WWW.POWERFINANCERISK.COM VOL. XXI, NO. 26 / July 02, 2018

Power Finance & Risk

Exclusive Insight on Power M&A and Project Financing

By the publisher of GlobalCapital

Banks Wade Carefully into Solar Merchant Waters

Shravan Bhat

Lenders financing solar projects are beginning to give credit to uncontracted revenues and novel hedging products amid intense competition in the bank market, with certain caveats.

According to a new database called Solar Lendscape, launched by risk management and data firm **kWh Analytics**, as many as 10 lenders are already valuing a merchant tail that goes beyond solar projects' contracted revenues.

Ares Credit, Brookfield, CIT Group, ING Capital, Investec, Live Oak Bank, MMA Energy Capital, North American Development Bank, Open Energy Group and **Prudential** all attribute some value to uncontracted future cash flows in certain cases, according to the data.

The directory—the brainchild of kWh Analytics PAGE 9 »

P.E. Firm Suspends Sale of Hydro Portfolio

Fotios Tsarouhis

A private equity firm has suspended a sale process for a stake in a hydro portfolio company.

Hudson Clean Energy Partners hired **Evercore** to market its position in **Eagle Creek Renewable Energy** earlier this year (PFR, 2/22).

The reason the sale process was called off could not immediately be learned.

Eagle Creek owns 63 hydro assets totaling 210 MW across the continental U.S., according to its website.

Hudson co-owns the Morristown, N.J.-based portfolio company with **Power Energy Eagle Creek**, a joint venture between two Montréal-based entities, investment firm **Claridge** and **Power Corp. of Canada**.

Representatives of Hudson Clean Energy Partners in Teaneck, N.J., Eagle Creek Renewable Energy in Morristown and Evercore in New York did not immediately respond to inquiries. ■

Wind Shop Markets Empire State Assets

Fotios Tsarouhis

A company owning more than 500 MW of wind assets in New York state is in the process of finding a buyer for the portfolio, *PFR* has learned.

The seller, **Noble Environmental Power**, has tapped **Greentech Capital Advisors** to market the five upstate projects and the auction is in a second round, say deal watchers familiar with the sale process.

Representatives of Noble in Centerbrook and Greentech in New York did not immediately respond to inquiries.

Three of the assets—the 100.5 MW Noble Clinton project, the 97.5 MW Noble Altona project and the 81 MW Noble Ellenburg project—are located in Clinton County, while the PAGE 9 »

Sempra to Sell U.S. Renewables, Gas Storage Assets

Fotios Tsarouhis

Sempra Energy is putting its 2.6 GW portfolio of U.S. wind and solar assets up for sale in response to demands from activist investors.

Despite calling renewables "a vital part of the energy landscape," Sempra's ceo **Jeffrey Martin** said in a statement that the company had decided its platform "would be more valuable to another owner."

Elliott Management Corp. and **Bluescape Resources Co.**, which own a combined 4.9% stake in Sempra worth $1.5 billion, have been clamoring for the sale of the portfolio, which comprises 1.34 GW of wind projects in eight states in the continental U.S. and Hawaii and 1.26 GW of solar assets in Arizona, California and Nevada.

The 2.6 GW figure does not include a project pipeline comprising wind and PAGE 9 »

● POWER UP: CHECK OUT A SELECTION OF THE WEEK'S POWER AND UTILITY NEWS ON TWITTER @POWERFINRISK

IN THIS ISSUE

PROJECT FINANCE

Freeport LNG Project Raids Bond Mart for Refi

The owners of the Freeport LNG liquefaction project in Quintana, Texas, have refinanced a portion of the debt associated with its third train in the bond market.

Credit Suisse, **Goldman Sachs**, **MUFG** and **Sumitomo Mitsui Banking Corp.** are the bookrunners on the $1 billion senior secured note offering from **FLNG Liquefaction 3**, was priced at 262.5 basis points over Treasurys.

Initial price talk on the 21-year offering, rated BBB- by **S&P Global Ratings** and **Fitch Ratings**, was 262.5 bp.

The notes amortize fully over 18 years, beginning on March 30, 2021, and have a 12.9-year weighted average life.

Freeport's third train has 20-year liquefaction tolling agreements (LTAs) with **SK E&S LNG** and **Toshiba America LNG Corp**. for 2.2 mtpa of LNG.

"LTAs with two third-party off-takers provide capacity payments to cover fixed costs, regardless of LNG volumes lifted, and reimburse variable costs associated with lifting," wrote analysts at Fitch in presale report published on May 25. "The LTA with Toshiba Corporation carries heightened contract termination risk, due to weak counterparty credit quality."

The notes will refinance a portion of Freeport 3's existing debt facility, a $3.691 billion, seven-year mini-perm that was originally signed in April 2015 (PFR, 4/28/15).

Another portion of the debt was already paid down with some of the proceeds of a $2.4 billion, five-year back-levered bank loan which closed on May 15. **Crédit Agricole, HSBC,** MUFG and SMBC were coordinating lead arrangers on the loan.

The proceeds of the back-levered loan will also go toward construction of Freeport's fourth train, which is set to begin this year.

In April, the commercial operations date for train 1 was pushed back by nine months to Sept. 1, 2019. Train 3, meanwhile, was expected to be online by August 2019 when it reached financial close, but this has since been revised to May 1, 2020.

"Fitch Ratings believes while contractor and severe weather-related delays may push completion beyond the original guaranteed date, project liquidity is sufficient to absorb substantial cost overruns and delays beyond the current reasonable downside wait," wrote the rating agency's analysts.

While stakes in train 1 of the Freeport LNG project have been sold to **Osaka Gas** and **Chubu Electric** and an interest in train 2 to **IFM Investors**, train 3 remains wholly owned by developer **Freeport LNG**.

