpose of owning, operating, and financing the project, insulating the risk associated with the entire project, or the part that is financed with PF bonds. This way, the liability of investors, called project sponsors, is limited to their investment in the SPV. This is also done to meet legal requirements regarding PF bonds.

Under US securities laws, the issuance of a PF bond will typically require the preparation of an offering memorandum. Additionally, both ProjectCo and the project will be subject to an in-depth review by several parties. Disclosure requirements also include a negative assurance letter from ProjectCo’s legal counsel and the underwriters (letter that covers a lack of findings and exceptions to the offering, hence the term “negative assurance”) and a comfort letter from the issuer’s auditors.

The covenants for PF bonds are generally less restrictive for the issuer than those stipulated by traditional bank financing. They typically are: to maintain all security in full force and effect; not to dispose of the project assets or amend any of the project documents; to repurchase the bonds in case of a change of control; to comply with certain environmental standards; to maintain a debt service reserve account with a balance of at least the next interest and principal repayment amounts; to restrict the incurrence of additional financial indebtedness; among others.

The timing of the financing varies, depending on the development of the project. It typically begins during the planning phase of the project and extends through the construction, operational and repayment phases. This, of course, implies that payments linked to the PF bond come in the latter stage of the project, the aforementioned repayment stage. In terms of tenor and amortization of the PF bonds, they vary depending on the project’s expected life and revenue-generating capacity.

Lastly, let us turn our attention to the pricing of project bonds. A paper by S.S. Guedes and J. M. Pinto, called “Pricing of project finance bonds: A comparative analysis of primary market spreads” sheds some light on this matter, by comparing PF bonds to corporate finance bonds, using a cross-section of worldwide bonds closed in the 1993–2020 period. The findings of the paper conclude that PF bonds typically have higher spreads, compared to corporate bonds. The unique determinant of these spreads is the debt to total asset ratio of the project. Furthermore, the pricing of PF and CF bonds is determined by firms’ choices between the two, so generally by comparative volumes. This choice is, in turn, determined by exogenous factors such as creditor protection, debt enforcement and the development levels of financial markets in the issuer’s country. Finally, credit ratings seem to be limited in terms of their contribution to the pricing of PF bonds, as investors do not rely exclusively on these ratings.

Why Finance with PF Bonds?

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PF bonds have some distinct advantages to issuers when compared to banks loans. Firstly, their pricing is fixed, allowing issuers to lock in their financing cost for the entire term of the financing, unlike most bank loans. Another advantage is that long-term maturities, often above twenty years, are common with PF bonds, which fit most infrastructure and development projects, which tend to have a similar length. It is also worth mentioning the diversified nature of PF bonds, that have a wide investor base, including insurance companies, asset managers and pension funds. This ensures their resilience as a source of financing. On the covenants' side, these tend to be lighter and less subject to regulatory scrutiny than bank loans. PF bonds are also known to be flexible in terms of amortization schedule, unlike traditional bank loans, and have shorter execution time frames.

There are, of course, drawbacks to financing a project with PF bonds. The two most notable ones are the make-whole provision and the risk of negative carry. Make-whole provisions are usually part of investors' rights, making it possible for them to request early repayment of the PF bonds, which can make refinancing difficult for ProjectCo. Negative carry is a situation whereby the bond coupon exceeds the return on the bond proceeds. This usually happens in the early stages of projects, when funds are yet to be deployed and instead, they are invested in low risk, low return liquid assets. Projects with prolonged planning stages are especially prone to negative carry. There are two main ways of mitigating this risk. The first one is including delayed draws in the structure of the PF bond. This allows the issuer to structure the bond in a way in which proceeds are received, say, on a quarterly basis rather than monthly, with sizes dependant on the construction needs of the project during the following three months. The second method is hybrid financing, which is simply the act of financing the project partly with PF bonds, and partly with traditional bank financing.

The challenges that arise from the deployment of PF bonds can be complex, but they are by no means insurmountable. The key to a successful issuance of PF bonds is the structure of the offering, which needs to be carefully tailored to the project it sponsors.

Project Finance – A Key Element of Green Infrastructure Development

The convergence of the Paris Agreement's climate goals and the geopolitical realities in Europe are fostering a global economic landscape where the green transition has become not just an ecological imperative but a strategic necessity. Certainly, consulting firms like the Boston Consulting Group have emphasized the colossal financial commitment required to achieve the ambitious net-zero emissions target by 2050 — a staggering annual investment of approximately \$4.1tn, equivalent to roughly 4% of the global GDP. Therefore, project finance plays and will play a pivotal role in this process, owing to both the substantial capital required and the unique nature of the investments involved.

