

# Projects Plus<sup>+</sup>

FALL 2019

POWER & RENEWABLES | INFRASTRUCTURE | OIL & GAS | NATURAL RESOURCES

Welcome to the latest edition of ProjectsPlus, our newsletter for clients of Milbank's Project, Energy and Infrastructure Finance Group.

In project development, innovative financing, acquisitions, and dispute resolution, the diversity of activity this past year is stunning. Our clients have kept us busy, and for that we remain grateful.

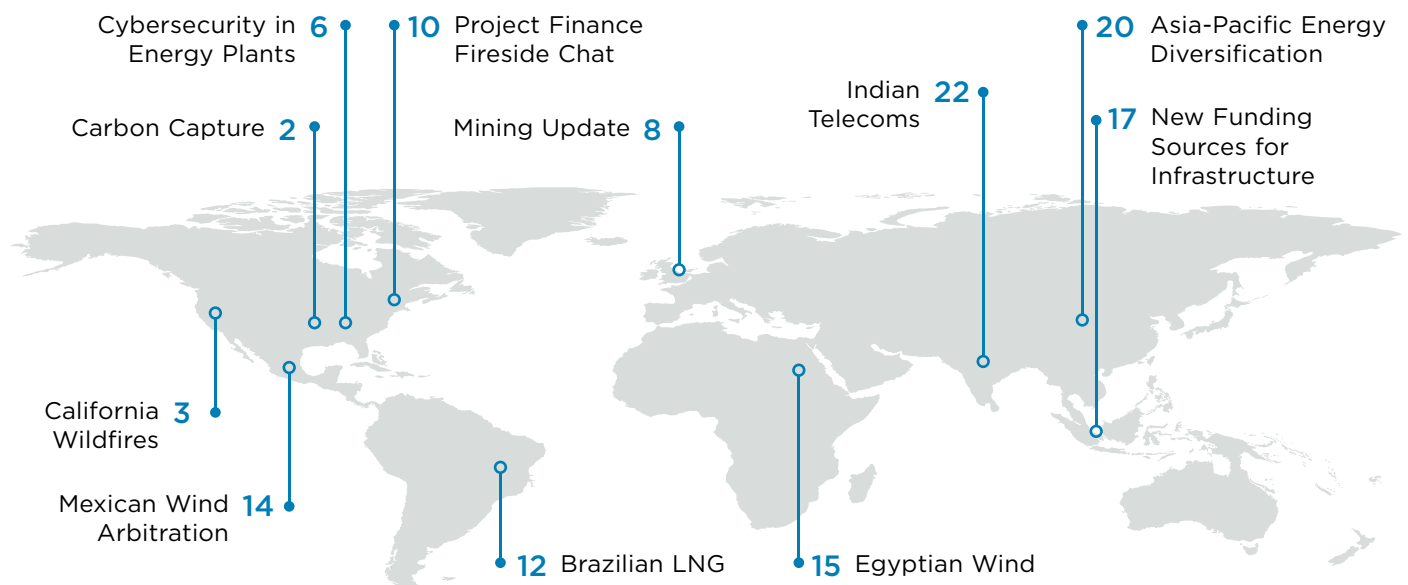
Reflecting global trends across multiple sectors, this issue of ProjectsPlus covers topics ranging from LNG in Latin America to wind power in Egypt and Mexico, from Indian telecoms to alternative mine financing, from cybersecurity for power facilities to California's new laws that bolster utility liquidity in the face of mounting wildfire risks, and from Asian-Pacific energy and infrastructure to new US carbon capture tax rules.

Be sure to read the issue's Fireside Chat, a conversation with Eric Silverman, a long-time leader of our group who recently retired.

As ever, we hope that the topics covered spur conversations and spark new ideas. Please share your comments and questions with us by email to [projectsplus@milbank.com](mailto:projectsplus@milbank.com) or call any of the partners listed on the inside back cover. **Read on.**



## WHAT'S INSIDE



UNITED STATES

## Carbon Captures Treasury’s Attention

In early 2018, to accelerate the development of carbon capture facilities that reduce the amount of carbon oxide released into the atmosphere, Congress significantly changed and expanded section 45Q of the Internal Revenue Code of 1986, as amended (the Code), which provides a federal income tax credit (the 45Q Credit) to certain taxpayers that capture carbon oxides.<sup>1</sup> The Internal Revenue Service (the IRS) has requested and received comments from the public and members of Congress on the implementation of the expanded tax credit regime. Industrial participants and tax equity investors are eagerly awaiting published guidance from the US Department of Treasury (Treasury) and the IRS addressing key details relevant for claiming these credits, so they can confidently arrange financing and begin construction of carbon capture facilities.

### BASICS OF THE CREDITS

The Bipartisan Budget Act of 2018 amended and expanded section 45Q of the Code to provide for a federal income tax credit for each ton of “qualified carbon oxide” (expanded from just carbon oxide) that is captured at a “qualified facility” and either (1) disposed of (sequestered) by the taxpayer in secure geological storage, (2) used by the taxpayer as a tertiary injectant in a qualified enhanced oil or natural gas recovery project and disposed of by the taxpayer in secure geological storage (EOR), or (3) used by the taxpayer in a manner either described in the Code or for which Treasury determines that a commercial market exists (together, an alternative use).<sup>2</sup>

Under the new section 45Q Credit regime, the amount of the 45Q Credit increases annually through 2026 and, thereafter, is indexed for inflation. A

taxpayer who sequesters carbon oxide receives more 45Q Credits per ton of carbon oxide compared to a taxpayer that uses the carbon oxide in EOR or in an alternative use. As there is no cash flow associated with sequestering carbon oxide, a taxpayer’s return is dependent almost entirely on the 45Q Credit. In cases of EOR or an alternative use, however, a taxpayer will have revenue from the EOR activity or alternative use in addition to the 45Q Credit.

The 45Q Credit is available with respect to a qualified facility for 12 years from the date the qualified facility is placed in service. For a facility to be a qualified facility, generally, the construction of the facility must begin before January 1, 2024 and the facility must be placed in service on or after February 9, 2018.

### ANTICIPATED GUIDANCE

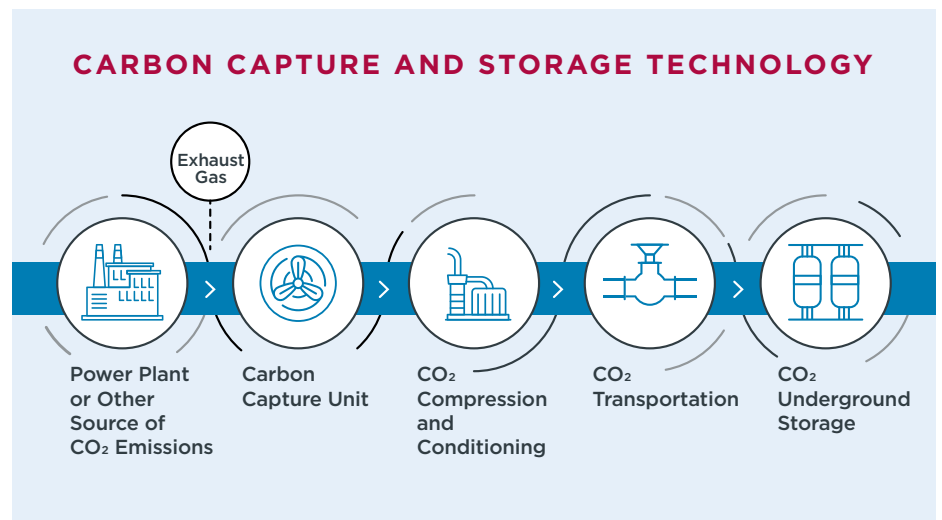
**Commencing Construction:** Guidance issued for commencing the construction of carbon capture facilities is expected to be similar to the guidance on wind and solar projects. That is, construction of a carbon capture facility is expected to begin by starting physical construction of a significant nature or by paying or incurring at least 5% of the costs to build the qualified facility, and the developer must satisfy a continuity requirement once construction has started. For carbon capture facilities,

however, it is not clear how the IRS will address differences between these facilities and wind and solar facilities.

A key question is, once construction of a carbon capture facility commences, how long it will be “deemed” continuous without the developer needing to prove that the construction was continuous. Construction of a wind or solar facility satisfies deemed continuity requirements if the wind or solar facility is completed by the end of the fourth calendar year following the year construction commenced. Some carbon capture facilities (or the plants to which they will be attached) may require longer lead times to complete, and therefore, it may be appropriate for a longer continuous construction “safe harbor” (e.g., 6 years).

It is equally important to know what activities the IRS identifies as sufficient to demonstrate that construction has begun. For wind and solar facilities, the IRS has provided taxpayers with a list of activities it views as being sufficient to demonstrate construction has commenced, such as beginning work on a custom designed transformer.

Deal structure: The structure of carbon capture investments is expected to follow other production tax credit transactions (e.g., wind “partnership flip” structures). Features that will likely be adopted by the IRS for purposes of



carbon capture will likely look similar to the features set forth in Revenue Procedure 2007-65 (the wind safe harbor) or AM-2018-002 (the refined coal guidance).<sup>3</sup>

Additionally, unlike the production tax credit for wind, section 45Q allows owners of a qualified carbon capture facility to elect to pass the 45Q Credits to the person that sequesters or uses the captured carbon oxide in EOR (or uses in an alternative use). Unfortunately, the Code is short on details as to how this election is to operate. As such, more guidance is necessary before taxpayers can confidently structure transactions that pass through the 45Q Credit.

“Assuming favorable guidance is issued by the IRS and Treasury, as the wind and solar tax credits phase-out, the carbon capture sector will likely benefit from significant investment from tax equity investors.”

**Recapture:** The 45Q Credit is similar to production-based tax credits that are not subject to recapture (i.e., unlike an investment tax credit, production based tax credits are calculated based upon “production,” and therefore, are generally outside the realm of recapture). Qualification for the 45Q Credit relies on “permanent” storage of carbon oxide, however, thereby necessitating regulations that address circumstances in which carbon oxide is later released.

Comments provided to the Treasury and the IRS suggest taxpayers favor a shorter recapture period than solar (5 years) and a simple determination (e.g., 45Q Credits will be calculated on the “net” amount of carbon oxide captured and secured in a year and recapture will follow a LIFO regime).

**Reporting:** Open questions remain regarding the reporting requirements for demonstrating that carbon oxide has been disposed of in secure geological storage. The outstanding IRS guidance requires taxpayers to comply with existing EPA standards for reporting and demonstrating capture. The IRS is seeking public comments as to whether there are other viable methods for demonstrating the secure disposal of carbon oxides.