Michael Smith, who founded Freeport LNG and serves as its ceo, co-owns the company with **Global Infrastructure Partners** and Osaka Gas. ■

PFR Power Finance & Risk

EDITORIAL
Richard Metcalf
Editor
(212) 224-3259

Fotios Tsarouhis
Reporter
(212) 224 3294

Shravan Bhat
Reporter
(212) 224 3260

Stuart Wise
Data Associate

Kieron Black
Sketch Artist

PRODUCTION
Gerald Hayes
Manager
Sam Medway
Associate

PUBLISHING
Laura Spencer
Senior Marketing Manager

Adam Scott-Brown
Director of Fulfillment

Nina Bonny
Customer Service Manager
(212) 224-3433

SUBSCRIPTIONS/ ELECTRONIC LICENSES/ REPRINTS
Jon Ljekocevic
Sales Executive
(212) 224 3043

CORPORATE
Andrew Rashbass
Chief Executive Officer

John Orchard
Managing Director, Banking & Finance Group

Directors:
David Pritchard (Chairman), **Andrew Rashbass** (CEO), **Andrew Ballingal, Tristan Hillgarth, Imogen Joss, Jan Babiak, Lorna Tilbian, Tim Collier, Kevin Beatty, Colin Day**

Customer Service
PO Box 4009, Chesterfield, MO 63006-4009, USA
Tel: **1-800-715-9195**
Overseas dial: **1-212-224-3451**
Fax: **212-224-3886**
UK: **44 20 7779 8704** Hong Kong: **852 2842 8011**
E-Mail: customerservice@iiintelligence.com

Institutional Investor Hotline
(212) 224-3570 and (1-800) 437-9997 or Hotline@iiintelligence.com

Editorial Offices
1120 Avenue of the Americas, 6th Floor, New York, NY 10036
Power Finance & Risk is a general circulation newsweekly.
No statement in this issue is to be construed as a recommendation to buy or sell securities or to provide investment advice.
Power Finance & Risk ©2016
Institutional Investor, LLC Issn# 1529-6652
Copying prohibited without the permission of the publisher.

Postmaster
Please send all undeliverable Mail and changes of addresses to:
PO Box 4009 Chesterfield, MO 63006-4009 USA

GlobalCapital

TELL US WHAT YOU THINK!

Do you have questions, comments or criticisms about a story that appeared in ***PFR***? Should we be covering more or less of a given area? The staff of ***PFR*** is committed as ever to evolving with the markets and we welcome your feedback.

Feel free to contact **Richard Metcalf**, editor, at (212) 224-3259 or richard.metcalf@powerfinancerisk.com

GENERATION AUCTION & SALE CALENDAR ●

These are the current live generation asset sales and auctions, according to Power Finance and Risk's database.
A full listing of completed sales for the last 10 years is available at http://www.powerfinancerisk.com/AuctionSalesData.html

Generation Sale DATABASE

Seller	Assets	Location	Adviser	Status/Comment
Actis	Atlantic Energías Renovaveis (625 MW Wind)	Brazil		Chinese investors are among the bidders for the fully-contracted wind assets (PFR, 3/22).
AES, AIMCo	Portfolio (1.3 GW Wind, Solar)	U.S.	Barclays	The pair have mandated Barclays to sell a stake in sPower's operational portfolio less than a year after acquiring it (PFR, 6/25).
Ares-EIF, Starwood Energy	Hudson (660 MW Transmission)	New Jersey, New York	Goldman Sachs (seller), Barclays (buyer)	The sponsors are selling their majority stake in the project, which was completed in June 2013 (PFR, 4/24).
Blackstone	Frontera (526 MW Gas)	Hidalgo County, Texas	Cantor Fitzgerald, Jefferies, JP Morgan	Morgan Stanley was left lead on a $700 million seven-year term loan B that was issued in April to refinance the project (PFR, 6/11).
Conduit Capital Partners	Santa Catarina (22 MW Wind)	Monterrey, Nuevo León, Mexico		Conduit plans to launch a sale process for the contracted, operational asset this year (PFR, 1/8).
● Dhamma Energy	Unknown (37 MW Solar)	Mexico		The $230 million Balam Fund is buying the shovel-ready project (see story, page 7).
EDF Renewables	Portfolio (588 MW Wind)	U.S.		Dutch pension fund manager PGGM has agreed to acquire a 50% stake (PFR, 6/25).
Fengate Real Asset Investments	Portfolio (9.1 MW (DC) Solar)	Austin and San Antonio, Texas		Fengate has acquired the portfolio from PowerFin Partners in exchange for the first chunk of a $100 million multi-year equity commitment (PFR, 6/18).
Gardner Capital	Portofolio (105 MW Solar)	New York		SunEast Development has acquired the five development-stage projects (PFR, 6/25).
GE EFS	Debt, Equity Holdings		Citi, BAML	Citi is running the sale of the debt book for the GE Capital division, while BAML is marketing the private equity holdings (PFR, 6/11).
● Hudson Clean Energy Partners	Eagle Creek (210 MW Hydro)	U.S.	Evercore	The sale process for a stake in the hydro portfolio has been suspended (see story, page 1).
IEnova (Sempra Energy)	Termoeléctrica de Mexicali (625 MW Gas)	Baja California, Mexico		The company intends to sell the facility by the end of the year (PFR, 5/14).
Invenergy	Portfolio (392 MW Wind)	Quebec		Boralex is paying C$215 million to acquire stakes in five projects and assuming C$283 million of the portfolio's project-level debt (PFR, 6/25).
Invenergy	Ector County (330 MW Gas)	Ector County, Texas	Guggenheim (seller)	Invenergy has put the peaker up for sale (PFR, 2/26).
Invenergy	Nelson (584 MW Gas)	Rock Falls, Ill.	Credit Suisse	A buyer has been selected following a multiple-stage auction process (PFR, 5/7).
● Invenergy	Badger Hollow (300 MW Solar, 50%)	Iowa County, Wis.		Wisconsin Public Service Corp. and Madison Gas and Electric will buy a combined 50% stake (see story, page 7).
LS Power	Aurora (878 MW Gas)	Aurora, Ill.	Guggenheim	LS Power took bids for the two assets in the first quarter of this year (PFR, 3/22).
	Rockford (450 MW)	Rockford, Ill.		
	Seneca (508 MW Hydro)	Warren, Pa.	Barclays, PJ Solomon	LS Power is marketing the project four years after it abandoned an initial attempt sell it (PFR, 3/22).
Macquarie Infrastructure Corp.	Bayonne Energy Center (512 MW Gas)	Bayonne, N.J.		MIC is weighing a sale of the project, which powers parts of New York City (PFR, 2/26).
● NextEra Energy	Two Creeks (150 MW Solar)	Manitowoc and Kewaunee counties, Wis.		Wisconsin Public Service Corp. and Madison Gas and Electric will buy a combined 50% stake (see story, page 7).
● Noble Environmental Power	Portfolio (500 MW Wind)	New York	Greentech Capital Advisors	The auction for the five upstate projects is in its second round (see story, page 1).
Otoka Energy	Buena Vista (18 MW Biomass)	California		Maas Companies is running a sealed auction following a dispute with the Sacramento Municipal Utility District (see story, 8).
Onyx Renewable Partners	Portfolio (Small-scale Solar)	U.S.	RBC, CohnReznick	Onyx has begun marketing the portfolio (PFR, 1/29).
Peabody Energy	Navajo Generating (2,250 MW Coal)	Arizona	Lazard	Middle River Power, an Avenue Capital Partners portfolio company, has expressed interest in acquiring the project (PFR, 5/7).
Philip Morris Capital Corp.	Pasadena (781 MW Gas)	Texas	GSF Investors	The investor, a subsidiary of tobacco company Altria Group, is looking to find a buyer for its lessor position (PFR, 6/25).
ReneSola	Unknown (6.75 MW Solar)	North Carolina		Greenbacker Renewable Energy bought the operational project, which has a 15-year PPA with a local utility (see story, page 7).
Rockland Capital	Victoria (290 MW Gas)	Victoria County, Texas	PJ Solomon	Rockland is selling the CCGT, which it acquired from ArcLight in 2016 (PFR, 3/12).
● Sempra Energy	Portfolio (2.6 MW Wind, Solar)	U.S.		Sempra is sellings its U.S. renewable assets (see story, page 1).
Siemens FS, other former creditors	Temple I (758 MW Gas)	Texas	Houlihan Lokey	A creditor group that took control of the CCGT plant earlier this year has begun to explore strategic options that could result in a sale (PFR, 5/7).
● Starwood Energy Group	Northwest Ohio (105 MW Wind)	Paulding County, Ohio		CMS Energy Corp. is acquiring the facility through a subsidiary called CMS Enterprises (see story, page 7).