The low-carbon power generating sector has seen a significant increase in the use of project financing structures, driven by the need for high availability and access to cost-effective funding, with wind farms, solar power projects and hydroelectric power plants being the main benefactors. One of the most pertinent instances of how project financing and electricity generating projects work in tandem is the Couper Mountain Solar Facility, a solar photovoltaic power plant in Nevada and the largest in the US. Built by Sempra [NYSE: SRE], the initial project was supposed to generate 48MW and cost \$141m, out of which \$40m were tax credits from the US Government, \$12m came in the form of sales tax abatements, \$20m of equity from Sempra, and the rest of it being project finance debt. Another factor that makes project finance ventures like the Couper Mountain Solar Facility appealing is the utilization of long-term power purchase agreements, which are contracts between a power provider and a purchaser that may last up to 25 years. Therefore, the power generated from the project (currently 250MW) is sold to NV Energy, a public company, under a power purchase agreement for a period of 25 years from 2021 to 2046.

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This provides certainty on future cash flows, decreasing investors risk exposure and the probability that the bond repayments will not be paid back.

Innovative Financing Solutions – Green Bonds, Blue Bonds, and Tokenization

Traditional bonds, commonly issued for general financing needs, offer issuers flexibility in fund utilization, while green bonds, with a specific focus on sustainability, restrict the use of proceeds to environmentally friendly projects and require transparent reporting to ensure their positive impact on the environment. Green bonds can be use-of-proceeds bonds, where issuers raise money and promise to spend it on environmentally friendly investments like building wind farms or less-polluting factories. In 2012, \$3bn worth of these bonds were sold, followed by a significant increase to \$50bn in 2014, and a remarkable near \$600bn offering in 2021. Notably, all these bonds maintain their investment-grade status, highlighting the substantial evolution of the market, even when considering that the total fixed income securities market was valued at \$9tn in 2021. Green bonds can also be sustainability linked bonds (SLBs) where the proceeds aren't necessarily linked to green projects but can be used for general corporate purposes. SLBs are appealing for companies due to the "greenium", which lowers the yield the firm must pay on the bond if they meet certain ESG KPIs which are set at the date of issuance. Investors are willing to receive a lower yield, being compensated by the thought that they are helping the environment. This was the case on March 8th, when Rivian Automotive [NASDAQ: RIVN] issued a \$1.3bn convertible green bond with an initial yield of 4.6% and a maturity of 6 years, on par with the 5-year US Treasuries that also yields 4.6%. Similar to green bonds, blue bonds are emerging as a source of financing used by companies to protect and conserve the marine ecosystem.

Digitalization and tokenization processes are also disturbing the debt capital markets. Smart bonds are self-executing bond contracts that use blockchain technology to automate the various stages of a bond's life cycle and execute specific actions based on predetermined conditions without manual intervention. Contrary to expectations, the inaugural blockchain bond was not introduced by an unknown fintech company but rather by the World Bank. In 2018, it issued the "Bondi Bonds," a Blockchain Operated New Debt Instrument, with a value of \$73m, specifically tailored for the Australian market and serving as a demonstrative showcase of its operational capabilities. More recently, the idea of blockchain bonds has been growing in the hearts of Main Street Banks, with BNP Paribas [BIT: 1BNP] structuring and tokenizing a project finance bond on the public Ethereum blockchain. The revenues were utilized to finance solar energy projects through EDF ENR, a non-profit organization that assists companies and people in installing solar panels. With greenwashing being a real concern for green investments, smart bonds are adding another layer of transparency, while also enabling smaller renewable energy projects to raise funds.

Conclusion

In conclusion, PF bonds are innovative financial instruments which have become a critical source for funding large-scale projects, especially as traditional bank financing began facing regulatory constraints and the need for substantial investment in green energy infrastructure grew. PF bonds, characterized by their non-recourse structure, offer several advantages, including long-term maturities, fixed pricing, and a diverse investor base. They play and have played a vital role in financing numerous sectors, including power projects, infrastructure development, and natural resource ventures. New innovative financing solutions, such as green bonds, blue bonds, and blockchain-based smart bonds, are further shaping the variety of project finance products offered. As the world continues its transition to a more sustainable and environmentally friendly future, project finance bonds may prove to be a key element in financing the projects that are needed to drive this transformation. They can provide a robust framework for funding critical infrastructure, and ultimately help foster long term economic growth.

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