Once guidance is published, it will be interesting to see how the tax equity market will react to the opportunity to invest in carbon capture facilities in the near term considering the current pipeline of in-development wind and solar projects. Long term, assuming favorable guidance is issued by the IRS and Treasury, as the wind and solar tax credits phase-out, the carbon capture sector will likely benefit from significant investment from tax equity investors.

The carbon capture credit regime is complicated, including nuanced laws and developing technologies. IRS guidance should be helpful in getting this market kick-started. [M](#)

1. *The 45Q Credits have broad based market and political support, including from the oil and gas industry (which uses carbon dioxide to enhance oil recovery from depleted wells) and the renewable industry.*

2. *To date, Treasury has not identified alternative commercial markets.*

3. *For example, there will likely be some requirement for a fixed upfront investment that is not contingent. The amount of such upfront investment (i.e., 75% (wind); 50% (refined coal) or some other percentage) should be addressed in the forthcoming guidance.*

By partners Drew Batkin (Tax) and Michael Duff (Projects/Tax)

## California Governor Tailors Swift Solution to Fund Utility Wildfire Liabilities

Marking a significant commitment by the state to shore up the financial position of California’s major investor-owned utilities, California Governor Gavin Newsom signed Assembly Bill 1054 into law on July 12, 2019. Because the law passed as an “urgency bill” with a more than two-thirds majority in each chamber, AB 1054 took immediate effect. Enacted on a bipartisan basis, the law creates a pool of liquidity to cover future wildfire claims, creates incentives to increase the safety of electric utility infrastructure, and indirectly backstops utility credit.

### NEW \$21 BILLION WILDFIRE FUND

The new law establishes a Wildfire Fund of at least \$21 billion to provide liquidity for utilities to cover eligible, uninsured third-party damage claims resulting from future catastrophic wildfires. The law also establishes a new framework to encourage and certify utility safety practices, intended to reduce the risk of wildfires ignited by power infrastructure.

The Wildfire Fund is necessitated in part by California’s “inverse condemnation” doctrine. That rule, in effect, makes public utilities strictly liable for damages from fires sparked by utility-owned facilities or equipment, regardless of fault. As catastrophic wildfire risks rise with climate change and increased residential development in fire-prone areas, the utilities’ potential liability to pay wildfire claims can exceed their capacity to pay. The new fund provides a reserve to bridge that gap.

Without this reserve, placing on utilities the cost of widespread wildfire liabilities raises the challenge of how utilities can recover those costs. Recovering the costs from ratepayers by raising retail power rates creates



challenges of affordability and fairness. Trying to pass the costs entirely on to utility shareholders has economic limits and, since fault is not required, is also unfair. Having taxpayers bear the costs spreads them more widely than having ratepayers bear the burden but also raises issues of fairness and is deeply unpopular.

The new law solves this puzzle by allowing utilities to access a pool of capital that they will fund over time at affordable levels, in part by amounts collected from ratepayers and in part by amounts borne (indirectly) by utility shareholders, while penalizing any utility that fails to make investments and operational improvements to prevent future fires or that is shown to act unsafely. So that the fund is immediately available, the state will provide upfront funding to be repaid by the utility contributions. Thus, future wildfire victims can recover on their claims, ratepayers are protected from exorbitant rate increases, utility investors bear the risk of how the utility manages fire safety, and the risk of future fires is reduced. Further, utility

credit is protected, keeping wholesale power costs stable while preserving both grid stability and the state's renewable energy procurement goals.

### **CAPITALIZING THE WILDFIRE FUND**

The Wildfire Fund created by AB 1054 essentially acts as a supplemental line of credit for private utilities beyond what is covered by their insurance to pay for adjudicated, covered third party-claims arising from catastrophic wildfires ignited by utility-owned equipment. The Wildfire Fund will create a state-backed pool of capital of at least \$21 billion.

Ratepayers (through the extension of an existing, small monthly charge on electricity bills) will ultimately fund \$10.5 billion of the Wildfire Fund, by repaying the start-up bridge funding to be provided by the state from other surplus funds on hand and future bond proceeds. For legal certainty, the state's funding obligations are supported by a continuing appropriation. Specifically, the Wildfire Fund will be capitalized initially by a loan from California's Surplus Money Investment Fund. This loan will be repaid from the proceeds of AB

1054's extension past 2020 of a \$2.50/month surcharge on retail electric utility bills collected by the Department of Water Resources that was otherwise due to expire. The Wildfire Fund is a revolving fund, to be replenished from utility reimbursements and future contributions as the fund is used.

The three large investor-owned utilities — Southern California Edison (SCE), San Diego Gas & Electric (SDG&E) and Pacific Gas & Electric Company (PG&E) — have each committed to make supplemental contributions, increasing the fund from \$10.5 billion to \$21 billion. The initial contributions of the utilities to the Wildfire Fund will total \$7.5 billion, with aggregate annual contributions of \$300 million required thereafter. Each participating utility will be responsible for a percentage of the total initial contributions equal to \$7.5 billion multiplied by the utility's "Wildfire Fund allocation metric." Thereafter, each utility will be required to make annual contributions in an amount equal to \$300 million multiplied by its assigned percentage under the Wildfire Fund allocation metric.



“**The law creates a pool of liquidity to cover future wildfire claims, creates incentives to increase the safety of electric utility infrastructure, and indirectly backstops utility credit.**”

The Executive Director of the California Public Utilities Commission (CPUC) determined the Wildfire Fund allocation metric to be 64.2% for PG&E, 31.5% for SCE and 4.3% for SDG&E. The Wildfire fund allocation metric was calculated as the average of (i) the proportion of land area that sits in high fire-threat districts that is served by such utility as compared to the total land area in high fire-threat districts served by all utilities and (ii) the proportion of the line miles of transmission and distribution lines owned by such utility as compared to the total line miles owned by all utilities collectively. This figure is subject to adjustment based on the utility’s historic risk mitigation efforts. PG&E’s participation in the fund is contingent on it emerging from bankruptcy by June 30, 2020.

The utilities will not be permitted to recover their contributions to the Wildfire Fund from ratepayers, in effect passing that cost indirectly on to utility shareholders in exchange for access to the additional reserves. The contributions will also be excluded from the measurement of the utilities’ authorized capital structure.

#### CLAIMS COVERED

The state’s participating investor-owned utilities may seek payment

from the Wildfire Fund to satisfy, settle or finally adjudicate eligible third-party wildfire claims that have been reviewed and approved by the Wildfire Fund Administrator. An affected utility may submit to the CPUC an application to recover wildfire costs and expenses from its ratepayers, subject to having acted reasonably. The utilities still must maintain insurance apart from the fund. A utility may have to repay to the Wildfire Fund at least some of the amounts advanced to pay claims, depending on whether the utility has been permitted by the CPUC to recover costs from ratepayers or has failed to be certified and taken reasonable steps for fire safety.

The Wildfire Fund will be available to cover eligible future wildfire costs but will not cover liabilities arising from the 2017 Wine Country fires, which burned at least 240,000 acres and resulted in 44 deaths, the 2018 Camp Fire, which burned at least 150,000 acres and resulted in 85 deaths, nor any other past fires. The law is intended to stabilize the utilities’ finances by giving more certainty regarding liquidity to cover the cost of future fires. Although the law lacks coverage for prior or existing wildfire liabilities, AB 1054 is intended to remove uncertainty about the impact of future fires on utility solvency so that the utilities can today raise new financing as needed to settle pending or probable claims from past fires.

Related laws (AB 111, along with other measures) were also passed to implement this complex legislation, creating a new Office of Energy Infrastructure Safety and, to oversee the administrator of the Wildfire Fund, a new California Catastrophe Response Council.

Subsequently, PG&E failed to secure the passage of Assembly Bill 235, which would have allowed California to borrow up to \$20 billion on PG&E’s behalf through tax-exempt bonds, to be

repaid from PG&E profits. The proceeds of the new bonds would have been used to pay fire claims related to the 2017 and 2018 wildfires, wholly apart from the Wildfire Fund. Concerted opposition to AB 235, especially from wildfire claimants and hedge fund investors seeking control of PG&E, resulted in the bill being tabled. Although AB 235 failed to pass in the current term, AB 235 may be reconsidered in January 2020. Politically, there appears to be little legislative support for any measure seen as a “bailout” of PG&E, in contrast to the Governor’s broadly supported bill creating the Wildfire Fund.

#### UTILITY SAFETY CERTIFICATIONS AND REIMBURSEMENTS

AB 1054 encourages the utilities to implement safety precautions by providing for a cap on a utility’s obligations to reimburse the Wildfire Fund and a presumption of reasonableness if a utility develops and maintains a valid safety certification from the Wildfire Safety Division. In connection with the valid safety certification, each utility must develop and implement an approved wildfire mitigation plan, implement the findings of its safety culture assessments, establish a safety committee of its board of directors, establish board-of-director level reporting to the CPUC on safety issues, tie executive compensation to safety performance, and spend the amounts necessary to implement its wildfire mitigation plan, as approved and supervised by the Wildfire Safety Division.

Once a utility has used the Wildfire Fund, the CPUC must review a utility’s use of the Wildfire Fund to determine if the utility acted reasonably and to what extent the utility must reimburse the Wildfire Fund for such use. The CPUC determination will be guided by a new reasonableness standard that requires a utility to prove that, based on the preponderance of the evidence, its conduct was consistent

with actions that a reasonable utility would have undertaken in good faith under similar circumstances, at the relevant point in time and based on the information available to the utility at the time. If the utility had a valid safety certification for the period when the subject fire took place, the utility's conduct will be deemed reasonable unless a party to the applicable proceeding creates a serious doubt as to the reasonableness of the utility's conduct.

## NEXT STEPS

The law leaves unresolved larger issues as California grapples with increased wildfire risks from drought, climate change and suburban sprawl. AB 1054 does not include spending to protect homes in high risk areas, nor does it mandate statewide land use limits on developments in wildland-urban interface fire zones. The law also contains no mitigating measures to address the rising costs and decreasing availability of fire

insurance in fire-prone areas. Lastly, the law keeps in place California's "inverse condemnation" doctrine under which public utilities may be held strictly liable for casualty losses resulting from fires sparked by transmission lines or other power facilities, regardless of fault.