● **New or updated listing**

The accuracy of the information, which is derived from many sources, is deemed reliable but cannot be guaranteed.
To report updates or provide additional information on the status of financings, please call Fotios Tsarouhis at (212) 224 3294 or e-mail fotios.tsarouhis@powerfinancerisk.com

PROJECT FINANCE

Deal Book is a matrix of energy project finance deals that Power Finance & Risk is tracking in the energy sector.
A full listing of deals for the last several years is available at http://www.powerfinancerisk.com/Data.html

Live Deals: Americas

Sponsor	Project	Location	Lead(s)	Deal Type	Loan Amount	Tenor	Notes
7X Energy	Lapetus Energy Centre (35 MW Solar)	Andrews County, Texas	CohnReznick (adviser)	Debt, Tax Equity	TBA		Brazos Electric Power Cooperative will purchase the output under the terms of the 20-year deal (PFR, 5/29).
Carlyle Group	Rhode Island State Energy Center (583 MW Gas)	Johnston, R.I.	Investec	Term Loan A	$360M	7-yr	The private equity sponsor is refinancing the plant's existing term loan B into the bank market (PFR, 6/4).
Capital Dynamics	8point3 Portfolio (710 MW Solar)	U.S.	Allianz Global Investors	Private Placement	$760M	26-yr	CapDyn's acquisition of 8point3 valued its equity at about $977 million, while the yieldco's enterprise value was given as about $1.7 billion (see story, page 5).
			Barings, Commonwealth Bank of Australia, ING, KeyBank, Natixis, Sabadell, Santander, Rabobank, Nomura	Term Loan	TBA	TBA	
ConEd Development	Wistaria (107 MW Solar)	Imperial County, Calif.	TBA	Debt, Tax Equity	TBA		The project has a 20-year PPA with Southern California Edison (PFR, 6/18).
Controlled Thermal Resources	Hells Kitchen (275 MW Geothermal)	Imperial County, Calif.	Lazard (adviser)	Equity, Debt, Tax Equity	TBA		The developer has postponed the capital raise until October (PFR, 6/18).
Enel Green Power Mexico	Portoflio (992 MW Solar)	Mexico	BBVA, Caixa, MUFG, Natixis	Debt (Commercial Tranche)	$400M	17-yr	The commercial tranche is priced at 225bp over Libor, stepping up by 25bp every five years (PFR, 6/11).
			Bancomext, EIB, IDB	Debt (Multilateral Tranche)	$250M	20-yr	
Fermaca	El Encino–La Laguna (Gas pipeline)	Mexico	Allianz Global Investors	Bond	$450M	23-yr	AllianzGI had been in talks with Fermaca since the second half of 2017 regarding the $820 million project (see story, page 5).
			NordLB, BNP Paribas, ING, Mizuho, Sabadell	Term Loan	$255M	14-yr	
FGE Power	Goodnight (500 MW Wind)	Armstong County, Texas	Karbone	Tax Equity	TBA		The sponsor has already secured a cash equity commitment for the project from Fortistar (PFR, 5/29).
Freeport LNG	FLNG Liquefaction 3 (LNG)	Quintana, Texas	Credit Suisse, Goldman Sachs, MUFG, SMBC	Private Placement	$1B	21-yr	The notes, carrying a 12.9-year weighted average life, were priced at a 5.55% coupon on June 26 (see story, page 2).
GE EFS	Shady Hills (573 MW Gas)	Pasco County, Fla.	TBA	TBA	TBA	TBA	GE EFS is aiming to have all the permits in place and reach financial close in December (PFR, 5/21).
Greenbacker Renewable Energy Co.	Tar Heel Solar II (13.5 MW Solar)	Hertford and Bethel, N.C.	TBA	Tax Equity	TBA	TBA	The sponsor recently acquired the projects from ET Capital (PFR, 6/25).
	Unknown (6.75 MW (DC) Solar)	North Carolina	Rockwood Group	Tax Equity	TBA	TBA	Rockwood arranged financing for the project in partnership with Guardian Life Insurance Co. of America (PFR, 6/25).
Invenergy	Wind Catcher (2 GW Wind)	Oklahoma	MUFG	Debt	$2B	TBA	Bankers say the sponsor has appointed banks and circled pricing (PFR, 6/25).
Invenergy Clean Power (Invenergy, AMP Capital)	Invenergy Thermal Operating I (2,680 MW Gas)	U.S.	Credit Suisse (left), Goldman Sachs	Term Loan B	$350M	7-yr	Invenergy is adding a gas-fired project to the portfolio and eliminating second-lien debt as it refreshes the capital structure (PFR, 6/18).
				Revolving Credit Facility	$65	5-yr	
Ironclad Energy Partners	RED-Rochester (125 MW Gas)	Rochester, N.Y.	TBA	TBA	TBA	TBA	The project has been funded entirely with equity, but Ironclad will look to recapitalize the project with debt this year (PFR, 5/21).
Lightsource BP	Johnson Corner (20 MW Solar)	Stanton County, Kan.	TBA	Debt, Tax Equity	TBA		Lightsource has issued a teaser for the project and is seeking indications of interest for tax equity and debt by March 9 (PFR, 3/5).
Longview Power	Longview (700 MW Coal)	Maidsville, W.Va.	Houlihan Lokey (adviser)				Longview Power has hired Houlihan Lokey as it explores strategic options, including a potential refinancing of its senior secured debt (PFR, 4/9).
Nautilus Solar Energy	Portfolio (13.3 MW)	Minnesota	1st Source Bank	Debt, Tax Equity	$57M		The financing backs a 13.3 MW community solar portfolio (see story, page 5).
NRG Energy	Canal 3 (333 MW Gas)	Sandwich, Mass.	Natixis	Debt	$200M	C+7-yr	NRG Energy is putting project finance in place as a condition of a sale of the project to Stonepeak Infrastructure Partners. Price talk is L+275 bp (PFR, 5/14).
Southern Power (Southern Co.)	Portfolio (1.6 GW Wind)	Texas, Oklahoma, Maine	TBA	Tax Equity	-$1B		The sponsor aims to raise tax equity on the portfolio by the end of the year (PFR, 6/4).
sPower	Portfolio (Approx. 730 MW Wind, Solar)	U.S.	Citi	Private Placement	TBA	TBA	The project owner and operator is lining up a debt private placement along similar lines to a transaction last year (PFR, 6/25).
Taaleri Energia	Truscott-Gilliland East (277 MW Wind)	Knox County, Texas	NorthRenew Energy (adviser)	Debt, Tax Equity	$350M		The Finnish developer is seeking debt and tax equity as it enters the U.S. market (PFR, 2/12).

New or updated listing (Capital Dynamics, Fermaca, Freeport LNG, Nautilus Solar Energy)

The accuracy of the information, which is derived from many sources, is deemed reliable but cannot be guaranteed.
To report updates or provide additional information on the status of financings, please call Shravan Bhat at (212) 224-3260 or e-mail shravan.bhat@powerfinancerisk.com

Northland Extends Credit Limit with Loan Package Refi

Northland Power has refinanced a syndicated senior secured term loan and revolving credit facility, more than doubling the size of the latter in the process.

The Toronto-based developer tapped **Canadian Imperial Bank of Commerce, Bank of Montreal** and **National Bank Financial** to lead on the refinancing, which increased the overall size of the term and revolving debt package from C$700 million ($526 million) to C$1.25 billion ($939 million).

The corporate debt refinancing comprises a C$250 million term loan that matures in December 2019 and a C$1 billion revolving credit facility expiring in 2023—both come with an annual renewal provision. When the deal was originally signed in 2014, the revolver was a $450 million commitment.

Northland Power attributed its increased borrowing power to cash flows from two offshore wind projects that came online last year—Gemini and Nordsee One—in a statement announcing the refi on June 22. **S&P Global Ratings** has rated Northland BBB since 2013.

Bank of China, **Bank of Nova Scotia**, **Caisse Central Desjardins du Quebec**, **La Caisse Centrale Desjardins Du Québec**, **Mizuho**, **MUFG**, **RBC**, **Sumitomo Mitsui Banking Corp**. and **Toronto Dominion Bank** and also participated in the refinancing.

The reason for the relatively short, 18-month tenor of the term loan could not be immediately be learned. Officials at Northland in Toronto declined to comment and an official at CIBC in New York did not respond to inquiry. ■

Fermaca Snags Hybrid Gas Pipes Refi

Mexican project sponsor **Fermaca** has raised $805 million in a hybrid term loan-and-bond deal to refinance a construction loan signed in 2015 for its El Encino–La Laguna gas pipeline.

Allianz Global Investors was the lead investor in the larger, bond market tranche of the deal, while **NordLB** was coordinating lead arranger on the bank loan.

As usual in hybrid loan-bond deals, the amortization schedules of the two tranches are such that the loan principal is repaid before bond principal repayments begin. In this deal, the bond is interest-only until the maturity of the loan, in year 14, after which the bond begins to fully amortize.

"It's easier to optimize your terms when you tap two markets," said **Jorge Camiña**, director of infrastructure debt at AllianzGI, referring to the dual-tranche structure. "The sponsor is giving its relationship banks a chance to do a shorter amortization and average life, which they like, and at same time you're not raising $800 million in the bank market at one shot, because that would stress the depth of the bank market for long term debt. The last dollar of debt you raise is always the most expensive."

The $450 million 23-year bond tranche was priced with a 5.456% coupon. **Deutsche Bank** is providing payment agent services on the bond, which has been listed on the **Singapore Stock Exchange**.

BNP Paribas, ING, Mizuho and **Banco Sabadell** were meanwhile joint lead arrangers on the $255 million 14-year bank loan alongside NordLB. The two tranches closed simultaneously on June 21.

The sponsor and lead bond investor both had separate local and New York legal counsel. Fermaca worked with **Latham & Watkins** and **Galicia Abogados** while AllianzGI chose **Milbank Tweed** and **Ritch Mueller**.

The bond and loan refinanced a $600 million loan provided by **Citigroup**'s Mexican affiliate **Banamex**, ING, **Goldman Sachs**, NordLB, Sabadell and **Santander** in 2015 (PFR, 7/29/15). ■

CapDyn, Allianz Team Up Again for Yieldco Debt Refi

Capital Dynamics refinanced the bulk of **8point3 Energy Partners**' solar portfolio with $760 million of debt from **Allianz Global Investors** on June 22, in the latest of a string of project finance deals between the Swiss private equity shop and the German asset manager.

The 26-year fully-amortizing private placement, AllianzGI's largest infrastructure debt investment in the U.S. so far, is secured on 10 solar projects totaling 718 MW.

The deal extends the burgeoning partnership between CapDyn and Allianz. The two firms worked together on the financings of the 250 MW Moapa solar project in Clark County, Nev. (PFR, 6/5/17), the 328 MW Mount Signal 3 project in Calexico (8/22/17) and the 280 MW California Flats project in Monterey County, Calif. (PFR, 1/4).

"We started working on this last November," said **Jorge Camiña**, director of infrastructure debt at AllianzGI, of the latest—and biggest—transaction.

"8point3 didn't have much project finance in place," he added. "There were some corporate facilities which were refinanced during the acquisition."

CapDyn's acquisition of 8point3 valued its equity at about $977 million, while the yieldco's enterprise value was given as about $1.7 billion in statements announcing the transaction in February.

The remaining $723 million presumably included those corporate facilities as well as all outstanding project finance, including tax equity liabilities.

Camiña, a pioneer of private U.S. infrastructure debt, cited the well-priced, "vintage" power purchase agreements in the portfolio as a major reason the bond was rated investment grade. He declined to disclose the precise rating.

"We are financing the portfolio with a tenor that runs through the last day of the longest PPA," he told *PFR*. "In the last few months, yield curves have been flattening so our long-term financing is really attractive."

The private placement closed three days after the 8point3 acquisition closed (PFR, 6/21). 8point3 has been delisted from **Nasdaq** and its website taken offline.

CapDyn is using the proceeds of the note issuance to repay some of the $1.1 billion of acquisition financing arranged by **MUFG** to support the firm's bid for the yieldco. MUFG also served as placement agent on the Allianz debt deal.

Law firm **Amis, Patel & Brewer** advised CapDyn on the private placement, while **Mayer Brown** was AllianzGI's counsel.

The remainder of the bridge financing was also repaid on June 22, but details of how it was refinanced could not immediately be learned. ■

PROJECT FINANCE

Macquarie Finances Texas Wind Project, Brings GIG to North America

Macquarie Capital has reached financial close on a 200 MW Texas wind project and announced the expansion of its **Green Investment Group** platform into North America.

GIG is the successor to the U.K.'s **Green Investment Bank**, which a **Macquarie Group**-led consortium acquired last year in a £2.3 billion deal.

Chris Archer, a managing director at **Macquarie Capital** who led renewable project finance deal at GIG, moved from London to New York to take up the position of head of clean energy in North America in February (PFR, 3/1).

As part of its latest push into U.S. renewables, the firm has also minted a partnership with a recently-formed utility-scale solar and energy storage developer led by two former **First Solar** staffers.

Brian Kunz and **Nikolas Novograd** set up **Candela Renewables** at the beginning of the year, with Kunz as ceo and Novograd as cfo. Under Macquarie's deal with the developer, the Australian firm will own and finance the projects Candela develops.

Macquarie announced GIG's entry into North America and the Candela deal shortly after the financial close of its 200 MW Canadian Breaks wind project in Texas on June 15.

Located in Oldham and Deaf Smith counties, the project was financed on the basis of an energy hedge with an undisclosed counterparty.

The financing comprises a construction loan from **Rabobank**, **National Australia Bank** and **Siemens Financial Services**, which bridges to tax equity commitments from Macquarie Group and an undisclosed third-party investor. The sizes and terms of the transactions could not immediately be established.

PANHANDLE PROSPECT

"Canadian Breaks is the first US greenfield wind project we have developed from inception and is the only deal to close in Texas's panhandle since 2016," said **Thomas Houle**, managing director at Macquarie Capital, in a statement. "The project demonstrates our ability to manage complex processes and work collaboratively with top-tier counterparties and construction partners."

Wind financing and construction in the panhandle stalled after a rush of activity in prior years eventually led to grid congestion and curtailment issues.

Macquarie was able to achieve financial close on Canadian Breaks because of the roughly $250 million project's low overall costs, including a competitive turbine supply contract with **Siemens Gamesa** and engineering, procurement and construction contract, and because of recent announcements relating to grid upgrades in the region, says Archer.

"The overall cost is less than many other projects and the reason people were building projects in the panhandle to begin with is because there is a lot of wind, so the project has a high capacity factor," he says. "And while there are currently some issues with curtailment and congestion, there have been announcements of upgrades to that part of the network and announcements around additional load being added to that area." ■

Midwest Bank Provides Debt, Tax Equity for Community Solar

Nautilus Solar Energy has revealed details of the financing of a 13.3 MW community solar portfolio that came online in Minnesota earlier this year.

South Bend, Indiana-based **1st Source Bank** provided $30 million in construction finance as a bridge to a $17 million term loan and $10 million tax equity investment for the portfolio, called Dundas Waterville and located in Rice and Le Sueur counties.

"We are a state-regulated bank and we have gotten approval for providing tax equity as well as construction and term loan facilities for solar projects," said **Russ Cramer**, vice president of solar financing for 1st Source. "We provide tax equity in roughly half of our solar portfolio."

Cramer declined to comment on the tenor of the debt, adding only that it was shorter than the term of the offtake contracts.

The fixed-tilt, ground-mounted facilities are spread across two sites and are contracted through **Xcel Energy**'s community solar program.

While Xcel doesn't have power purchase agreements with the projects, it has a different kind of contractual arrangement through which it provides subscriber bill credits for 25 years.

The financing closed in the final quarter of 2017, shortly after construction on the projects began.

Construction had initially been financed with development equity from **Virgo Investment Group**and Nautilus. Nautilus acquired the portfolio in August 2017 from **ReneSola** (PFR, 8/16/17).

1st Source began solar lending in 2016, financing **Inovateus Solar** and **Alterra Power**'s 7 MW Kokomo facility in Indiana, which sells its output to **Duke Energy Indiana**. ■

PPA PULSE

AES Seals Hawaii Solar-plus-battery PPA

A power purchase agreement for an **AES Corp.** project combining solar and battery storage in Hawaii has won the approval of the Hawaii Public Utilities Commission.

Kauai Island Utility Cooperative will buy the output of the AES Kekaha Solar project under the terms of the 25-year contract, which is priced at $108.50/MWh and comes with a 10-year extension option.

Comprising a 14 MW solar array with 70 MWh of storage capacity, the Kekaha project is located at the Pacific Missile Range on Kauai, on land leased from the **U.S. Navy**.

AES expects to begin construction on the project this summer with the aim of reaching full-scale commercial operations by September of next year. ■

MERGERS & ACQUISITIONS

Sponsors Line Up Build-transfer Deals for Wisconsin Solar Projects

A pair of Wisconsin utility companies have filed for regulatory approval to buy solar facilities totaling 300 MW from two major project sponsors.

The build-transfer deals, with **Invenergy** and **NextEra Energy Resources**, are needed to replace generation from coal-fired plants that are scheduled to retire and power purchase agreements that are expiring, according to paperwork filed with the **Public Service Commission of Wisconsin** on May 31.

Under the terms of the deals, **Wisconsin Public Service Corp.** and **Madison Gas and Electric** will buy a combined 50% stake in Invenergy's 300 MW Badger Hollow project in Iowa County and 100% of NextEra's 150 MW Two Creeks facility in Manitowoc and Kewaunee counties.

WPS is buying larger stakes in the two projects than MGE. WPS will own 100 MW of each of Badger Hollow and Two Creeks, while MGE will own 50 MW of each project.

The proposed purchase price for the entire 300 MW is $389.7 million, or roughly $1.30/W. Consulting firm **DNV-GL** provided independent analysis on the deal value.

"The economic analysis assumes the locational marginal prices will escalate 2-4% annually from a starting point of $32.94/MWh in 2017," reads the filing. The utilities have requested PUC approval by Nov. 1.

Construction on the projects, both of which will be fitted with single-axis trackers to yield a capacity factor of approximately 24%, is set to begin in 2019. The projects are due to be online by late 2020, with Invenergy and NextEra staying on to operate them.

"As the result of planned retirement of aging and relatively inefficient coal-fired generating units (Pulliam 7 and 8 and WPS's share of Edgewater 4), WPS will need 150 MW of capacity beginning in 2020," reads the regulatory filing. "Likewise, MGE will need over 80 MW of new capacity by 2022 due to previously announced retirements of legacy assets and expiration of PPAs."

WPS is retiring 270 MW at the Pulliam and Edgewater 4 units, and MGE is retiring approximately 75 MW at combustion turbine sites located throughout the utility's service territory. ■

Private Equity Fund Buys Shovel-ready Mexico Solar Project

Spanish developer **Dhamma Energy** has sold a 37 MW shovel-ready solar project in Mexico to **Balam Fund**, marking the private equity fund's fourth renewables project investment in the country.

The solar project is in the central state of San Luis Potosi and construction is expected to begin in the third quarter of this year.

The name of the project and its offtake arrangement could not immediately be established.

The $230 million Balam Fund is run by three private equity firms—**Rohatyn Group**, **BK Partners** and **Diamond Partners**—and mandated to invest exclusively in Mexican renewables. Its other assets in Mexico are:

- the 30 MW Energía Limpia de la Laguna solar project in Durango state, which has a long-term power purchase agreement with healthcare company **Farmacias del Ahorro Group**;
- the 396 MW Eólica del Sur wind farm, under construction in Oaxaca, whose offtakers are beverage companies **Grupo FEMSA**, **Cuauhtémoc Moctezuma Heineken México** and **Crown México**; and
- the 30 MW Camargo II solar project in Chuhuahua, which sells its output to Mexico's state-run utility Comisión Federal de Electricidad.

Mexico's energy market reforms, beginning in 2013, and ensuing state-run power auctions have triggered a flood of foreign capital into the country's renewables sector. The latest innovation allows private companies to bid for generation capacity alongside CFE (PFR, 11/9/17, 6/14).

"We believe that there is a big potential for long term opportunities in the country," said **Philippe Esposito**, co-founder of Madrid-based Dhamma Energy, in a statement.

Dhamma has 1 GW of solar projects under development in Mexico, including more than 300 MW that is fully permitted, the company said. ■

FAST FACT

300 MW

Fully permitted Mexican solar projects in Dhamma's pipeline

Starwood Finds Buyer for Ohio Wind Asset

A fund managed by **Starwood Energy Group Global** has lined up a buyer for an Ohio wind project that is expected to come online later this summer.

CMS Energy Corp. is acquiring the 105 MW Northwest Ohio Wind facility in Paulding County, through a subsidiary called **CMS Enterprises**.

The parties to the deal filed for U.S. **Federal Energy Regulatory Commission** approval of the deal on June 25.

The project, which is expected to be online in August, has a 15-year power purchase agreement with **General Motors** for its full output (PFR, 11/16).

Starwood acquired the Northwest Ohio project from developer **Trishe Resources** in October 2014.

General Electric is supplying 2.5-116 turbines for the project, which is being built by contractor **White Construction**.

Rabobank is providing construction and term debt to the project and **Citi** has committed tax equity (PFR, 11/3). ■

INDUSTRY CURRENT

IRS Releases Solar Construction Start Guidance

In this week's Industry Current, **John J. Marciano III**, partner, and **Ramin Mohammad**, associate, at **Akin Gump** in Washington, D.C., outline the implications of the **Internal Revenue Service**'s latest guidance in relation to the solar investment tax credit.

The IRS just released its eagerly-awaited guidance on what a developer needs to do to show construction has started on a solar project.

Developers have been getting antsy because they have to start planning now for post-2019 projects, particularly if they are bidding into requests for proposals.

Under the existing scheduled phase down of the ITC, projects need to be under construction before 2020 to get the full 30% investment tax credit. For projects that start construction in 2020, the credit dips to 26% and 22% for 2021. Any project placed in service after 2023 is at 10%.

The guidance released by the IRS on June 22 applies not only to photovoltaic solar projects but also to other technologies like fuel cells, combined-heat-and-power and geothermal projects.

It largely follows a similar set of rules to those that apply to wind farms. There are some important distinctions and some practical considerations to note.

The guidance adopted the familiar dual-track approach used in the wind context. A project owner can prove construction started by beginning physical work "of a significant nature" or by incurring at least 5% of the cost of ITC-eligible equipment.

In either case, the work (either "physical work", in the case of the physical work test, or any "efforts", in the case of the 5% test) must move forward continuously. But the IRS will presume work proceeded continuously if the project is placed in service by the end of the fourth year after the year the project started construction.

Of the two methods, the continuous efforts concept is easier to meet because it does not require continuous physical work. However, as a practical matter, there is no reliable way to convince investors that work has been continuous. Developers should assume they have to finish the project within four years after they start construction to get the project financed.

A taxpayer cannot try to buy more time by relying on the physical work test in one year and then claim that it incurred 5% of the costs in the next year, except where construction began before Jan. 1, 2019.

The five percent test looks to costs paid or incurred for ITC-eligible equipment by the relevant deadline. Accrual method taxpayers incur a cost as goods or services are delivered, with one main exception. An accrual basis taxpayer can treat a payment as incurred if delivery of the item will be made within 3.5 months of the payment.

If a taxpayer cannot prove that it incurred costs under these rules, the taxpayer can look to a contractor's costs. However, only costs incurred under a binding written contract with the taxpayer count.

Practically speaking, developers likely will have to incur at least 10% of project costs because the rules relating to cost overruns do not work.

If final costs are higher than expected, the developer is permitted to size down the project by separating out independent project units (strings or blocks) and to rerun the 5% test. However, because many costs are allocated ratably among project assets, merely cutting 10% of the project out of the calculation may not fix the glitch in all cases.

In addition, because rooftop projects are treated as one unit, there is no ability to cut them down in order to get under the 5% mark. The only practical course is to incur *well* above the 5% mark prior to the deadline.

A developer can also show it started construction by starting (qualitatively) significant physical work.

The legislative history and guidance under the tax credit grandfathering rules has consistently said that work merely has to "start".

Both on-site and off-site work can count, but work done by a contractor needs to be under a binding written contract. The work must start after the contract is signed.

Any offsite work must relate to items that are not normally held in inventory. Importantly, this excludes solar panels and inverters. This likely means that you can only use this test for work on bespoke items, like racking systems or transformers. That said, the IRS guidance is unclear whether all transformers count as ITC-eligible. In one section, the guidance suggests a transformer that steps voltage up to 69kV or greater is not integral to the project. In another section, it suggests it is. Practically, this will mean projects that rely on transformer work will have a much harder time getting financed, until there is further clarity.

Work on transmission or land clearing does not count as physical.

Structures to affix the project to a foundation are significant physical work. As are roads, other than entry or employee access roads.

The IRS reiterated that there is no specific dollar minimum that need be spent. This does not mean that investors will not impose their own minimum spend threshold based on internal preferences.

Multiple units of property that are operated as a single, integrated project are treated as a single facility for the purposes of testing when construction started. Rooftop systems are treated as one unit, regardless of the number of blocks or system size.

To determine if several units are one integrated facility, ask whether they are financed, owned and operated as one and whether they are on the same site.

PROJECT/EQUIPMENT TRANSFERS

The guidance is fairly lenient when it comes to transfers.

A developer can sell a partially completed project or project rights with grandfathered work or equipment, without losing the grandfathered taint.

The grandfather taint does not transfer over to an unrelated buyer unless the items being sold consist of grandfathered equipment plus other items that suggest a real project exists, such as a site lease, power purchase agreement, permits or other typical project rights. A seller is related to a buyer if the seller has an interest in the buyer that is greater than 20% of capital (liquidation rights) or profits.

Importantly, the IRS clarified that equipment or work may be relocated from the project originally intended to a new project owned by the same person without losing the grandfather taint. ■

MERGERS & ACQUISITIONS

Sempra to Sell U.S. Renewables, Gas Storage Assets

« FROM PAGE 1 solar facilities at various stages of development.

San Diego-based Sempra will also jettison two natural gas storage facilities in the Gulf of Mexico—Mississippi Hub, an underground salt dome with 22 billion billion cubic feet of storage capacity near the state capital of Jackson, and a 90.9% stake in the 20 billion cubic feet Bay Gas Storage facility near Mobile, Ala.

The storage assets are "no longer core to our business strategy," said Martin.

Sempra's board approved the divestitures on June 25 and the company expects to incur impairment charges totaling somewhere between $1.47 billion and $1.55 billion (approximately $870 million to $925 million after tax and non-controlling interests) this quarter as a result of the divestitures.

"Gains, if any, from the sale of the wind and solar assets and investments would be recorded at the time of sale," notes the Sempra statement. "This is just the first phase of our portfolio optimization, which we expect to continue in the coming months," said Martin.

NOT GOOD ENOUGH

"We are disappointed that, despite our best efforts to make measurable progress toward an agreement with Sempra, no real progress toward this goal has yet been made," Elliott and Bluescape said in a joint statement issued June 28 in advance of an analyst conference in New York.

The hedge funds also reiterated their demand that they be given the right to appoint six additional directors to Sempra's board.

Martin, who took the reins of the company from **Debra Reed** on May 1, has emphasized the company's focus on North America. Elliott and Bluescape have been pressuring Sempra to sell its Latin America business and its LNG unit.

Sempra is already in the process of offloading a gas-fired project in Mexico, the 625 MW Termoeléctrica de Mexicali project in Baja California (PFR, 5/9).

The hedge funds believe Sempra would have more value as a pure-play utility company comprising **San Diego Gas & Electric**, **SoCalGas** and **Oncor Electric Delivery Co.**

Sempra acquired its 80% stake in Oncor through its acquisition of **Energy Future Holdings Corp.**, for a total enterprise value of $18.8 billion, earlier this year (PFR, 2/5).

The company outbid **Berkshire Hathaway Energy**, which had offered $18.1 billion for the transmission utility. EFH's largest creditor, Elliott, the hedge fund of **Paul Singer**, made a $18.5 billion counterbid just days after BHE made its offer (PFR, 8/21/17, PFR, 7/12/17).

Elliott and Bluescape have form in this brand of activism, having teamed up last year to pressure **NRG Energy** to sell its renewables platform and its stake in **NRG Yield** (PFR, 7/12/17). ■

Wind Shop Markets Empire State Assets

« FROM PAGE 1 126 MW Noble Wethersfield project is in Wyoming County and the 106.5 MW Noble Chateaugay project is in Franklin County.

Centerbrook, Conn.-based Noble filed for Chapter 11 protection with the **U.S. Bankruptcy Court for the District of Delaware** on Sept. 15, 2016 (PFR, 9/20/16), and exited bankruptcy less than three months later, on Dec. 9.

One of Noble's existing shareholders and creditors—a company linked to computer magnate **Michael Dell** called **Paragon Noble**—became its sole owner through a debt-for-equity swap as a result of the restructuring. All of Noble's other creditors retained 100% of their claims. ■

PROJECT FINANCE

Banks Wade Carefully into Solar Merchant Waters

« FROM PAGE 1 ceo **Richard Matsui**—also highlights more than 20 lenders that are prepared to give credit to the solar revenue put, an insurance product underwritten and distributed by kWh Analytics' own licensed insurance brokerage subsidiary, **Kudos Insurance Services**, and backed by investment grade insurance carriers.

Coronal Energy used the product when it secured tax equity from **PNC Bank** for a 30 MW solar portfolio in Virginia early this year (PFR, 1/30).

Despite an increased awareness of post-contracted cash flow risks, project finance bankers are reticent to give them too much credit.

Ralph Cho, co-head of North American power at **Investec**, described the steps banks would take when sizing debt based on merchant revenues when he spoke on a panel at the 15th Renewable Energy Finance Forum in New York.

Lenders modelling amortization scheduled would eschew the traditional 1.25 times debt service coverage ratio for uninsured utility-scale solar in favor of higher DSCRs of 2 to 2.5 times, he said.

Financiers would also assume a downside scenario in their projections—usually incorporating higher-than-expected operating costs.

In addition, they would use conservative capacity price estimates, taking the low-end of the range of values forecast.

Investec, according to *Lendscape*, is open to valuing both merchant tails and kWh's solar revenue put. ■

FAST FACT

150 bp

Approx. spread over Libor for fully-contracted 15-year debt for renewable assets, according to Ralph Cho speaking at REFF Wall Street.

● Q&A: NICK KNAPP, COHNREZNICK CAPITAL — PART III

Q&A: Nick Knapp, CohnReznick Capital — Part III

In the third and final part of this exclusive interview, **Nick Knapp**, president of **CohnReznick Capital**, discusses co-advisory mandates, emerging areas of activity in renewables and the state of the project finance market with *PFR* reporter **Fotios Tsarouhis**.

PFR: On several recent larger M&A deals, it is noticeable that one or more larger, perhaps bulge-bracket, firms have been mandated alongside a boutique.

Yeah, and I think that will continue. There will be cases where a bulge-bracket is by itself or where a CohnReznick Capital is by itself, but I think we do see more of the co-adviser dynamic. And it is valuable, there are different skill sets, I would say, and it is typically pretty seamless in terms of how we work together, and that goes for buy-side as well as sell-side.

In terms of M&A activity, we know that our investor base and relationships are as strong as anybody in this space, we put our full focus on developing these relationships. And we know that our execution capability is second-to-none. That said, we are seeing more co-adviser situations on the larger portfolio and company sales and I do think that continues, because the sellers see the value in having both at the table. We're going to continue to play that role where the sellers express a strong interest for multiple advisers.

PFR: One of your 2017 mandates was a financing for JLM Energy, which lined up a $25 million loan to develop commercial and industrial solar-plus-storage projects, and we have also seen an uptick in wind repowering activity. Are you seeing more storage and repowering deals these days?

We're focused on making sure we're not missing anything. We want to be advising on storage and repowering, but we're not seeing meaningful trading volume yet. So we will certainly continue to be involved as the scale picks up.

The repowerings that have happened so far have primarily been big names like **NextEra Energy Resources**, and they're not using advisers for that, so there's not really play for us.

In storage it seems to be less stand-alone storage projects and more adding storage to solar or wind projects. We have a couple of those financing mandates right now and we expect that will continue to steadily grow over time.

In general, we have a ton of project finance activity right now, split evenly between solar and wind. We have a handful of development platform sale and private placement mandates, ranging from the smaller but proven companies to the largest top-quality companies in the industry. Then there's also a ton of sale and capital stack optimization activity on the secondary large portfolios–500 MW to, say, 1.5 GW. We have a couple of these mandates active now, and there are a few pending that we expect to launch over the next couple months.

"The more trading volume the industry sees, the more awareness and interest we will see in the D.G. market."

PFR: Are you seeing more activity in distributed generation and commercial and industrial projects?

The scale's tough in the D.G. market. More and more folks—tax equity and lenders—are getting comfortable and more creative there but it's never going to be the same as doing large utility-scale projects in terms of time and effort and the return you get for doing that. CohnReznick Capital has lived in the D.G. space since our inception and we continue to be highly active with the leading sponsors. We see it as a natural value add play for us, due to the complex structuring and underwriting nature of these transactions.

I do think we will continue to see steady growth and so you'll naturally see more and more names get into the mix. Some of our operating portfolio activity is large D.G. portfolios. The more trading volume the industry sees, the more awareness and interest we will see in the D.G. market. With the return premium offered by D.G. compared to large utility scale, it is proving to be a great area of focus for the vast universe of financial investors focusing on renewables.

PFR: Are solar securitizations anything CohnReznick Capital would get into or is that too nichey?

No, it is something we are getting involved in. We like getting involved on the debt side, as much as tax equity. