15 Project Bonds To Change Your Preconceptions

The Global Project Bond Market

The Capital Markets are an established source of funding for project financing.

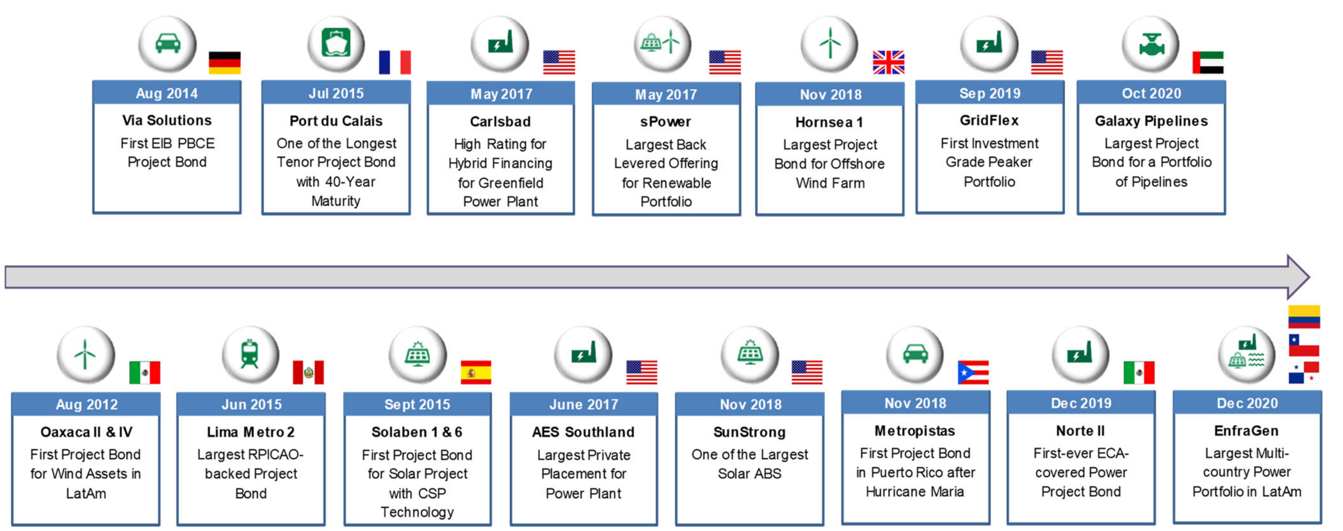
Project Bonds offer distinct advantages to issuers such as long tenor typically matching the underlying offtake agreements, fixed pricing, quick-to-market execution, and deep market for investment. Tapping the Capital Markets has also proved beneficial for investors, allowing them to diversify their investment portfolio.

Throughout the years, the Project Bond market has advanced with the issuance of ground-breaking transactions. Issuances backing new asset classes, new geographies, and innovative structures have developed this market, allowing it to become a reliable source of financing for issuers developing complex infrastructure and energy projects.

Project Bonds have been used to finance user-pay traffic risk toll roads and greenfield power plants in the US, offshore wind farms in Europe, and airports, renewables and oil & gas asset portfolios in Latin America. These are just a few transactions that demonstrate the new frontiers that Project Bonds have reached.

In this article, we review select noteworthy transactions that have shaped the Project Bond market. Below we present an overview of the transactions covered in this article. This list represents only a small sample of some of the transactions that have transformed the market.

Timeline Illustration of 15 Noteworthy Project Bond Transactions



Sources: Crédit Agricole CIB, Project Finance International, IJGlobal, Private Placement Monitor, Moody's, Fitch, Standard & Poor's, and select transaction / offering documents.

CE Oaxaca Dos, S de RL de CV & CE Oaxaca Cuatro, S de RL de CV

The CE Oaxaca Dos, S de RL de CV & CE Oaxaca Cuatro, S de RL de CV (Oaxaca II and Oaxaca IV) issuances supported the refinancing of two wind farm projects, each with 102MW of total installed capacity, located in the Oaxaca region of Mexico. These wind farm transactions were collectively the first-ever Latin American wind projects to tap into the Capital Markets. Prior to these transactions, the majority of wind Project Bond issuances were concentrated in the United States and Europe (See "Project Bond Focus – Wind" for more information). These two transactions highlighted the expansion of wind Project Bond financings into new geographies.

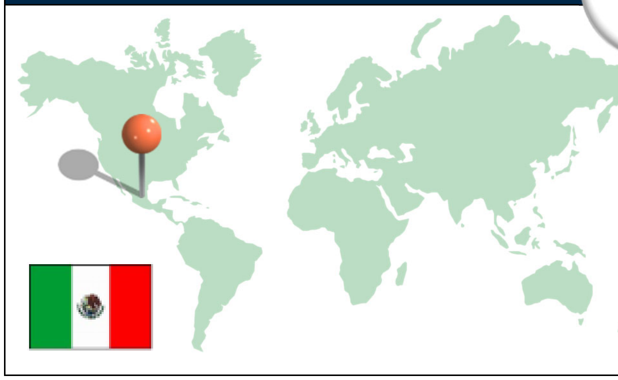
In late 2009, Comisión Federal de Electricidad (CFE), Mexico's state power company and the largest electric utility in Latin America, launched a tender for the construction and operation of three wind projects (Oaxaca II, Oaxaca III, and Oaxaca IV) to ramp up Mexico's wind generation capacity. In March 2010, the three projects were awarded to Acciona Energia SA. Acciona Energia SA was granted an agreement with CFE to operate the wind projects for 20 years in exchange for payments in USD from CFE pursuant to Power Purchase Agreements. The construction of the II and IV projects was partially financed by a bank facility. The projects reached commercial operation in early 2012.

In August 2012, Oaxaca II issued $148.5MM in 19-year 144A / Reg S notes to refinance the original bank facility. The senior secured notes priced at 7.25% and had an average life at issuance of 13 years. The offering was rated BBB- by S&P and Fitch. Concurrently, Oaxaca IV issued $150.2MM in 19-year senior secured notes that also priced at 7.25%. Project III was not included in the 144A / Reg S issuances. The final book for the two offerings included international institutional investors, as well as local investors (Afores, or Mexican pension funds).

Another interesting takeaway of these two bond offerings is that this offering came to market when commercial banks were unprepared to lend to the refinancings of the projects. The sponsor was able to tap the Capital Markets as an alternative and move forward with its refinancing plan.

Credit Agricole Securites was a joint bookrunner for both issuances which were awarded Latin America Deal of the Year award for 2012 by PFI.

Wind Farms in Mexico



Transaction Highlights

Issuer:	CE Oaxaca Dos, S de RL
Date of Issuance:	August 2012
Issuance Amount:	$148.5MM
Use of Proceeds:	Refinance construction financing
Credit Ratings:	BBB- (S&P) / BBB- (Fitch)
Coupon Rate:	7.250%
Final Maturity:	2031
Country:	Mexico
Project Type:	Energy; Wind
Project Sponsor:	Acciona Energia SA
Source of Payment:	Power Purchase Agreement with CFE

Transaction Highlights

Issuer:	CE Oaxaca Cuatro, S de RL de CV
Date of Issuance:	August 2012
Issuance Amount:	$150.2MM
Use of Proceeds:	Refinance construction financing
Credit Ratings:	BBB- (S&P) / BBB- (Fitch)
Coupon Rate:	7.250%
Final Maturity:	2031
Country:	Mexico
Project Type:	Energy; Wind
Project Sponsor:	Acciona Energia SA
Source of Payment:	Power Purchase Agreement with CFE

Why Significant?