Passage of AB 1054 bodes well for SCE, SDG&E and PG&E and has been favorably received by credit rating agencies. A number of remaining unresolved issues remain, including PG&E and SCE adjudicating and paying outstanding wildfire claims and PG&E finalizing its restructuring. Nonetheless, through AB 1054, the Governor and Legislature have crafted a solution that balances competing interests to reduce wildfire risks and to put funding of future wildfire claims on a firmer footing. **M**

*By partner Allan Marks with the assistance of associate Ryan Hart  
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## Outsourcing Powers Cybersecurity Plans

A major cyberattack on a bulk electric system (BES) would have far reaching, negative effects across multiple industries and could pose a threat to regional and national security. Cybersecurity matters affecting energy facilities have garnered particular attention in recent years as increasingly complex "smart grid" technologies are adopted. As the technology and regulation become more complex, owners and operators of regulated energy generation or transmission facilities in the United States must look to good industry practice in the outsourcing sector as a basis for a rigorous cybersecurity compliance program.

To address technology's evolution and its associated cybersecurity risks, the Federal Energy Regulatory Commission (FERC), acting through the North American Electric Reliability Corporation (NERC), continues to promulgate mandatory standards for the management of cybersecurity risks in bulk electric systems. These standards, known as Critical Infrastructure Protection (CIP), include requirements for personnel and training, security management, and disaster recovery planning, as well as for the security of electronic perimeters and the protection of critical cyber assets. Two recent proposed changes to CIP indicate that the issue of cybersecurity is an ongoing priority to US federal officials.

## CHANGES TO CRITICAL INFRASTRUCTURE PROTECTION

In 2018, NERC announced CIP-012, which is currently under review by FERC. If approved, it would require a BES entity to implement a documented plan that mitigates the risks posed by unauthorized disclosure and modification of real-time assessment



“As in other technology sectors, outsourcing offers a framework to adopt and implement best practices around governance, change management, vendor management and end-to-end monitoring.”



and monitoring data transmitted between control centers. The plan must (1) identify security protection; (2) identify where the security protection is applied; and (3) in the event that third parties own or operate the control centers, determine allocation of responsibilities between each accountable entity for applying security protections. In addition to these requirements, FERC recently requested that NERC include a refined definition of real-time monitoring and clarify the types of data that must be safeguarded by this security protection.

NERC also proposed CIP-013 in 2018, which has since been approved by FERC and will be enforced starting in July 2020. CIP-013 sets out three main requirements: (1) that the BES entity develop a supply-chain cybersecurity risk management plan for high and medium impact BES cyber systems; (2) that the BES entity implements the developed plan; and (3) that the BES entity review and obtain CIP senior manager or delegate approval of its plan. CIP-013 also mandates the development of a process that addresses notifications relating to cybersecurity incidents, coordination of incident

response, verification of software integrity and authenticity, and the controls governing remote access.

For the purposes of CIP-013, the BES entity is responsible for a broad scope of vendors within a supply-chain, including “(i) developers or manufacturers of information systems, systems components, or information system services; (ii) product resellers; [and] (iii) system integrators.” NERC also recommends that BES entities include applicable procurement items in their contract negotiations with vendors and has indicated that CIP-013 does not require BES entities to renegotiate or rescind their existing contracts. NERC has reassured BES entities that vendor performance and adherence to contracted terms is not subject to the standard created by CIP-013.

The goals of CIP-013’s second and third requirements are to ensure effective oversight and to guarantee that a BES entity is periodically reassessing its supply-chain cybersecurity risk management controls. To comply with CIP-013, a BES entity may keep track of policy documents, archive the revisions

to its supply-chain risk management plan or preserve records demonstrating that a review of its plan goes through the appropriate approval process at least once every fifteen months.

#### THE FUTURE OF CIP COMPLIANCE

Compliance with CIP-012 and CIP-013 will take time. Bulk electric systems and the technology and operations that enable them are complex, each with its own set of security risks to address. This reality demands a considered, strategic approach across the BES entities’ operations and third-party relationships. As in other technology sectors, outsourcing offers a framework to adopt and implement best practices around governance, change management, vendor management and end-to-end monitoring. The best solutions to prevent or contain harm from cyberattacks at regulated energy facilities will combine technical knowledge of cybersecurity with legal expertise in both CIP compliance and contractual risk allocation through outsourcing. [M](#)

| By partner Nicholas Smith (Technology)



## Mining for Dollars: The Shift Back to Project Financing

The last 18 months have seen substantial activity in the mining sector as commodity prices have risen from historical lows and project sponsors have advanced financing programmes to fund their projects around the world. Despite concerns that traditional project finance lenders had become too conservative to efficiently support such projects, much of the recently closed finance activity in the mining sector has been provided by export credit agencies, multilateral agencies and commercial banks, demonstrating the continuing attractiveness of project finance as a principal funding source for mine developers.

For several decades, when project sponsors thought of funding sources for mining projects, the range of options was generally considered to be quite small. Mining activities typically took place in challenging jurisdictions, involved substantial capital costs, and offered a unique potpourri of resource risk and price risk that only the bravest of financing institutions were willing to absorb.

This complex mix of risks presented by mining projects did, however, lend itself well to the emerging market of project finance lenders. As export credit agencies, multilaterals and commercial banks stepped forward to provide funding to these projects over the course of several commodity cycles, it became taken for granted that when it was time to finance the construction of new mines or the expansion of existing ones, project finance lenders would be approached to meet developers' funding needs.

### THE REPUTATION OF PROJECT FINANCING

The historical attractiveness of project finance debt for mining transactions is



apparent for several reasons. Lenders typically include export credit agencies or multilateral lenders, or both, who can provide soft (if not hard) political cover in the traditionally challenging jurisdictions where these projects tend to be developed; project sponsors can benefit from tenors that are usually longer and with pricing that remains generally competitive across cycles; funds can be drawn as and when needed to help minimise negative carry costs; project lenders and agencies in particular have typically been able to absorb price risk; and in the event of distress, these lenders have traditionally been willing to work with sponsors to identify solutions to help the project achieve long-term success. These benefits, as well as the general lack of alternative viable financing options in the sector, made the project financing of large-scale mining assets an obvious path forward for project sponsors.

Despite these apparent benefits, project financing developed a reputation for being a time-consuming and expensive process, as lenders to these mining projects needed to undertake substantial technical, market, legal, environmental and other

diligence to close. Moreover, although many of these financings allocated completion risk to the project sponsors through the issuance of completion guarantees by project sponsors, a perception developed that many of the financing terms and conditions required by project finance lenders created operational constraints that some sponsors found to be too burdensome, including as they related to desired changes to operating budgets, mine plans and expansion plans. Furthermore, as government and civil society increasingly focused on the environmental and social impact of these projects, enhanced compliance regimes became another important component of the cost-benefit analysis being undertaken by sponsors as they considered the available alternatives for their funding plans.

The view that the cost of implementing a project financing outweighed its benefits was played out as companies emerged over the past few years from the recent extended cycle of depressed commodity prices. For several mining majors, these perceived 'costs' were enough to encourage them to shy away from approaching project finance



lenders for their greenfield or expansion projects, and leading them to opt instead for alternative funding options, including from their own balance sheets. For junior miners, the issue was not so much a decision to move away from project finance lending so much as it was the confluence of not thinking they would be able to attract such debt together with the availability of other emerging funding options offered by streamers, royalty providers, capital market options and other alternative financing sources.

### THE ENDURING APPEAL OF PROJECT FINANCE DEBT

As prices started rising during this most recent upswing in the commodities cycle, many industry participants and observers questioned whether the traditional reliance on project finance debt for the development of mining assets was the right option or whether the availability of other options — many of which could claim to be faster and cheaper to execute with looser covenant compliance requirements for sponsors — would permanently alter the industry's reliance on the traditional project finance funding source. This view was reinforced in early 2018 with FQM's election to issue a US\$1.8 billion bond to fund its Cobre Panama copper project despite having successfully syndicated an export credit agency-supported project financing for US\$2.5 billion. For many industry observers, this decision supported the view that project finance debt required too many conditions to be satisfied for a successful closing or imposed ongoing covenant compliance requirements that were too burdensome or restrictive, or both.

Notwithstanding the outcome on Cobre Panama, during the course of 2018, several sponsors proceeded with their plans to raise (or explore the raising of) project finance debt. Many of these sponsors were encouraged by the apparent debt appetite from commercial banks as well as the strong

interest from a growing list of export credit agency lenders that were willing to provide attractive terms for well-structured projects to support their national offtakers and exporters amid increasing competition in the sector.

As the first of these project financings began to achieve signing during the course of 2018, the industry recognised that many of these agency lenders were able and willing to take a constructive approach both to ensure that timelines could be met and to address new developments in the market; this included a willingness to negotiate intercreditor arrangements with streamers and other alternative finance providers that had become a fixture in the market since the last round of financings during the prior commodity cycle.

Of particular interest is that this change in perception over the past 18 months has happened across all segments of the mining market, with mining majors, mid-tiers and junior miners all taking advantage of project finance markets to both meet funding needs and to take advantage of the long tenors, competitive pricing and other supporting features of project finance debt. Since November 2018, at least four project financings involving a range of junior to major sponsors have successfully signed or funded, or both — including financings for Fruta del Norte in Ecuador, Mina Justa in Peru, Quebrada Blanca 2 in Chile, and Nevada Copper in the United States — several of which involved intercreditor arrangements with alternative finance providers (a new structural feature for many agency lenders) and all of which involved the participation of multiple export credit agencies.

### AN ONGOING TREND

This trend is continuing — there are currently several other mining projects seeking agency-backed project finance debt, and if commodity prices hold (always the big risk in this market), it is likely that several additional upcoming

projects involving all types of mining sponsors will take this path in the coming years. What is now clear is that sponsors are increasingly taking the view — particularly following the recent successful financing of several projects in the past eight months — that project finance lenders are keen to work constructively to make multi-sourced financings work and to escape the negative perceptions of the past. As additional mining projects achieve

“The view that the cost of implementing a project financing outweighed its benefits was played out as companies emerged over the past few years from the recent extended cycle of depressed commodity prices.”

financial close over the next several months on multi-source financing packages involving agency lenders and commercial banks, it is fair to expect that project financing will remain a viable — if not a preferred — option for mining sponsors as they design their funding plans for the rest of this commodity cycle and beyond. M

*By partner Alec Borisoff with the assistance of associate Katherine Hannah. Reproduced with permission from Law Business Research Ltd. This article was first published in Getting the Deal Through — Project Finance 2020 (Published: August 2019). For further information see [www.gettingthedealthrough.com](http://www.gettingthedealthrough.com)*

## FIRESIDE CHAT: Project Finance at Milbank



**Allan:** Shakespeare wrote “What’s past is prologue.” Eric, the project finance market has evolved quite a bit over the years. You and Milbank were there at the very beginning, before “Project Finance” became the distinct practice area it is today. What propelled Milbank to jump into this area?