With a rating of BBB-, Oaxaca II and Oaxaca IV were the first Latin American wind projects to achieve investment grade ratings and tap the Capital Markets. With the inclusion of local investors in the final order book, Oaxaca II & IV also became the first international Project Bonds to significantly tap local Mexican institutional investors (Afores). The transactions also became the first USD-denominated wind Project Bonds outside of the United States.

Via Solutions Nord GmbH & Co. KG

Via Solutions Nord GmbH & Co. KG (Via Solutions) marked the first greenfield Project Bond Credit Enhancement (PBCE)-backed bonds in the Capital Markets.

The underlying A7 project is the 65km stretch of road north of Hamburg, serving as the main motorway connecting Germany and Denmark. The project consists of the expansion of the A7 from 2x2 lanes to 2x3 and 2x4 lanes. The project is being developed and operated by a consortium of sponsors comprised of Hochtief, DIF, and Kemna. The consortium entered into a standard German PPP contract with the Deutsche Einheit Fernstraßenplanungs - und - bau GmbH, representing the Federal Republic of Germany (the Grantor). The duration of the contract agreement is 30 years from financial close. Construction began in September 2014 and is expected to reach completion in 2018. The construction risk is low compared to similar projects because the construction involves simple upgrades. The contract also includes the maintenance of another stretch of road. The project was procured on a full 100% availability basis, carrying no traffic risk and receiving payments backed by the Federal Republic of Germany rated Aaa, improving the project's credit quality.

In August 2014, Via Solutions issued €429MM in 29-year senior secured notes. The fixed-rate notes have an average life of 16 years and is rated A3 by Moody's. The structure is inclusive of a monthly delayed draw mechanism throughout the 4.5-year construction period and the issuance benefits from the PBCE initiative, backed by the European Investment Bank (EIB). The PBCE backs 20%, or €90MM, of the issuance in the form of an unconditional and irrevocable revolving letter of credit. The PBCE is only available during the construction phase to provide additional liquidity. It serves as a first-loss support if the senior debt is accelerated and will terminate once the project is in operation. The PBCE facility led to a one-and-a-half notch rating uplift on the bonds, which would have had a rating of Baa2, according to Moody's.

The issuance was privately-placed with seven investors and the notes were not listed. The Grantor required that the consortium provide committed offers prior to bidding. Due to this requirement, investors provided commitments several months before close at a fixed spread over mid-swaps.

Toll Road in Germany

Transaction Highlights

Issuer:	**Via Solutions Nord GmbH & Co**
Date of Issuance:	August 2014
Issuance Amount:	€429MM
Use of Proceeds:	Fund the design, construction, operation and management of the project
Credit Ratings:	A3 (Moody's)
Coupon Rate:	Private
Final Maturity:	2043
Country:	Germany
Project Type:	Transportation, Road
Project Sponsor:	Consortium comprised of Hochtief PPP Solutions GmBH (49%), DIF INFRA 3 PPP Luxembourg (41%), and Kemna BAU Andrea GmbH (10%)
Source of Payment:	Availability payments as defined under the PPP contract

Why Significant?

The Via Solutions issuance is significant for several reasons. It was the first German greenfield EIB PBCE Project Bond financing in the Capital Markets. The letter of credit enhanced the construction phase by providing additional liquidity which would become subordinated debt if drawn. The transaction was also notable because it was not listed as the issuance was privately-placed with investors that committed prior to the bidding process.

Lima Metro Line 2 Finance Limited

Lima Metro Line 2 Finance Limited (Lima Metro 2) is one of the largest infrastructure Project Bond offerings in Latin America and the largest RPI-CAO-backed offering to-date. RPI-CAOs ("Retribucion por Inversion – Certificado de Avance de Obras") are a milestone payment, government-sponsored mechanism characteristic of the Peruvian infrastructure financing program. We further detail this compensation regime below.

The bonds were issued to finance the construction of two routes of the subway system in the city of Lima, Peru, along with the related electromechanical equipment. The project involves the construction of 35 subway stations and approximately 35 kilometers of tunnels and courtyards.

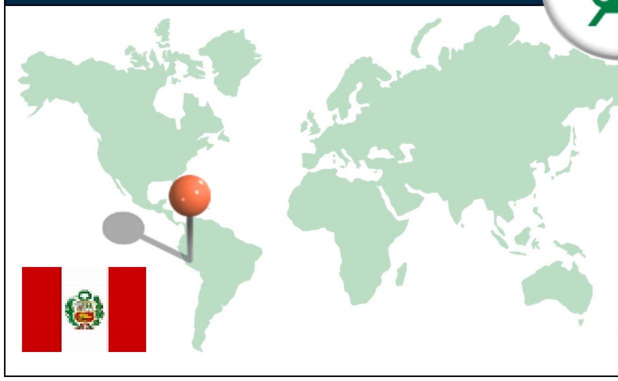
In April 2014, the Peruvian Ministry of Transport and Communications (the Ministry) entered into a concession agreement with Metro de Lima Linea S.A. (a consortium comprised of ACS Iridium, Vialia (FCC), Salini Impregilo, AnsaldoBreda, Ansaldo STS, and COSAPI, and the ultimate equity sponsors of the project) for the construction and operation of two underground railway lines. Through the concession agreement, Metro de Lima Linea S.A. (the concessionaire) will be compensated by the Ministry under an RPI-CAO payment regime.

The RPI-CAO regime is a payment mechanism typical in Peruvian infrastructure transactions under which the concessionaire obtains the right to receive systematic payments as compensation for construction costs incurred for a project. RPI-CAOs are obtained after construction milestones are achieved and progress reports are submitted to and approved by the Ministry. These USD-denominated compensation rights are due and payable following a specified installment schedule and represent an irrevocable and unconditional payment guarantee of the Ministry to the concessionaire. RPI-CAOs are not direct sovereign obligations, but the Peruvian government is obligated to honor their payment.

In June 2015, Lima Metro 2 issued $1,150MM in 144A / Reg S senior secured notes at 5.875%. The 19.1-year notes had an average life at issuance of 12.8 years and are rated Baa1 (Moody's); BBB (S&P); and BBB (Fitch). The notes drew significant interest from Asset Managers and Local Peruvian Investors, with these investor bases comprising the majority of the final order book.

Credit Agricole Securities was a joint bookrunner for the bond offering.

Metro Line in Peru



Transaction Highlights

Issuer:	Lima Metro Line 2 Finance Limited
Date of Issuance:	June 2015
Issuance Amount:	$1,150MM
Use of Proceeds:	Finance construction of a metro line project in the city of Lima
Credit Ratings:	Baa1 (Moody's) / BBB (S&P) / BBB (Fitch)
Coupon Rate:	5.875%
Final Maturity:	July 2034
Country:	Peru
Project Type:	Transportation, Rail
Project Sponsor:	A consortium comprised of ACS Iridium, Vialia (FCC), Salini Impregilo, AnsaldoBreda, Ansaldo STS, and COSAPI
Source of Payment:	RPI-CAO payment regime

Why Significant?

The Lima Metro Line 2 issuance is significant due to its size and structure. The issuance amount reached $1,150MM, making it one of the largest Project Bond offerings in Latin America to-date. The offering also featured a distinct structure, being the largest RPI-CAO-backed Project Bond, shedding light on this Peru-specific payment regime. Participation from local Peruvian investors was significant with this investor pool accounting for approximately 30% of total allocations.

Société des Ports du Détroit

The Société des Ports du Détroit issuance (Port du Calais) marked the first 40-year Project Bond.

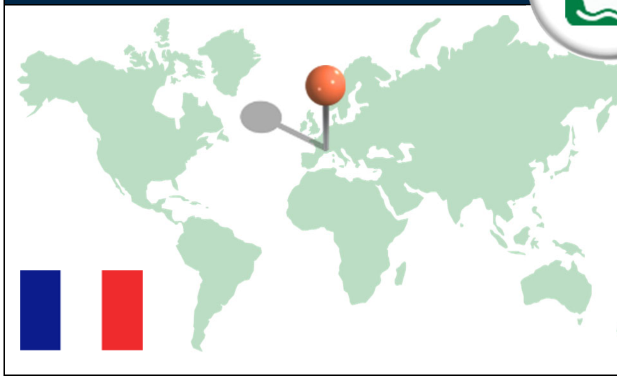
The offering backed the expansion project to create a deep-water basin next to the existing port in Calais, alongside new berths, a railway, and multi-modal links. The construction is to be performed under a fixed-price EPC contract with a consortium inclusive of Bouygues, Spie Batignolles, and Jan de Nul. The project is expected to reach commercial operations at the end of 2020 and benefits from an underlying concession agreement with the region of Nord-Pas-de-Calais (the Grantor) for a total of 50 years. The concession has a dual structure in which the concessionaire and project company are distinct entities. The port concession is inclusive of merchant risk based on passenger and freight tariffs, but the project company is shielded from such risks as it has a revenue structure most similar to a PPP-style availability-based payment regime. The majority of the project financing was provided at the project company level, funding the construction/expansion efforts rather than the concession operation.

In July 2015, Port de Calais issued €504MM in 40-year senior secured notes. The privately-placed notes have a structure in which pricing increases after the construction is completed. The notes have a coupon of 3.70% during construction which increases to approximately 4.50% three years after the initiation of the operation phase. The private placement offering was entirely placed with one investor. It should also be noted that the notes are fully amortizing (i.e. there is no balloon payment due at the end of the 40-year term).

The offering benefits from support from the EIB through the PBCE program. The PBCE kicks in only after construction and backs approximately 10% of the notes. It acts as a first-loss cover and as an additional source of liquidity during the project's initial years of operation. The transaction is believed to be investment grade, even without the additional EIB enhancement product.

The structure also includes a liquidity facility to be drawn in case of cash shortfalls. The Grantor guarantees the debt service of the senior secured notes and agrees to refill the liquidity facility, if needed.

Port in France



Transaction Highlights

Issuer:	Société des Ports du Détroit
Date of Issuance:	July 2015
Issuance Amount:	€504MM
Use of Proceeds:	Finance the expansion of a port in France
Credit Ratings:	--
Coupon Rate:	3.700% (construction phase); 4.50% (operation phase)
Final Maturity:	2055
Country:	France
Project Type:	Infrastructure; Port
Project Sponsors:	Meridiam, CDC, the Cambre de commerce et d'industrie Côte D'Opale, the Chambre de commerce et d'industrie Nord de France
Source of Payment:	Availability-based payments as defined under the concession agreement

Why Significant?

The Port du Calais issuance is significant because of its long-term issuance backed by the concession granted. The 50-year concession granted by Nord-Pas de Calais opened the door for the first 40-year Project Bond. The bond's uncommon structure is also noteworthy, as the bond features increased pricing and strong guarantees after construction is completed. This pricing flexibility was facilitated by the presence of only one investor.

Solaben Luxembourg S.A.

The Solaben Luxembourg S.A. (Solaben) issuance was the first solar Project Bond issued in Spain.

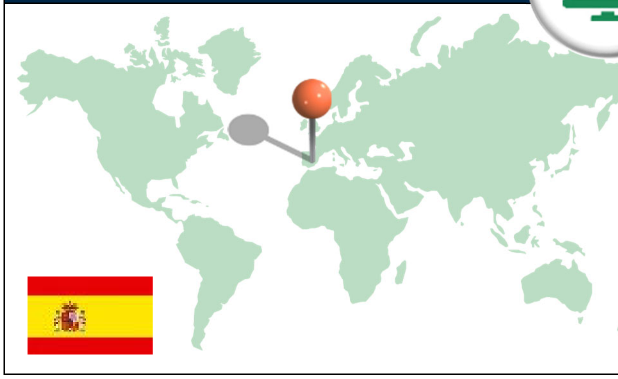
The Solaben 1 & 6 projects are two 50MW solar thermal plants located in the Extremadura region of Spain. The two concentrating solar power (CSP) plants use parabolic trough technology and began operations in the summer of 2013. A CSP project collects and concentrates heat from the sun using highly reflective mirror panels and focuses the heat onto a receiver filled with a highly conductive fluid, such as synthetic oil. This fluid is then used to create steam and power a conventional steam turbine to generate electricity.

The projects receive subsidies until 2038 under a Spanish payment regime. The new pool-plus-premium regime allows the projects to benefit from a stable payment framework, which outlines that 70% of the projects' revenues are unrelated to demand or production. The regime also includes a mechanism that guarantees a rate of return and removes all risk of pool price discrepancies. The projects benefit from technology that has a long track record. The transaction boasts a conservative (55/45) debt to equity ratio and strong coverage ratios.

In late August 2015, Abengoa SA was struggling as its share price fell approximately 25% after concerns surrounding the leverage of the company. As part of its strategy to raise cash and shore up its capital structure, it agreed to sell the Solaben 1 & 6 projects to its US-listed yieldco (at the time, Abengoa Yield) for €277MM.

In September 2015, Solaben issued €285MM in fixed-rate senior secured bonds. The issuance has a maturity of 19 years and an average life of 10 years. The fully amortizing bonds featured a coupon of 3.758% and were rated BBB by S&P. The bond issuance was fully subscribed by insurance companies.

CSP Solar Farms in Spain



Transaction Highlights

Issuer:	**Solaben Luxembourg S.A.**
Date of Issuance:	September 2015
Issuance Amount:	€285MM
Use of Proceeds:	Refinance construction costs related to projects and cover transaction & other costs
Credit Ratings:	BBB (S&P)
Coupon Rate:	3.758%
Final Maturity:	2034
Country:	Spain
Project Type:	Power; Solar
Project Sponsor:	Atlantica Yield
Source of Payment:	Spain's pool-plus-premium regime

Why Significant?

The Solaben issuance is significant most notably as the first Project Bond for a Spanish solar project. Solaben was also the first solar Project Bond transaction in Europe backed by parabolic trough technology.

Carlsbad Energy Holdings, LLC

The Carlsbad Energy Center Project Bond was issued alongside a bank Term Loan, in one of the largest bank/bond hybrid transactions to-date for a greenfield asset. The offering received a strong investment grade rating.

The Carlsbad Energy Center is a 519MW natural gas-fired power plant located in Carlsbad, California. The project is designed to operate as a peaker and will help balance intermittent supplies and integrate the growing supply of renewable power in the region following the retirement of the San Onofre Nuclear station. The sponsor, NRG Energy Inc., secured a 20-year Power Purchase Tolling Agreement (PPTA) with San Diego Gas & Electric Company (SDG&E), a regulated utility. The PPTA was structured as an availability-based contract with SDG&E contracting 100% of the capacity and providing all fuel requirements. The project will be constructed over a two-year period.

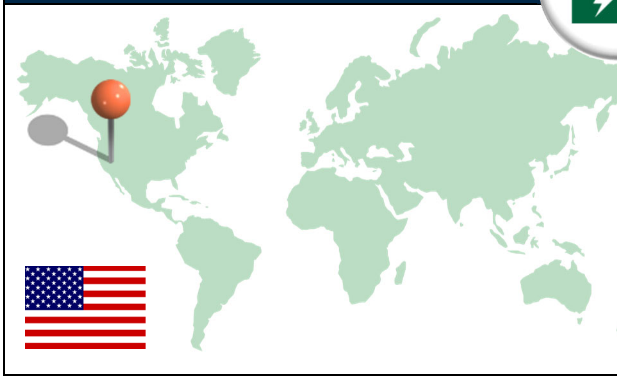
In May 2017, Carlsbad Energy Holdings, LLC issued $407MM in 21.4-year senior secured notes alongside a $194MM 10.4-year Term Loan to finance the construction of the project. The Term Loan is fully amortizing over the first years of the PPTA, when the notes are interest-only. The notes fully amortize over the following years of the contract, after full repayment of the Term Loan. The two tranches of debt are *pari-passu* as lenders and investors share the same collateral package.

The senior secured notes had an average life at issuance of 16.6 years and included a delayed draw. The offering was rated strong investment-grade despite the relatively long construction period.

The Project Bond attracted a large number of institutional investors and was oversubscribed, allowing the issuer to tighten pricing. The final book was mainly composed of U.S. insurance companies. Of note, one leading Asian investor participated in the transaction, representing their first ever investment in a Project Bond for a US asset.

Credit Agricole Securities was a lead placement agent for the offering.

Peaker Plant in the United States



Transaction Highlights

Issuer:	Carlsbad Energy Holdings, LLC
Date of Issuance:	May 2017
Issuance Amount:	$407MM
Use of Proceeds:	Fund construction costs & financing fees; cover interest during construction; and reduce equity commitment
Credit Ratings:	Investment grade
Coupon Rate:	4.120%
Final Maturity:	2038
Country:	United States
Project Type:	Peaker
Project Sponsor:	NRG Energy, Inc.
Source of Payment:	Power Purchase and Tolling Agreement with SDG&E

Why Significant?

The transaction represents one of the largest bank/bond hybrid transactions in the Project Bond market and achieved a strong investment-grade rating despite exposure to construction risk. The offering was largely oversubscribed, priced well inside initial guidance, and attracted a large number of institutional investors, including one first-time Asian investor.

AES Southland

The AES Southland Project Bond was issued alongside a bank Term Loan, in the largest US Private Placement of a Project Bond to date.

The project comprises two combined cycle natural gas-fired power plants with combined capacity of 1,284MW, as well as a 100MW battery storage facility. All assets are in California. The gas-fired plants are the Alamitos Energy Center, expected to replace the existing AES Alamitos Generating Station in Long Beach, and the Huntington Beach Energy Project. Both power plants are due to come online in 2020. The 100MW battery storage asset is to be collocated with the Alamitos Energy Center and a dedicated facility to store the batteries will be constructed. Kiewit Power Corp is acting as EPC contractor.

In 2014, AES was awarded 20-year Power Purchase Agreements (PPAs) by Southern California Edison (SCE), to provide 1,284MW of combined cycle gas-fired generation and 100 MW of battery-based energy storage. Under the PPAs, 100% of the capacity will be sold to SCE in exchange for a fixed monthly capacity fee. SCE is also responsible for providing natural gas.

In June 2017, AES Southland issued $1,475MM in 22.0-year senior secured notes under a 4(a)(2) US Private Placement format, alongside a $492MM 10-year Term Loan. Both tranches of debt are *pari-passu* and fully amortizing.

Both tranches were well received in the Capital Markets and Bank Market, and were over-subscribed.

Power Plants in the United States

Transaction Highlights

Issuer:	AES Southland
Date of Issuance:	June 2017
Issuance Amount:	$1,475MM
Use of Proceeds:	Fund construction costs & financing fees; cover interest during construction; and reduce equity commitment
Credit Ratings:	BBB
Coupon Rate:	4.500%
Final Maturity:	2040
Country:	United States
Project Type:	Peaker
Project Sponsor:	AES Corporation
Source of Payment:	Power Purchase Agreement with SCE

Why Significant?

The transaction represents the largest US Private Placement of a Project Bond to-date and allowed the sponsor to finance construction, fully monetize the PPA, and eliminate refinancing risk.

sPower Finance I, LLC

sPower tapped the Project Bond market to refinance a portfolio of utility-scale solar and wind projects in one of the largest renewable portfolio financing in recent years.

The Project Bond issuance is backed by 41 utility-scale renewable power projects domiciled in seven US states with aggregate capacity of 565MW. Of the 41 projects, 39 are photovoltaic solar projects (425MW) and two are utility-scale wind power projects (140MW). All 41 projects were in-service and commenced commercial operations before the notes were issued and are all contracted with creditworthy counterparties under long term PPAs. The portfolio utilizes a diverse set of top tier technologies and O&M is provided by experienced parties for each project. The portfolio represents approximately 44% of sPower's 1.3GW operating portfolio at the time of the financing.

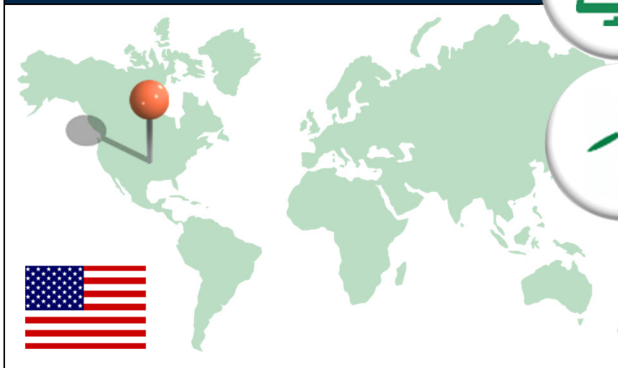
In November 2017, sPower Finance I, LLC, a special purpose vehicle Holdco, issued $421MM in 19.0-year senior secured notes. The 4(a)(2) / Reg D offering has a 11.0-year average life and was rated investment-grade. The notes are fully-amortizing over contracted cash flows with minimal exposure to merchant revenues. The proceeds were mainly used to refinance approximately $300MM of existing debt at the project levels.

Most of the projects were partially financed with Tax Equity. The notes were issued by a HoldCo receiving distributions associated with the Managing Members' interest in the respective Tax Equity funds. The underlying Tax Equity funds included IRR-based partnership flip structures and the due diligence focused on evaluating cash flow mechanism under different irradiation and wind estimates.

Despite the relative complexity of the structure, the offering was significantly oversubscribed and attracted a diverse group of US private placement investors.

Credit Agricole Securities was a co-placement agent for the offering.

Solar and Wind Portfolio in the United States



Transaction Highlights

Issuer:	sPower Finance I, LLC
Date of Issuance:	November 2017
Issuance Amount:	$421MM
Use of Proceeds:	Refinance existing debt; pay swap breakage costs & fees & expenses
Credit Ratings:	Investment grade
Coupon Rate:	4.550%
Final Maturity:	2036
Country:	United States
Project Type:	Solar; Wind
Project Sponsor:	sPower
Source of Payment:	Power Purchase Agreements with creditworthy counterparties

Why Significant?

The sPower issuance is significant given the size of the underlying portfolio and the combination of solar and wind assets. It is also one of the largest Project Bonds issued on the back of Tax Equity funds, demonstrating investors' expertise in analyzing complex back leveraged transactions.

SunStrong 2018-1, LLC

SunPower Corp ("SunPower") and Hannon Armstrong Sustainable Infrastructure Capital Inc ("Hannon Armstrong"), created a joint venture, SunStrong Capital Holdings LLC ("SunStrong"), to acquire interests in a portfolio of solar leases originated and maintained by SunPower's affiliates.

SunStrong issued $400MM notes under the 144A format, secured by the aforementioned portfolio consisting of more than 37,500 U.S. residential solar leases to refinance existing debt obligations. This inaugural Asset Backed Notes for this issuer refinances a portfolio consisting solely of solar panels provided by SunPower.

In addition to providing the solar panels, SunPower and its affiliates will continue to operate and maintain the portfolio throughout the tenor of the notes.

The leases are owned by various Tax Equity funds, most of them with partnership flip structures, and Tax Equity investors include leading financial institutions.

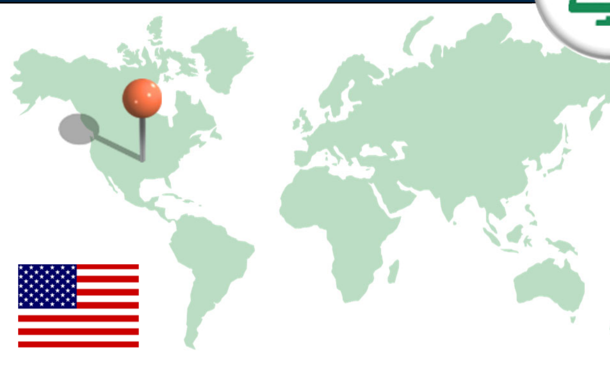
The notes were issued in a single tranche rated A by Kroll, reflecting a conservative advance rate, structural enhancement features, and strong underlying credit risk. The portfolio was composed of leases signed with creditworthy homeowners, demonstrated by the high average FICO score of the pool above 750.

Moody's awarded a GB1 (Excellent) green rating to the offering, their highest possible score, underlying the strong green attributes of the transaction. The portfolio is indeed estimated to generate 474,346 MWh of clean energy and offset 221,368 metric tons of CO_2 annually, which is equivalent to the annual electricity consumption of over 23,900 US households.

This transaction represents one of the largest solar ABS to-date and confirms the continued market appetite for this growing asset class.

Credit Agricole Securities was a joint bookrunner for the offering.

Portfolio of Solar Leases in the United States



Transaction Highlights

Issuer:	SunStrong 2018-1, LLC
Date of Issuance:	November 2018
Issuance Amount:	$400MM
Use of Proceeds:	Refinance a portion of the existing debt; pay fees and expenses incurred in connection with the offering, and provide distribution to sponsors
Credit Ratings:	A (Kroll)
Coupon Rate:	5.680%
Final Maturity:	2048
Country:	United States
Portfolio:	Residential Solar Leases
Project Sponsors:	SunStrong Capital Holdings LLC, indirectly owned by SunPower Corp (51%) and Hannon Armstrong Sustainable Infrastructure Capital Inc. (49%)
Source of Payment:	Revenues associated with 37,568 Residential Solar Leases with high FICO homeowners

Why Significant?

The SunStrong issuance is significant given the size of the transaction and the size of the underlying portfolio of solar leases. It is one of the largest solar ABS issued on the back of Tax Equity funds, demonstrating investors' expertise in analyzing complex back leveraged transactions.

Hornsea 1 Offshore Wind

The Project Bond issued to finance the partial acquisition of the Hornsea 1 Offshore Wind Project by Global Infrastructure Partners (GIP) from Ørsted represents the largest transaction for a greenfield offshore wind farm to-date. It scales the Walney Extension project in the U.K. Irish Sea that was initiated by Ørsted last year to open up the debt capital market to its large offshore financing programme.

When the construction will be completed in 2020, Hornsea 1 will have almost twice the capacity of the record-holding 659 MW Walney Extension project. Hornsea 1 will include 174 Siemens Gamesa turbines and cover an area of 407 square kilometres located 120 km from the Yorkshire coastline. It will be the first and smallest of three projects that Ørsted is planning for the area.

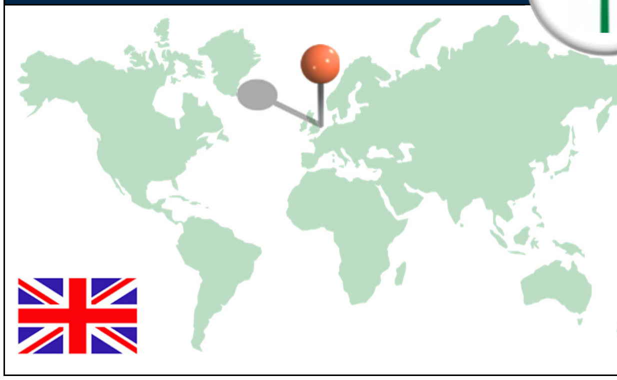
GIP has acquired a 50% stake in Hornsea 1 for £4.5BN ($5.8BN), with a £2.95BN debt package, the largest ever assembled for a European renewable energy project. The multi-tranche financing includes £1.95BN in senior secured notes, £700MM in senior bank loans and a £250MM mezzanine facility. The transaction benefited from the Danish support related to the co-sponsor Ørsted through the Danish ECA, EKF, which provided debt guarantees with £400MM covered for both Project Bonds and Project Loans, and the Danish PFA pension which provided the mezzanine tranche.

The transaction benefits from an EPC construction guarantee, O&M is provided by Ørsted and the power sales are realized through contract for difference. The tenor of the bonds, which is 16.5 years, mirrors the length of Hornsea's contract for difference.

The Project Bonds are split between CPI-linked notes and fixed-rate notes tranches.

The offering was significantly oversubscribed and all the investors bids had to be downsized.

Offshore Wind Farm in the United Kingdom



Transaction Highlights

Issuer:	Hornsea 1 Offshore Wind
Date of Issuance:	November 2018
Issuance Amount:	£1,950MM
Use of Proceeds:	Finance development and construction costs & transactions costs
Credit Ratings:	BBB
Coupon Rate:	3.500% (fixed-rate tranche)
Final Maturity:	2036
Country:	United Kingdom
Project Type:	Wind
Project Sponsor:	Ørsted & Global Infrastructure Partners
Source of Payment:	Contract for Difference

Why Significant?

The Hornsea 1 Project Bond is the largest offering for an offshore wind farm, confirming investor appetite for the asset class. It also demonstrates how complex construction periods can be mitigated by fully-wrapped EPC agreement and the benefits of ECA's involvement.

Autopistas Metropolitanas de Puerto Rico, LLC

Autopistas Metropolitanas de Puerto Rico (“Metropistas”) is engaged in the operation and maintenance of Puerto Rico Highway 22 (“PR-22”) and Puerto Rico Highway 5 (“PR-5”) pursuant to a toll road concession agreement until 2061, with the Puerto Rico Highways and Transportation Authority (“PRHTA”). The toll roads span approximately 87 km.

Metropistas is a consortium between Abertis Infraestructuras (“Abertis”), a leader in toll roads and infrastructure development, operations, and management, and GS Infrastructure Partners, (“GSIP”), Goldman Sachs’ main vehicle for private equity investments in infrastructure, and one of the largest infrastructure fund managers globally.

Despite the difficult economic situation of the island and the devastating impact of Hurricane María in September 2017, the toll roads have continued to perform well, with traffic remaining robust year-over-year. PR-22 and PR-5 are the main commuter arteries for the most robust economic centers of the island; which has supported Metropistas’ strong financial performance since its inception and immediate rebound following Hurricane María.

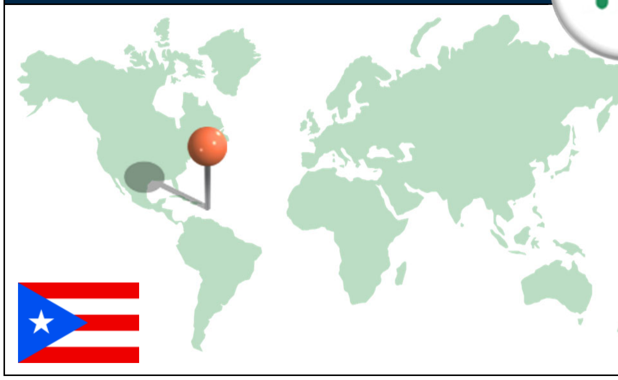
Metropistas issued $181MM in 20-year fully amortizing senior secured notes in February 2019, with a following $120MM issuance with similar terms in May 2019. Both transactions were placed in the 4(a)(2) market and issuance proceeds were used to repay existing bank facilities.

The first notes were placed among US insurance companies while the second tranche also included local Puerto Rican investors.

These transactions are the first project bond issuances in the Puerto Rican infrastructure industry since the beginning of the economic recession and the devastation following hurricane María.

Credit Agricole Securities was a lead placement agent for the offering.

Toll roads in Puerto Rico



Transaction Highlights

Issuer:	Autopistas Metropolitanas de Puerto Rico
Date of Issuance:	February 2019 and May 2019
Issuance Amount:	$301MM in two issuances
Use of Proceeds:	Refinance existing debt and pay transaction costs
Credit Ratings:	BBB- (S&P) / BBB- (Kroll)
Coupon Rate:	Private
Final Maturity:	2038
Country:	Puerto Rico, United States
Projects Type:	2 Toll roads
Project Sponsors:	Abertis Infraestructuras, SA and GS Infrastructure Partners
Source of Payment:	Toll collections

Why Significant?

The Metropistas issuance is significant given that it is the first bond issuance in the Puerto Rican infrastructure industry since the beginning of the economic recession and the devastation following hurricane María, demonstrating market’s appetite for Puerto Rican investments in the infrastructure industry.

GridFlex Generation, LLC

The GridFlex Project Bond was the first investment-grade Capital Markets offering for a 100% peaker portfolio located in the United States, and provides a framework for future merchant power transactions in the US.

GridFlex Generation, LLC issued $377.7MM in senior secured notes under the 4(a)(2) private placement format in September 2019. The notes were partially amortizing with a 11.3-year maturity and a 7.4-year average life. Proceeds were mainly used to repay project-level bank debt facilities.

Rockland Capital, LP (“Rockland Capital”), a private equity firm owning more than 4 GW of generation capacity across the United States, is the sponsor of the transaction.

The issuance is secured by interests in an approximately 1.5 GW portfolio composed of three simple cycle natural gas peaking power plants located across three states (Illinois, Ohio and Indiana) and two zones of PJM (Regional Transmission Organization (“RTO”) and Commonwealth Edison (“ComEd”)). The portfolio is composed of operating peakers with stable and reliable operating performance since their commercial operation dates.

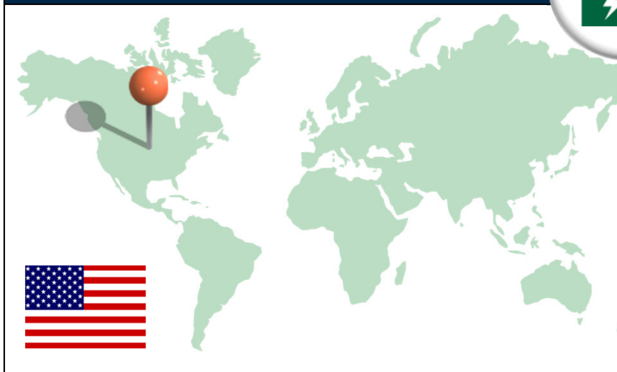
The portfolio offers diversification in terms of regulatory matters as well as markets conditions. The peakers benefit from availability-driven capacity payments, contracted revenues in the form of energy margin and capacity contracts, ancillary revenues, and merchant energy revenues.

In addition to typical project finance features (including debt service reserve account and distribution test), The structure includes a capacity reserve, whose funding is triggered by PJM auction results each year.

The issuance was placed in the 4(a)(2) / Reg D market and the notes were rated BBB- by Kroll.

Credit Agricole Securities was Joint Lead Placement Agent in this innovative transaction, which received “North American Refinancing Deal of the Year” award by IJGlobal for 2019.

Power Plants in the United States



Transaction Highlights

Issuer:	GridFlex Generation, LLC
Date of Issuance:	September 2019
Issuance Amount:	$378MM
Use of Proceeds:	Refinance the existing bank debt; pay swap breakage costs; and pay fees and expenses incurred in connection with the offering
Credit Ratings:	BBB- (Kroll)
Coupon Rate:	Private
Final Maturity:	2030
Country:	United States
Project Type:	Peaker Portfolio
Project Sponsor:	Fund managed by Rockland Capital
Source of Payment:	Availability-driven capacity payments, contracted revenues in the form of energy margin and capacity contracts, ancillary revenues; and merchant energy revenues

Why Significant?

The Gridflex transaction represents the first investment-grade Capital Markets offering for a 100% peaker portfolio located in PJM, and provides a framework for future merchant power transactions in the US.

Norte II - KST Electric Power Co.

Norte II represents the first-ever KEXIM guaranteed Project Bond (Covered Tranche) and also the first-ever ECA-covered Power Project Bond.

In December 2019, KST Electric Power Co. (a Mexican special purpose company controlled by Korea Electric Power Company, “KEPCO”) issued $401MM in senior secured, non-recourse notes to refinance then-outstanding bank facilities related to the Norte II power plant in Mexico – a 450MW combined cycle asset fully contracted with state-owned utility Comision Federal de Electricidad (CFE). The notes were issued in two tranches, as follows:

- $250MM, 3.30% notes due 2037, benefiting from a full, irrevocable and unconditional financial guarantee from Korea’s Export-Import Credit Agency (“KEXIM”);
- $151MM, 5.70% notes due 2037, without any form of external credit enhancement.

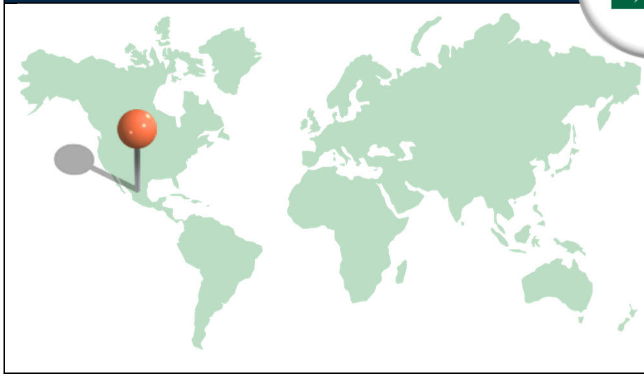
The credit enhancement provided by KEXIM to the $250MM covered tranche was structured to conform with international capital markets standards, thus ensuring that investors could deem credit risk fully transferred to the guarantor, equating the offering’s implied credit rating to KEXIM’s. This was the first-ever Project Bond guaranteed by KEXIM and the first power Project Bond, globally, to benefit from an ECA guarantee.

The transaction was unrated and placed under a 4(a)(2) US Private Placement format with a select group of buy-and-hold institutional investors in Asia, the US, and Europe.

The offering monetizes a long term, USD-denominated PPA awarded to Norte II in 2011 in the context of Mexico’s independent power producer (IPP) framework.

Credit Agricole Securities was Sole Lead Placement Agent for this ground breaking transaction, which received “Latin American Power Deal of the Year” award by IJGlobal for 2019.

Power Plants in Mexico



Transaction Highlights

Issuer:	KST Electric Power Co.
Date of Issuance:	December 2019
Issuance Amount:	$401 million in two tranches as follows: • $250MM, KEXIM-guaranteed • $151MM uncovered
Use of Proceeds:	Refinance the Issuer’s previous indebtedness and cover transaction-related costs
Credit Ratings:	Unrated
Coupon Rate:	• 3.300% for the KEXIM-guaranteed notes • 5.700% for the uncovered notes
Final Maturity:	2037
Country:	Mexico
Project Type:	Combine Cycle Gas Turbine (“CCGT”) power plant
Project Sponsor:	KEPCO (56%), Samsung Asset Management (34%) and Techint S.A de C.V. (10%)
Source of Payment:	Payments by CFE per the USD-denominated PPA between the Norte II CCGT (owned and operated by the Issuer) and CFE

Why Significant?

This landmark transaction represents the First-ever KEXIM guaranteed Project Bond (Covered Tranche) and also the first-ever ECA-covered Power Project Bond.

Galaxy Pipeline Assets BidCo

After having sold a 40% interest in its portfolio of oil pipelines to KKR and Blackrock in 2019, Abu Dhabi National Oil Company (ADNOC) sold in 2020 a 48% interest in its portfolio of gas pipelines to a consortium of investors including Global Infrastructure Partners ("GIP"), Brookfield Asset Management ("Brookfield"), Singapore's sovereign wealth fund GIC ("GIC"), NH Investment & Securities ("NH I&S"), Ontario Teachers' Pension Plan Board ("OTPP") and Snam for $10.1BN. The consortium put in place a $8.0BN bank facility as a bridge-to-bond to acquire the portfolio in the summer and closed a $4.0BN project bond in November to partially refinance the bank facility.

The issuing entity entered into two 20-year contracts with ADNOC (a 100% state-owned oil and gas company): a lease contract for 38 gas pipelines and a pipelines use & operation agreement. Under these agreements, ADNOC pays a fixed tariff per MMbtu with a ship-or-pay minimum volume commitment and takes all operating expenditures and maintenance risk. The pipelines portfolio has 10.5 billion standard cubic feet per day of sales and injection gas capacity and 161,314 tonnes per day of natural gas liquids capacity.

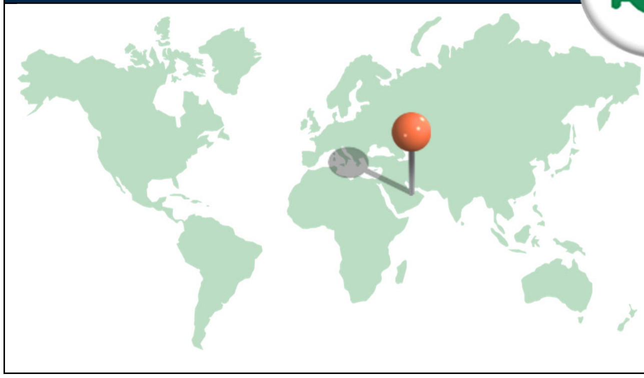
The project bond transaction comprised three amortizing tranches as follows:

- $1,100MM due in September 2027 with a 4.1-year WAL priced at a 1.75% coupon.
- $1,550MM due in March 2036 with a 11.5-year WAL priced at a 2.625% coupon.
- $1,350MM due in September 2040 with a 4.1-year WAL priced at a 3.250% coupon.

The notes priced with a premium over the UAE's sovereign (proxy for the offtaker) in the high 70 bps while rated similarly at Aa2 by Moody's and AA by Fitch. The notes have a minimum and average DSCR of 1.08x.

Credit Agricole CIB acted as Joint Lead Manager for this transaction, which received "Middle East and Africa Infrastructure Deal of the Year" award by PFI for 2020.

Power Plants in UAE



Transaction Highlights

Issuers:	Galaxy Pipeline Assets BidCo
Date of Issuance:	November 2020
Issuance Amount:	$4 billion in three tranches as follows: • $1,100MM in 7-year senior secured notes • $1,550MM in 16-year senior secured notes • $1,350MM in 20-year senior secured notes
Use of Proceeds:	Partly refinance the bridge to loan used to acquire the portfolio, hedge breakage costs and cover transaction-related costs
Credit Ratings:	Aa2 (Moody's) / AA (Fitch)
Coupon Rate:	1.750% / 2.625% / 3.250%
Final Maturity:	2027 / 2036 / 2040
Country:	UAE
Projects Type:	Gas pipelines
Project Sponsor:	GIP, Brookfield, GIC, NH I&S, OTPP and Snam
Source of Payment:	Fixed price pipelines use & operation agreement with ADNOC

Why Significant?

This transaction is the largest ever project bond backing pipeline assets. It demonstrates investors' appetite for assets located in Middle East.

EnfraGen Latin American Portfolio

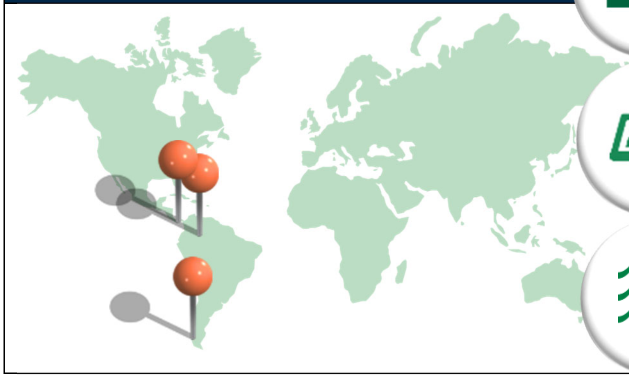
EnfraGen Latin American power portfolio was 2020's largest Latin American project finance offering. The $1.7BN bank / bond hybrid financing backs a 1.7GW portfolio comprised of 19 power assets owned by EnfraGen LLC across Colombia (Baa2 / BBB- / BBB-), Chile (A1 / A+ / A-) and Panama (Baa1 / BBB / BBB-). The portfolio was financed with a 10-year bullet $710MM Project Bond tranche due in December 2030. The senior secured notes received a split investment grade (BBB- by S&P) and non-investment grade rating (Ba3 by Moody's). The notes are pari passu to a $725MM 5-year project finance loan, and share the collateral package, including all assets and accounts related to the transaction.

The underlying portfolio benefits from diversification at multiple levels: the assets' offtakers, revenue types, operating status and geography, but also the resources used to generate electricity.

- Offtakers - The assets in the portfolio are exposed to a diversified mix of creditworthy counterparties including government owned entities.
- Revenue Type – reliability charges (37% of cash flows) and generation sales (24%) in Colombia, capacity payments (19%) and regulated stabilized energy regime for PMGD assets (14%) in Chile, government regulated PPA and merchant revenues in Panama (6%).
- Operating status – limited exposition to construction risk for 475 MW out of the total 1.7GW of capacity representing about 10% of the portfolio's expected cashflows.
- Geography – 61% of the portfolio's revenues come from assets in Colombia, while a third comes Chile and only 6% comes from Panama.
- Resources – The portfolio mixes thermal (reciprocating engines, open cycle diesel-fueled combustion turbines and combined cycle gas plants) and renewable assets (PV solar plants and run-of-the-river hydropower plants). The installed capacity relies mainly on Gas (47%) and Diesel (42%) fuels while the remaining capacity comprises Solar (9%) and Hydro (2%) assets.

The transaction includes a cash sweep mechanism starting in 2026 to reach 75% of the bond amount to mitigate the refinancing risk related to the bullet nature of the notes.

Power Plants in Colombia, Chile and Panama



Transaction Highlights

Issuers:	EnfraGen Energia Sur SAU / EnfraGen Spain SAU / Prime Energia SpA
Date of Issuance:	December 2020
Issuance Amount:	$710 million
Use of Proceeds:	Refinance the underlying projects existing debt, finance the acquisition and construction of certain assets, fund O&M reserve and cover transaction-related costs
Credit Ratings:	Ba3 (Moody's) / BBB- (S&P)
Coupon Rate:	5.375%
Final Maturity:	2040
Country:	Colombia, Chile and Panama
Projects Type:	Various type of power plants (gas-fired, diesel-fired, solar and hydro)
Project Sponsor:	EnfraGen LLC (Glenfarne Group and Partners Group)
Source of Payment:	Various type of payments (reliability charges, generation sales, capacity payments, regulated stabilized revenues, regulated PPA and spot sales)

Why Significant?

This groundbreaking transaction is the largest multi-country power portfolio in Latin America. It received PFI's LatAm Power of the Year Award and illustrates investors' appetite for project bonds backing diversified portfolio across investment-grade countries in Latin America.

PROJECT BOND TEAM CONTACTS

New York

Crédit Agricole Securities
1301 Avenue of the Americas
New York, NY 10019

Michael Guarda
Managing Director, New York
Head of Financing and Funding Solutions Americas
michael.guarda@ca-cib.com
Phone: +1 212 261 7681
Mobile: +1 347 899 5427

Leo Burrell
Managing Director, New York
Head Infrastructure Capital Markets Americas
leo.burrell@ca-cib.com
Phone: +1 212 261 7143
Mobile: +1 646 441 1495

Emeka Ngwube
Managing Director, New York
Head Project Bonds Americas
emeka.ngwube@ca-cib.com
Phone: +1 212 261 7889
Mobile: +1 646 639 9514

Thibault Webanck
Director, New York
Project Bonds Americas
thibault.webanck@ca-cib.com
Phone: +1 212 261 7885
Mobile: +1 646 942 1014

Michelle Morand
Vice President, New York
Project Bonds Americas
michelle.morand@ca-cib.com
Phone: +1 212 261 3394
Mobile: +1 646 370 9599

Diane-Charlotte Simon
Associate, New York
Project Bonds Americas
diane-charlotte.simon@ca-cib.com
Phone: +1 212 261 7472
Mobile: +1 347 514 4792

Paris

Crédit Agricole CIB
12 place des Etats-Unis
92547 Montrouge Cedex

Alexandre Vigier
Managing Director, Paris
Global Head Financial & Operating
Asset Securitization
alexandre.vigier@ca-cib.com
Phone: +33 1 41 89 6759
Mobile: +33 6 75 21 7813

Patrick-Henri GEST
Executive Director, Paris
Head Infrastructure Capital Markets EMEA
patrick-henri.gest@ca-cib.com
Phone: +33 1 41 89 2698
Mobile: +33 6 28 41 3413

Marion Thorel
Executive Director, Paris
Project Bonds EMEA
marion.thorel@ca-cib.com
Phone: +33 1 57 87 2769
Mobile: +33 6 34 08 8262

Virginie Boutrouille
Executive Director, Paris
Project Bonds EMEA
virginie.boutrouille@ca-cib.com
Phone: +33 1 41 89 2145
Mobile: +33 6 09 01 0890

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Crédit Agricole Corporate and Investment Bank (Global Investment Banking)
12 place des Etats-Unis
92547 Montrouge Cedex
Tel. +33 1 4189 8500

Crédit Agricole CIB (or Credit Agricole Securities (USA) Inc.)
1301 Avenue of the Americas
New York, NY 10019
Tel. (212) 261-7000
www.ca-cib.com

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