**Eric:** When I joined the firm in 1982, this kind of activity was largely being done by a few partners in what used to be the commercial banking practice at Milbank. Around the same time, there was a big effort to promote deregulation and encourage energy efficiency and cogeneration as a new type of power generation model. That wave of privatization in the electricity sector created opportunities for new entrants. We saw this as a potentially very high-growth area.

**Allan:** At some point the firm began pivoting from representing only lenders to also representing developers, investment banks, contractors, and others. What was the rationale behind that?

**Eric:** We were thinking about how to differentiate ourselves from entrenched firms that had a lock on the business. And we decided the best way to do that was to immerse ourselves not just in the financial transaction side of the business, but also the regulatory and the commercial sides as well. We wanted to represent all the leading players who were getting involved in the early stages of the independent power business in the US. We felt like we needed to have our own pool of trained specialists to support our clients in this newly emerging independent power sector.

**Allan:** You had a lot of homework back in those days.

**Eric:** Right. We had to develop the knowledge and expertise of representing not just financial institutions, but also representing developers and manufacturers like General Electric, Westinghouse, Siemens, and Mitsubishi.

**Allan:** That strategy turned out to be prescient.

**Eric:** Especially when it came to foreign investment. Over the course of the next 25 years, this business attracted a lot of interest from foreign investors, including utilities, oil and gas companies, trading companies and manufacturers, primarily in Europe, Asia and the Middle East.

**Allan:** It seems like the firm’s strategy came down to a few things. One was knowing the market and the players and being able to bring them together. Next was being experts in the regulations and creating the legal structures for these sorts of deals. Finally, we had to become experts in the sectors themselves, whether conventional power, renewables, oil and gas, other infrastructure, whatever.

**Eric:** Right. We had to be deeply familiar with the regulations, yes, and financing structures, yes, but also the commercial issues affecting the developers and the participants in the sectors, including things like the power purchase agreements and the engineering, procurement and construction contracts. All of these things became an important foundation for the evolution of the project finance business.

**Allan:** Excellent client service has always been a cornerstone of the culture at Milbank. But technology has changed the nature of it so much.

**Eric:** Oh yes. I can still remember how we used to have a daily courier pick up at four o’clock or six o’clock, and people would push around the office these big handcarts. If the documents you were working on were going to be delivered overnight, they were put on these handcarts and then couriered all over New York and all over the country. But obviously email dramatically changed how our work product was distributed, how fast it could be distributed, and how fast people could respond. I think that has all had a very significant effect on how lawyers interact with clients and how quickly we are expected to respond.

**Allan:** Another big change over the last 40 years is the evolution of capital markets, which are much more liquid. The debt used for these projects used to come principally from commercial banks, essentially from Japan or from Europe. But we’re seeing this shift, both domestically and internationally, where infrastructure funds, private equity and debt funds, and direct institutional investors, like insurance companies or pension funds, are playing a much bigger role. How do you see that playing out?

**Eric:** This has been a trend over the last 20 years, but it certainly was accelerated by the financial crisis of 2008/2009, and the increasing regulatory scrutiny of bank capital, and the risk-weighted nature of their assets. The reason that so much of this business has moved away from commercial banks is because these kinds of capital investments are long-life assets. A power asset might have a life of 25 years. An



Milbank PEIF partner **Allan Marks** sat down with **Eric Silverman**, who retired at the end of September 2019 after 37 years at the firm. Eric shared his perspective on how the project finance practice has evolved over the past four decades and the state of the market today.

airplane might have a life of 30 years. And a petrochemical plant might have a life of 20 or 30 years. These kinds of assets are not well-suited, from a regulatory perspective, for bank balance sheets and bank capital these days.

These kinds of long-term credits are now much more likely to be held by institutional investors, export credit agencies, and non-bank financial institutions, who have a different regulatory and capital structure than banks. I think that the general trend is for banks to be more involved in shorter-term lending. And this kind of activity that we're talking about, with long-life assets, really needs longer term debt in order to provide the kind of leverage that the sponsors and equity investors are looking for.

**Allan:** Right, so for an institutional investor, they've got long-term liabilities. They can match them to long-term assets when they invest in these kinds of projects in a much better way than a bank can. Are institutional investors able to do a good job of assessing project risks?


**Eric:** Oh yes, I would say many of them are extremely sophisticated and have staffed up with people who are experienced. And I think today you have a lot of very sophisticated institutional investors and pension funds who are driving a lot of the activity in the market.

**Allan:** What's so interesting is how rapidly the practice of project finance has evolved. But some of the basic fundamentals have not.

**Eric:** I think that what we've seen is that these kinds of structures that we first started putting together in the 1980s are now much more widely accepted and viewed in a positive light. There was a time when we would create a viable financial borrower out of a conference room full of paper and various contracts and permits, and intellectual property rights, it was viewed almost like voodoo finance.

But I think that today, with private equity firms, lending corporations and financial institutions all over the world, these kinds of transactions — asset-based financing, largely based on contracted cash flows and risk mitigation through contracts — are very much a mainstream activity.

**Allan:** Being a pioneer in the practice must be gratifying. What gives you the most pride when you look back at your career?

**Eric:** We built a global team, which has worked collaboratively and on behalf of what I think are probably the best group of clients that you could ever hope to work with. I think the fact that we are able to continue to do this kind of work and have so many great long-standing client relationships is one of the defining characteristics of our practice. It has brought great prestige and prominence to our firm. But I also think we have helped a lot of clients to successfully execute their goals and achieve a lot of success through the use of these project finance techniques and structures that we helped to develop. 



## LATIN AMERICA

### LNG-to-Power: Brazil Innovates

Large hydropower plants currently account for around 80% of domestic electricity generation in Brazil. However, continued expansion of hydropower is increasingly constrained by environmental sensitivities. The threat of multi-year drought, the high cost of modernising or replacing ageing hydropower plants, and the growing need for more stable generation capacity has prompted successive governments to engage in a campaign of energy diversification. To this end, the Brazilian regulator Agência Nacional de Energia Elétrica (ANEEL) has undertaken a series of power auctions open to wind, solar, hydroelectric and thermoelectric projects (including gas, coal and biomass). Several gas-fired projects have successfully bid for and been awarded 25-year power purchase agreements (PPAs). Because of limited domestic gas supply, most gas-fired projects in Brazil have been structured as liquified natural gas (LNG) to power projects and reflect the requirements of the highly regulated Brazilian power market.

#### CHALLENGES OF LNG INVENTORY MANAGEMENT

LNG inventory management is a key bankability issue in all LNG-to-power projects, and in Brazil, the matching of electricity dispatch notifications with LNG cargo scheduling is one of its most complex components. To guarantee power supply during Brazil's dry season, which typically runs from May to October and during which hydropower capacity is reduced, recently awarded PPAs have different power production requirements based on the time of year. During the dry season, these PPAs require a minimum baseload power supply whereas they allow for flexible power supply during the rest of the year.



While predictability of dispatch during the baseload period makes regular rateable LNG deliveries possible, some recent PPAs impose strict “day ahead” dispatch notifications during the flexible period, and power plants are only required to be dispatched if nominated by Operador Nacional do Sistema Elétrico (ONS), the Brazilian generation and transmission systems coordinator. ONS will usually nominate a power plant if its variable cost of operation is below the electricity spot price. Thus, LNG cargo scheduling during the flexible period relies on the ability of independent power producers (IPPs) to accurately anticipate dispatch notifications. This can be achieved to some extent by processing water reservoir levels data, forecasting electricity spot prices and reviewing weather patterns.

Under the current regime in Brazil, penalties and fines imposed under the PPAs for failing to produce power when nominated by ONS are particularly severe, so perfecting the scheduling

model is of paramount importance for a project. These issues are exacerbated for projects structured with a floating storage regasification unit or a floating storage unit due to the restricted storage capacity.

#### LIMITED AVAILABLE MITIGANTS

There are limited mitigants available to an IPP if it fails to dispatch power due to a fuel shortage after being nominated by ONS. With ONS' consent, the IPP may use a third party's power plant to comply with its obligations under its PPA. Although there will be no penalties or fines for a permitted power substitution, the price the IPP receives for electricity produced will be less than the PPA price. An IPP may also use energy credits generated when selling spot power to offset against future penalties. These energy credits are intended to compensate for the water that would otherwise be used by hydropower plants to produce an equivalent quantity of power, but if water reservoirs overflow due to

higher-than-expected rain falls, no energy credits will be produced. Power plants may only sell electricity on the market and accumulate energy credits if they are not nominated by ONS. The potential unavailability and unpredictability of energy credits must be considered in the bankability analysis.

#### LNG SUPPLIER DYNAMICS

LNG-to-power projects in Brazil offer unique upside opportunities for different players in the chain, including international oil companies (IOCs). IOCs are increasingly willing to take equity interests in projects, typically in exchange for the exclusive right to provide the fuel supply for the power plant. Risk allocation between the participants is typically structured as a buy/sell model or tolling model. In the case of LNG-to-power projects with baseload and flexible dispatch periods, risk allocation may also, in certain circumstances, take a hybrid approach with a buy/sell model adopted during

the baseload period and certain features of a tolling model adopted during the flexible period.

In fact, LNG sale and purchase agreements (SPAs) may be structured to allow the LNG supplier to dispatch power when the power plant is not nominated by ONS (i.e., outside of the baseload period, provided no order-of-merit or out-of-order-of-merit notifications have been issued by ONS). This structuring permits the LNG supplier to use the power plant as a platform to arbitrage between fuel indices and spot electricity prices and participate in a broader set of trading activities. In addition, SPAs may grant the LNG supplier the right to provide LNG or gas to the project thereby broadening the scope of arbitrage opportunities.

The right to provide alternative forms of fuel is part of a longer-term strategy of the suppliers to realise upside linked to supplying cheaper domestic pipeline

gas coming from pre-salt fields or neighbouring countries (e.g., Bolivia) or grid gas. However, Brazilian law imposes certain country specific taxes on LNG importation, which may affect the alignment of interests between the LNG supplier and the LNG purchaser (i.e., the project company) because the LNG purchaser is typically liable for domestic taxes in SPAs.

In order to meet the growing domestic electricity demand and the country's baseload power needs, LNG-to-power projects are likely to continue attracting investments for large scale generation capacity. These projects offer unique upsides to the participants but require detailed bankability analysis considering the strict regulatory regime imposed on IPPs and the somewhat unusual risk allocation. M

*By partner Manzer Ijaz with the assistance of special counsel Chris Taufatofua and senior associate Kilian de Cintré*

“**LNG-to-power projects are likely to continue attracting investments for large scale generation capacity. These projects offer unique upsides to the participants but require detailed bankability analysis considering the strict regulatory regime imposed on IPPs.**”



## Mexican Wind Companies Blow Away Contractor Claims in Cross-Border Arbitration

Many cross-border transactions rely on detailed arbitration provisions to resolve future contract disputes. Should a dispute arise, how do these mechanisms work in practice? A recent arbitration between the developers and owners of a 148.5 MW wind farm in northeast Mexico a subsidiary of the Spanish conglomerate Abengoa offers a helpful case study.

The dispute arose from two “balance of plant” contracts entered into in 2014 for Abengoa de México SA de CV, as general contractor, to provide construction services for the 45-turbine Tres Mesas 1&2 wind farm in the coastal state of Tamaulipas in Mexico. The contracts between the Mexican companies (contractor and owners) were governed by New York law and called for arbitration in New York in the case of a dispute.

In the course of performing work under these agreements, Abengoa failed to meet critical project milestones and did not pay amounts it owed to its subcontractors nor damages due under the contracts. Abengoa’s parent company in Spain became insolvent, and Abengoa failed to complete the project. Due to various defaults by Abengoa under the construction contracts, the owners of the wind farm, Eólica Tres Mesas SA de CV and Eólica Tres Mesas 2 SA de CV (together, Eólica), terminated the agreements for cause.

After the termination, Abengoa commenced arbitration in October 2016, seeking damages for alleged contractual violations by Eólica. The defendant Eólica (represented by Milbank) filed a counter-memorial denying Abengoa’s claims and asserted counterclaims on Eólica’s behalf. The case was seated in New York and governed by New York law, with the hearing held at Arbitration Place in Toronto.



The arbitration was conducted under the auspices of International Arbitration Rules of the AAA International Centre Dispute Resolution by a tribunal composed of J. William Rowley QC, Oscar M. Garibaldi and Alejandro Ogarrío Ramirez España.

The award by the three-arbitrator tribunal vindicated the positions the Milbank team had advanced in the arbitration on behalf of Eólica. The tribunal rejected all claims for breach of contract that Abengoa had advanced against Eólica and agreed that the contracts had been properly terminated due to Abengoa’s defaults and failures to perform. The tribunal ruled in favor of Eólica on its counterclaims for all liquidated damages due under the contracts and also awarded Eólica attorneys’ fees and arbitration costs.

A New York federal court confirmed an arbitration award against the Mexican Abengoa unit stemming from its default on a 45-turbine wind farm project, holding that the two owners were entitled to damages. The US District Court for the Southern District of New York confirmed the award on February 28, 2019, finding that none of the enumerated grounds for setting aside an award under the U.S. Federal Arbitration Act was present.

With the favorable arbitral award in hand, as confirmed by the New York court, Eólica was able to pursue enforcement of the award against Abengoa in Mexico without relitigating the underlying claims.

Mexico’s Commercial Code basically incorporates the United Nations Commission on International Trade Law (UNCITRAL) Model Law of 1985 as Mexico’s arbitration law. In addition, Mexico is party to the New York Convention for the Recognition and Enforcement of Foreign Arbitral Awards, the Inter-American Convention on International Commercial Arbitration (known as the Panama Convention), and the Inter-American Convention for Extraterritorial Validity of Foreign Judgments and Arbitral Awards (Montevideo Convention). Accordingly, the arbitration award is enforceable and binding in Mexico and may be enforced by filing a request for recognition and enforcement with any Mexican commercial court.

The contracts functioned as envisioned by the parties when drafted, and the arbitration provisions allowed for the contract disputes to be resolved by confidential, binding international arbitration with the arbitral awards directly enforceable in Mexico. M

*By partners Allan Marks (Projects) and Michael Nolan (Litigation)*



## MIDDLE EAST

## A New Direction for Egyptian Wind Power

### RECENT DEVELOPMENTS IN EGYPT'S RENEWABLE ENERGY STRATEGY

In 2015, the Ministry of Renewable Energy of the Arab Republic of Egypt (Egypt) launched its Integrated Sustainable Energy Strategy, which established a competitive energy auction process through 2035 for Build-own-operate (BOO) projects. This auction process, designed to procure investment in renewable energy capacity, is administered by the Egyptian Electricity Transmission Company (EETC), and includes five rounds of bidding to award twenty-year power purchase agreements (PPAs) for each BOO project. Each winning bidder is provided all necessary land access and use rights by the New and Renewable Energy Authority (NREA), a government agency, thereby enabling each project to fulfill its power production obligations

under, and for the duration of, each PPA entered into with EETC.

In 2018, the Egyptian government announced aggressive renewable energy targets: by 2022, 20% of Egypt's national power will be generated by renewable energy sources. By 2035, that figure doubles: according to the US International Trade Administration, 42% of Egypt's national power will be generated by renewable sources (including 25% solar power, 14% wind power, and 3% hydro power).

While meeting these goals will largely depend on significant investment from the private sector, attaining these targets will result in significant environmental and human benefits. First, reliance on renewable energy sources can alleviate the burden on Egypt's national budget by reducing the funds previously allocated towards meeting the country's energy needs. Second, Egypt's use of renewable energy sources can improve the stability of its energy supply at a time of national economic growth and ultimately enable export of natural resources, such as

gas. According to the International Renewable Energy Agency, this considerable shift towards renewable energy sources, particularly solar and wind power, could amount to an estimated energy cost reduction of as much as USD 7 per MWh.

### CLIENT ACTIVITY IN EGYPT

Egypt continues to be a focal point for client activity. Clients require guidance on both transactions for existing assets and new development opportunities afforded by a changing political, economic and natural resource landscape, including through the establishment of the government's renewable strategy and the major offshore gas production coming online in the coming years.

The Milbank team has expertise advised on numerous projects, financings, acquisitions and restructurings across various sectors in Egypt, including the first BOO wind project in Egypt, the 262.5MW Ras Ghareb windfarm in the Red Sea Governorate. The Milbank team advised lenders to the project, JBIC, NEXI, SMBC and Société Générale.

Given the nascent nature of the renewables strategy and auction process at that time, a key part of our role was focused on a thorough review of the bankability of the PPA, adjusting provisions where necessary to establish a structure and risk allocation across the PPA and other project documents that would facilitate financing for a twenty-year PPA term. The Ras Ghareb project set the precedent for subsequent wind and solar IPP transactions in the Egyptian market, including West Bakr.

### THE PROJECT: WEST BAKR

The Gulf of Suez enjoys an average wind speed of 10.5 m/sec, and it was in this region of Egypt, 30km north of Ras Ghareb, that the tender process was launched for the 252 MW West Bakr



Source: NASA, Nighttime View of Northern Egypt and the Sinai Peninsula

windfarm. The successful bidder for this second privately owned windfarm in Egypt was the sponsor, Lekela Power B.V. (Lekela), a 60%/40% joint venture between the leading emerging markets private equity investor Actis Energy Fund III and the pure play renewable energy development company Mainstream Renewable Power. Lekela was established to focus on onshore wind power generation projects in Africa and now owns 1,300 MW of renewable power investments in South Africa, Senegal and Ghana.

The PPA for the West Bakr project was signed in February 2019, and the project is expected to achieve operations in 2021. Siemens Gamesa Renewable Energy was appointed to install 96 turbines through a turnkey EPC contract and provide maintenance services over a 15-year period. Producing more than 1000 GWh of power annually (enough energy to power over 350,000 homes), the West Bakr project will increase Egypt's wind capacity by 14%.

While the Ras Ghareb project was the first of its kind from a project documentation, structuring and negotiation perspective, the financing structure on the West Bakr project is also innovative. The \$300 million project financing marks the first occasion on which the development finance institutions EBRD, IFC and OPIC have been co-lenders to a project. IFC's commitment was comprised of an A Loan of up to \$26M and \$58M from IFC's innovative syndications program. OPIC's funding was provided by way of an OPIC-guaranteed loan participation. Through this 2019 financing, EBRD continues its strong support of projects in Egypt, which in 2018 was the largest EBRD country of operations by new commitment.

This multi-party financing structure resulted in the need to coordinate



mutually acceptable financing and intercreditor arrangements amongst these lenders. Additionally, the inclusion of EBRD and IFC in the financing enabled the project company to access competitive hedging coverage over the full tenor of the debt, whereas other Egyptian projects have faced constraints owing to the project company's inability to access long term hedging products from the commercial bank market.

Not surprisingly in the context of a project financed by development finance institutions, and as is becoming increasingly common in the project financing market, a critical focal point of the diligence process was on the environmental and social aspects of the project. Given that the project is located in an important migratory bird flyway,

the project company has committed to shut downs to address migratory bird patterns. The project is expected to avoid 550,000 tons of annual CO2 emissions, and additionally will significantly impact the local community through the creation of 550 jobs and the development of a Community Investment Plan.

The Milbank team provided guidance to Lekela and the three development finance institutions to facilitate the signing of the finance documents and the achievement of financial close under the PPA in July 2019. M

*By partner John Dewar with the assistance of senior associate Suzanne Szczetnikowicz*

ASIA

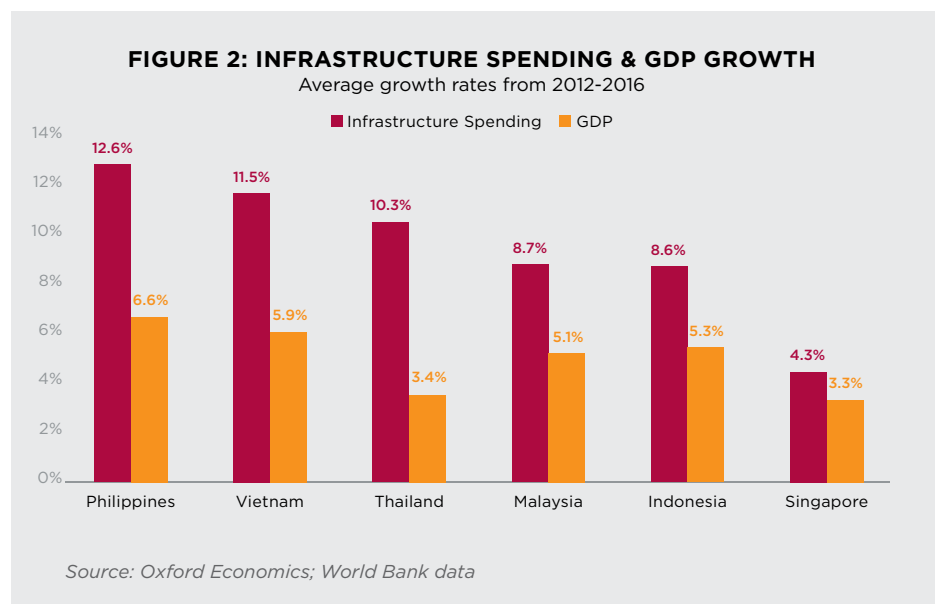
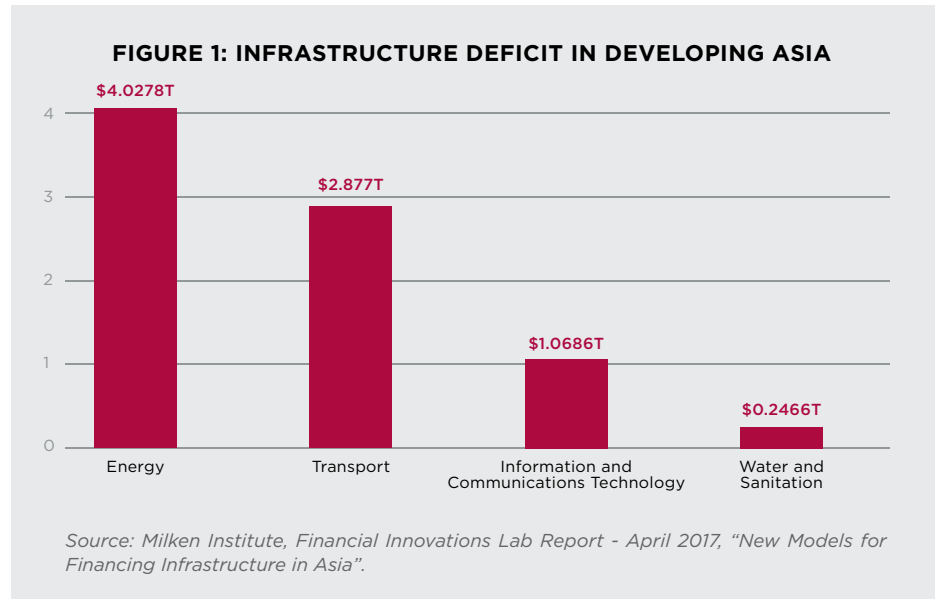
## Alternative Funding for Asian-Pacific Infrastructure

### INTRODUCTION

Alternative funding sources have emerged in the Asia-Pacific infrastructure market in recent years, with investors stepping in to bridge the gap left by traditional funders as demand for infrastructure investment in the region continues to far outpace the available supply of traditional credit sources.

Securing capital for infrastructure projects has often been a challenge, given the significant upfront capital expenditure and often long return period. As in the US and elsewhere, project funding for infrastructure projects in the Asia-Pacific region has traditionally been sourced from multi-lateral development agencies such as the Asian Development Bank (ADB) and the International Finance Corporation (IFC), official development assistance schemes funded by individual donor countries, commercial banks, quasi-governmental institutions (including export credit agencies such as Japan Bank for International Cooperation (JBIC) and the Export-Import Bank of Korea (KEXIM)), and directly from local and national governments.

Continued economic success and population growth in the Asia-Pacific region, however, has placed increasing pressure on the supply of capital available from such traditional sources of infrastructure investment. Traditional sources of capital have not kept pace with the burgeoning demand for investment in the region's projects. Very few, if any, governments have the necessary capital at hand to fund all of the infrastructure needs of their economies. The needs for infrastructure in the Asia-Pacific region span



sectors from telecoms, toll roads, airports and energy grids to water and sewerage systems, hospitals, prisons and public buildings. The World Bank estimates that emerging Asia-Pacific countries alone need to invest US\$26 trillion until 2030 — or approximately US\$1.7 trillion a year — to maintain their current rate of economic growth. According to the World Bank, commercial banks, governments, export credit agencies and other quasi-public institutions simply cannot service this level of investment alone.

Given the widening shortfall in credit available from traditional sources for infrastructure funding in the Asia-Pacific region, alternative investor groups have already begun to identify the wealth of opportunities which are available to private capital solutions in a wide range of infrastructure sub-sectors. Private debt credit funds, in particular, have become an increasingly important source of infrastructure funding in the Asia-Pacific region in recent years, particularly since local bond markets have not yet been sufficiently



developed to meet the complex needs of infrastructure investment.

## **BRIDGING THE GAP — ALTERNATIVE SOURCES OF INFRASTRUCTURE FUNDING:**

In a world of continuing low interest rates — and against a backdrop of growing volatility in global financial markets — investment in infrastructure assets has become increasingly attractive to investors looking for steady, long term growth. According to PricewaterhouseCoopers, private money has poured into infrastructure in recent years. Globally, infrastructure funds raised US\$65 billion in 2017, compared to US\$66 billion in 2016 and US\$44 billion in 2015. While Asia accounted for only about 15% of the total global fundraising pool over the past 10 years,<sup>1</sup> this does not reflect the huge amount of dry powder that is available for infrastructure investments in the Asia-Pacific region, given the global mandate of many infrastructure funds. This is in line with the growth in opportunities in recent years, as infrastructure deals in the region have been picking up speed,

accounting for more than a quarter of the global amount in 2017.<sup>2</sup>

In Asia-Pacific, the supply of suitable infrastructure projects remains strong, making investment in the region an attractive option for newer types of investor groups outside of the traditional multilateral lenders and project financing banks funding from their own balance sheets. Sovereign wealth funds, pension funds and insurance funds such as GIC (Singapore), Khazanah Nasional (Malaysia), CalPERS, OMERS, CDPQ, and Ontario Teachers, among others, have entered as important and active sources of private capital.

Private equity funds have also been making headlines by raising eye-watering levels of capital commitments for funds dedicated to infrastructure deals globally and in Asia. For these investor types, the attraction of investing in infrastructure is clear. Infrastructure assets represent long-life assets with low volatility, protected downside and stable cash flows which are especially suited to institutional investors looking to hold long-term liabilities.

Investing in infrastructure also provides the opportunity to significantly diversify a fund's portfolio. In Asia, funds such as Global Infrastructure Partners, I Squared Capital, Partners Group, the infrastructure arms of Macquarie Group, Brookfield Asset Management, JP Morgan, and more recently KKR, have been active in sourcing and executing highly successful investment and divestment deals in Asia's telecoms and renewable energy sectors, among others. For example, Global Infrastructure Partners completed its \$5 billion acquisition of Singapore-based Equis Energy in January 2018, the largest renewable energy generation acquisition ever. In 2017, I Squared Capital completed its HK\$14.5 billion acquisition of Hutchison Global Communications, a Hong Kong-based fixed-line telecommunications business.

## **TRENDS AND OPPORTUNITIES IN ASIAN INFRASTRUCTURE ASSETS**

Increased competition among investors in mature markets and reducing yields are driving infrastructure investors into new markets where



they may access more opportunities with potentially higher returns. Accordingly, investors have identified Asia as a source of compelling investment opportunities, particularly

“ There continues to be a serious infrastructure investment gap. As such, the long-term outlook for private infrastructure investment in Asia is highly positive coupled with the substantial demand for private capital. ”

given the region’s urgent need for basic infrastructure such as roads, bridges, hospitals and power plants as measured against the growing economic strength in the individualized economies.

The economic outlook in Asia remains positive, even against the backdrop of a global trade war, as trade flows adjust themselves naturally (e.g. the movement of lower cost manufacturing from China to Vietnam, Indonesia, Bangladesh or India), and will continue to sustain the demand for infrastructure projects in such developing economies. And yet, there continues to be a serious infrastructure investment gap. As such, the long-term outlook for private infrastructure investment in Asia is highly positive coupled with the substantial demand for private capital.

As with other kinds of investments, investments in Asian infrastructure projects present particular risks and challenges. To mitigate these and other risks, investors should look to retain legal counsel with both international deal-making experience and local knowledge, expertise, and extensive experience with on-the-ground issues and concerns.

Milbank has experience with these types of regional infrastructure projects, and has advised on recent investment transactions including airports in India, renewable energy in India, the Philippines, Vietnam and Indonesia, telecoms infrastructure in Indonesia, Myanmar and the Philippines, and integrated logistics infrastructure in Indonesia, among many others.

#### KEY CHALLENGES FACING INFRASTRUCTURE INVESTORS

Some of the most pertinent risks to infrastructure investment opportunities in the Asia-Pacific infrastructure market include:


- **Legal and Regulatory Concerns:** An uncertain and constantly evolving legal and regulatory framework can create difficulties for private debt capital that aims to participate in infrastructure projects, particularly since investors require comfort and confidence in a market’s regulatory regime. This is a common concern in emerging markets such as Asia, where new regulations are promulgated often without warning, and sometimes with conflicting implications on existing regulations.
- **Allocation of Risk:** In Asian economies, governments often view private sector involvement in projects as a way to transfer risks to another party, whether through PPPs (Public-Private Partnerships?) or other structures. As such, the risks and the price of assuming these risks, including risks associated with foreign currency

movement and force majeure events, are critical considerations for investors. Where risks are not allocated in a manner deemed equitable by the investor, such as when investors or governments are unwilling to undertake certain risks or where compensation is inadequate for the risks assumed, such investment could be a challenge. An investor could then choose to dedicate its capital to other projects with a more equitable risk allocation structure or not invest its capital at all.

- **Increased Investment Competition:** Given the amount of capital available for investment globally and in Asia, infrastructure fund managers and investors face increasing competition for investible assets, which results in the inevitable rise of asset valuations and eroding investment returns. Record levels of fundraising, coupled with investors going direct, have created an abundant supply of capital competing for these limited investment opportunities. It is expected that the demand and supply interaction will combine to push prices higher (or lower) and stretch valuations further.
- **Fund Profiles:** Investors may have mandates, strategies and preferences that differ from fund managers and/or investments in the Asia region whose risk profile, strategic and geographic focus may not align with their own investment mandates, risk appetite and horizons.
- **Exit Options and Secondary Markets:** Exit options are important to infrastructure funds and private equity investors looking to divest after a specific timeframe. Appropriate exit strategies may involve a refinancing or sale of an interest to another investor. The availability of a regional secondary market for infrastructure investments is essential to facilitate the recycling of capital, the matching of buyers to sellers, and the matching

of investment and exit preferences. Currently, the secondary market in ASEAN is still in its nascent stage, and investors have to navigate the developing legal and regulatory environment, including dealing with limitations on foreign investment and ownership which impede foreign investors' access to the region. This is especially prevalent within the infrastructure sector, which is often seen as a sector of national interest that should not permit total or majority foreign ownership. As such, this can prove an impediment to accessing private capital for infrastructure in these economies.

## CONCLUSION

Notwithstanding the current backdrop of trade wars, global market volatility and greater local political instability in recent years, investments from alternative capital providers in the infrastructure space in the Asia region remains strong and is projected to grow in light of the acute funding gap for infrastructure investment in the region. If investment from such capital sources is to grow even further, barriers to investment will need to be addressed by the local governments in each economy to unlock even more opportunities in the region and to lower risk profiles for such investors. However, even in spite of these constraints, the infrastructure space in the Asia region remains rich with investment opportunities and the outlook for continued growth is overwhelmingly positive. 

1. Source: Preqin data.

2. Source: <http://www.reuters.com/article/us-kkr-infrastructure/kkr-expands-asia-infrastructure-business-with-new-hires-idUSKCNINPO01>

By partner Jacqueline Chan with the assistance of associate Joseph Richmond

## Asia-Pacific Opens to New Energy Sources

Changes in the investment landscape in the Asia-Pacific region present new challenges for countries that rely on fossil fuels as their main energy source. Some developing countries in the region were previously insulated to a degree from the growing socio-political pressure to abandon fossil fuels. Many Asia-based financial institutions and export credit agencies, however, have recently joined the ranks of European, American and Australian financial institutions in exiting fossil fuels and shifting their focus to renewable energy projects. This shift has increased countries' appetite to diversify energy sources and reduce reliance on fossil fuel and non-renewables in the region.

By way of example, Japan's Mitsubishi UFJ Financial Group (one of the world's largest banks by assets) ceased financing new coal-fired power projects as of July 2019 and Singapore-headquartered Oversea-Chinese Banking Corporation (the world's largest investor in overseas coal projects) has recently announced that it is phasing out financing for coal-power plants. The pressure for change is now also coming from new directions — Suncorp became the latest Australian insurer to end coverage for new coal-mining and coal-power projects.

With this backdrop, we consider how a number of countries in the Asia-Pacific region are looking to diversify their energy sources.

## INDONESIA

When President Joko "Jokowi" Widodo came into office in 2014, he issued a mandate to add 35,000 MW of installed capacity to Indonesia's power grid by 2019. Coal-fired powered electricity generation plants (especially those employing ultra-supercritical technology) have filled a substantial portion of this quota, such

as the 2,000MW Central Java project, 1,000MW Cirebon Expansion IPP and 200MW Kalsel project in South Kalimantan. Recent initiatives suggest, however, that the Indonesian government is re-doubling its efforts to meet Jokowi's target with renewable energy developments.

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“Many Asia-based financial institutions and export credit agencies ... have recently joined the ranks of European, American and Australian financial institutions in exiting fossil fuels and shifting their focus to renewable energy projects.”

In the last couple of years, a number of geothermal power plants (such as the 220MW Rantau Dedap project and the 80MW Muara Laboh project) and gas-fired powered plants (such as the 275 MW Riau IPP project) successfully secured financing and have begun construction. With President Jokowi winning re-election in April 2019 for another 5-year term, it seems likely this trend will continue. Nonetheless, the PLN (the Indonesian state-owned power offtaker) has conceded that it will remain reliant on coal as its main fuel for generating power, on the premise that the price of power generated by coal-fired plants is more economical.





## TAIWAN

As a point of comparison, Taiwan has made great strides in its diversification efforts over the last few years. In May 2019, the US\$2.75 billion Yunlin offshore wind project — the largest offshore wind project financing in Asia — achieved financial close. Yunlin illustrates Taiwan's success in making itself an attractive jurisdiction for investors and financiers with its deliberate agenda to diversify its energy sources, with a view to reducing dependence on nuclear power and coal. In Taiwan, renewable energy sources (including solar and hydro, in addition to wind) have the added advantage of being home-grown, whereas, in contrast to Indonesia with its ready access to coal, fossil fuels are predominantly imported.

With its robust investment environment and the political support extended to the renewables industry, many tout Taiwan's success as a potential blueprint for the region.

## CHINA

“No country has put itself in a better position to become the world's renewable energy superpower than China” said a recent report issued by the Global Commission on the Geopolitics of Energy Transformation. Another report by the UN's renewable energy advisory body, REN21, showed that China led renewable energy investments worldwide for the seventh successive year, contributing to almost a third of the global renewable investment in 2018. Despite this positive press and the surge in domestic wind and solar power investments, China also remains the world's largest producer of carbon emissions. Given the massive scale of China's investments domestically and abroad, and growing dominance with renewable energy technology, it could be that China will shape global trends and spur a faster transition toward renewable energy.

## VIETNAM

With a rising demand for electricity to power its growing economy, Vietnam presents a promising opportunity for investors. The government has a deliberate agenda to expand power generation capacity and it is expected that a significant portion of this will be funded by private investment. In 2016, the Vietnamese government issued the Master Plan 7, setting out its vision for renewable energy projects to account for 10% of the country's overall electricity capacity by 2020 and 21% by 2030. In support of these targets, the government has rolled out a series of regulations aimed at clarifying the legal framework and providing incentives for the development of renewable energy projects. These initiatives have already generated results with a number of projects getting the green light to advance. One such project is the Banpu Vinh Cau 80 MW wind power project which received an Investment Registration Certificate in July 2018 and should achieve commercial operation soon.

## INDIA

Another energy-hungry country, India, has a strong natural advantage in renewables as it receives (on average) twice as much sunshine as European countries, making solar a particularly attractive source of power. However, India also continues to rely on its cheap and abundant coal reserves, the fifth-largest in the world. While the government has set a target of having renewable energy capacity of at least 500 GW (40% of total capacity) by 2030 (up from 357 GW or 22% of total capacity), the investment environment continues to pose challenges. Significantly higher capital expenditure and project costs (compared to conventional power projects) hamper growth in the renewables sector. Without express government support, projects looking to acquire the significant parcels of

land required for installation of solar facilities are also likely to suffer delays and protracted negotiations.

## AUSTRALIA

One of the first countries to have set a Renewable Energy Target, Australia is set to meet its target of 23.5 per cent renewable energy by 2020. A growing trend in the renewables sector in Australia is a new business model where power output is sold directly to end-users. For example, the Australian supermarket giant Coles, has signed a power purchase agreement to purchase over 70% of the 220 GW hours of electricity that will be generated by three solar farms to be built and operated by UK-based renewables developer Metka EGN. An investor friendly jurisdiction with a robust legal system, Australia continues to present an attractive investment proposition for certain sponsors and financiers. Australia's Foreign Investment Review Board has also introduced a slew of clarifications to its foreign investment rules which improve certainty and make it easier for foreign investors to land into Australia.

## THE FUTURE OF DIVERSIFICATION

We expect this trend of reduced reliance on non-renewable energy sources to continue owing to the 'push factor' of a more challenging investment landscape for coal and a 'pull factor' of the falling cost of renewables. However, continued strong political support is necessary to incentivize private investments and to shift reliance from traditional energy sources. M

*By partner James Orme with the assistance of associate Rosaline Yusman*

## Reliance Jio: Disrupting the Indian Telecoms Sector

Since 2016, Reliance Industries Limited, one of India's largest energy-to-retail conglomerates, has spent over \$36 billion to blanket India with its first all-4G network constructed by Samsung. By offering free calls and data for pennies, and low priced mobile phones, Reliance Jio Infocomm (Reliance Jio) has disrupted the Indian telecoms sector forever, by launching a low cost internet tsunami that has connected the market of 1.3 billion people in India to the internet like never before, and forcing a series of competitors into retreat or merger.

Within just three years, Reliance Jio has won over 331 million subscribers to become India's biggest telecom operator, as companies prepare for the planned rollout of a 5G network. [1] That is higher than nearest rival Vodafone Idea Ltd, which is the entity that emerged after a merger of the local unit of Vodafone Group Plc with Idea Cellular Ltd, brought about by Reliance Jio's strategy of providing low cost data services and mobile phones. Not only is Reliance Jio continuing significantly to grow its customer base, it has also experienced an industry leading customer "churn" rate as low as 1 per cent.

Reliance Jio's expansion has been funded through a combination of equity and shareholder loans from Reliance Industries Limited and from borrowings, primarily ECA financings from the Korean export credit agencies, Korea Trade Insurance Corporation (K-sure) and the Export-Import Bank of Korea (K-EXIM). With a stronger credit rating than the Indian government's BBB-, in an international bank market flush with liquidity, Reliance Industries Limited's, Reliance Jio has sealed aggregate financings of \$1.75 billion

from K-SURE, and so far US\$750 million from K-EXIM. Milbank advised K-sure, K-EXIM and the commercial banks on each of these financings.

The financings made available to Reliance Jio (which have been supported by corporate guarantees from Reliance Industries Limited) are now the largest Indian loans covered by K-sure, and its largest global telecom financing. Reliance Jio is also K-sure's largest privately owned borrower. M

*By partner John Dewar with the assistance of senior associate Munib Hussain*



# RECENT DEALS

## **Acquisition Financing of Zona Franca Celsia (Colombia)**

Purchase of Zona Franca Celsia, the owner of the 610MW Termoflores power plant in Colombia.

**ADNOC Partnership (United Arab Emirates)** BlackRock and KKR on a landmark acquisition and financing of a \$4 billion investment in ADNOC's crude gathering and pipeline infrastructure.

**Aguascalientes Sur I Solar PV Plant (Mexico)** Greenfield project financing of OPDE's 34MW Aguascalientes Sur I Solar PV Plant, including an associated electrical substation and interconnection line in Aguascalientes, Mexico.

**Andalucía II Solar PV Plant (Mexico)** Greenfield project financing of OPDE's 99MW Andalucía II Solar PV Plant located in Matamoros, Mexico.

**Athens Airport (Greece)** Second lien bond loan issuance in connection with the 20-year extension of the original concession granted to manage and operate Athens International Airport in Athens.

**Dominion Energy (United States)** \$3 billion refinancing of the debt at Dominion Energy Cove Point LNG, LP.

**Enerwise Global Technologies (d/b/a CPower) (United States)** Enerwise Global Technologies (d/b/a CPower) in connection with its Term Loan financing.

**Essential Power Upsizing (United States)** Upsizing of the term loan credit facility for Nautilus Power, LLC, a subsidiary of the Carlyle Group that owns a portfolio of natural gas, ultra-low sulfur diesel and liquid fuel power generating facilities with an aggregate nominal capacity of approximately 1.8GW.

**Establishment of Dito Telecommunity Corp. (Philippines)** Udenna Corporation in the establishment of the Philippines' third telecom provider, Dito Telecommunity Corp., through a joint venture agreement with China Telecommunications Corporation ("CT").

**First Infrastructure Acquisition of WhiteWater Midstream (United States)** First Infrastructure Capital Advisors, LLC on its acquisition of WhiteWater Midstream.

**FirstLight Resources/PSP Investments Corporate Facility (United States)** Revolving loan facility and letter of credit facility secured by existing hydroelectric facilities located in Connecticut and Massachusetts.

**Foard City Wind Project (United States)** Financing for the 325MW Foard City Wind Project located in Texas.

**Fontus Hydro (Panama)** Financing for three run-of-the-river hydroelectric power plants in Panama. The transaction was named "Infrastructure Financing of the Year: Central America" by LatinFinance.

**Fruta del Norte (Ecuador)** Financing for the development and construction of the Fruta del Norte Gold Project in Ecuador. This transaction was named "Latin America Mining Deal of the Year" by IJGlobal, "Mining Financing of the Year" by LatinFinance and "Latin America Structured Loan Deal of the Year" by Bonds and Loans.

**Global Renewable Power Fund Acquisition (United States)** BlackRock's Global Renewable Power Fund in its acquisition of GE's Commercial and Industrial Solar Platform.

**GNA Port of Açú (Brazil)** Development and financing of GNA-1, a major LNG-to-Power Project in Brazil. The deal was named "Power Financing of the Year" and "Infrastructure Financing of the Year" by LatinFinance.

**Goreway Power Station Holdings Sale (Canada)** Sale of Goreway Power Station Holdings Inc., which owns the Goreway Power Station, an 875MW natural gas combined cycle generation facility located in Brampton, Ontario, to Capital Power Corporation.

**Great River Hydro (United States)** Holdco financing for a 584MW portfolio of hydroelectric assets located in New England and owned by ArcLight.

**Gridiron (United States)** Gridiron Intermediate Holdings in a term loan financing.

**Huntley Solar Project (United States)** Financing for the 100MW Huntley Solar Project located in South Carolina.

**Hydroelectric Power Project (Chile)** Refinancing for an 161MW run-of-the-river hydroelectric power plant located in Chile.

**Investment in Converge Information and Communications Technology Solutions Inc. ("Converge") (Philippines)** Converge in the investment by Warburg Pincus of a substantial minority interest. Converge is a major provider of telecommunication and cable television services in the Philippines, and operates fiber optic broadband networks, cable television and cable internet throughout the country.

**Jambaran Tiung Biru (JTB) Gas Field Unitization Project (Indonesia)** \$1.8 billion financing of the Jambaran Tiung Biru (JTB) gas field unitization project for PT Pertamina EP Cepu (PEPC), a wholly owned subsidiary of PT Pertamina, Indonesia's state-owned oil and natural gas corporation, the country's largest state-owned entity and one of its largest crude oil producers.



**Kerala Infrastructure (India)** Project bond investment issued by Kerala Infrastructure Investment Fund.

**La Bufa Wind Farm USPP (Mexico)** USPP financing related to the 130MW La Bufa Wind Facility Project located in Zacatecas, Mexico.

**Lackawanna Energy Center (United States)** Upsizing of existing credit facilities for Lackawanna Energy Center, a 1,500MW natural gas-fired combined cycle power plant located in Jessup Borough, Lackawanna County, Pennsylvania.

**Lekela West Bakr Wind Project (Egypt)** Financing of the \$400 million 250MW Lekela West Bakr Wind Project located on the Gulf of Suez in Egypt, sponsored by Actis and Mainstream Power.

**Los Pelambres Copper Mine Expansion (Chile)** \$1.3 billion Los Pelambres copper project, sponsored by Antofagasta Holdings and a consortium of Japanese companies headed by Nippon Mining and Mitsubishi.

**Los Ramones II Norte Pipeline (Mexico)** Financing of the acquisition of interest in the operational Norte gas transmission pipeline.

**Maisan Combined Cycle Power Plant (Iraq)** Construction, development and financing of the 750MW Maisan Combined Cycle Power Plant in the Missan Governorate in the Republic of Iraq valued at over US\$2 billion.

**Metropistas Private Placement (Puerto Rico)** Private placement of notes used to refinance indebtedness incurred to finance works relating to the toll road concession granted to the Issuer by the Puerto Rico Highways and Transportation Authority.

**Mexico FPSO (Mexico)** Financing of an FPSO that will be chartered to PEMEX.

**Midship Pipeline (United States)** Financing for the development and construction of the Midship Pipeline, a 200 mile, 36-inch diameter open access natural gas pipeline located in Oklahoma, with a nominal transportation capacity of at least 1.10 billion cubic feet per day.

**Northfield Mountain Hydro Facility (United States)** \$650 million private placement associated with its 1,168MW pumped storage hydro project.

**Oberon Solar Project (United States)** Secured hedge provider in the Oberon Solar Project in Texas.

**Oregon Clean Energy Refinancing (United States)** Refinancing of the 799MW gas-fired Oregon Clean Energy Project.

**PetroRio Oil Export Financing (Brazil)** Credit term loan facility for the financing of PetroRio's exports of oil produced in the Polvo Field.

**Polaris Wind Project (United States)** Financing for the 168MW Polaris Wind Project located in Michigan.

**PT Lestari Banten Energi Project Bond (Indonesia)** \$775 million 20-year investment grade project bond guaranteed by a subsidiary of Genting Energy which owns and operates a 670MW supercritical, coal-fired power generation facility in West Java, Indonesia that provides power directly to the Java-Bali power grid pursuant to a 25-year power purchase agreement with PT PLN (Persero).

**Pumpkin Hollow Copper Project (United States)** Financing for the Pumpkin Hollow Copper Project in Nevada.

**Quebrada Blanca Phase 2 (Chile)** Financing for the expansion of the \$6 billion Quebrada Blanca Phase 2 (QB2) copper mine in Chile.

**Reliance Jio \$1 billion K-sure Financing (India)** \$1 billion K-sure covered 4G telecom financing in India.

**Rock Wind Portfolio Financing (United States)** Financing for the Rock Wind Portfolio, including the 139MW Twin Ridges Wind Project, the 239MW Big Sky Wind, the 75MW Highland North Wind, the 55MW Howard Wind, and the 30MW Patton Wind Farm in the United States.

**Rockland Capital PJM Portfolio Refinancing (United States)** Private placement refinancing of the Rockland Capital Gridflex Portfolio, which includes the Lee County, Tait and Montpelier gas-fired peaker power plants totaling approximately 1,500MW in the PJM market.

**Rumichaca-Pasto 4G Toll Road Project (Colombia)** Financing for the Rumichaca-Pasto 4G Toll Road Project in Colombia.

**Safe Harbor Solar Equipment Supply Facility (United States)** Financing for the supply of 500MW of safe harbor solar equipment.

**Santa Isabel Solar PV Project (Chile)** Financing of the 190MW Santa Isabel Solar PV Project located in the Antofagasta region in Chile.

**Savage Gulf Rail Terminal (United States)** Private placement financing for the design, construction and operation of the Savage Gulf Rail Terminal and associated infrastructure that will serve the world's largest plastics manufacturing facility owned by SABIC and Exxon, currently under construction in Gregory, Texas.

**Sentinel Energy Refinancing (United States)** Refinancing of senior indebtedness of Sentinel Energy Center, LLC, owner of an 800MW natural gas-fired electric generation facility in Riverside, California.

**Sonnex Power Holdings Limited Corporate Facility (United Kingdom)** €250 million facility to Sonnex's global solar PV holding company.

**Sycamore-Penasquitos Transmission LLC Private Placement (United States)** Private placement for a portion of the capacity of San Diego Gas & Electric Company's 14-mile 230 kV transmission line connecting the Sycamore Canyon and Penasquitos substations.

**Tamale Airport (Ghana)** Financing for the second phase of the Tamale International Airport in Ghana

**Tapestry Wind (United States)** Refinancing of the Tapestry Wind Portfolio.

**Tata Steel ECB Loan (India)** \$525 million syndicated term loan facility for the brownfield expansion of the 5 MPTA Kalinganagar steel plant in Odisha, India.

**Term Loan to PT Indika Energy Tbk. (Indonesia)** \$150 million term loan to PT Indika Energy Tbk. for the purposes of a liability management exercise.

**Terra-Gen HoldCo Letter of Credit Facility (United States)** Holdco letter of credit facility for Terra-Gen.

**Texas Wood Pellets (United States)** Apollo as the financing provider for Graanul Invest's acquisition of Texas Wood Pellets.

**Thorntons HoldCo Financing (United States)** Loan to purchase Thorntons LLC, a gas station and convenience store operator with 191 locations across several states in the US.

**Tinum Refined Coal (United States)** Investment in a partnership that acquired a refined coal facility from Tinum. The refined coal facility is located at a coal-fired power plant that has historically burned in excess of 5.5 million tons of coal per year.

**Wagyu Solar Project (United States)** Financing for the 162MW Wagyu Solar Project located in Texas.

**White Pass & Yukon Route Railway (United States)** Private placement of notes issued for the White Pass & Yukon Route railway in Skagway, Alaska.

**WhiteWater Midstream Upsize (United States)** Upsize to an existing loan in connection with a system of natural gas pipelines in Texas.

**Wilkinson Solar Project (United States)** Financing for the 74MW Wilkinson Solar Project located in North Carolina.



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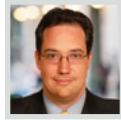
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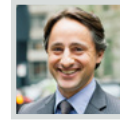
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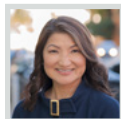
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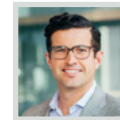
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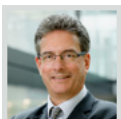


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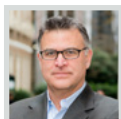
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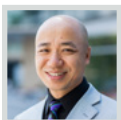


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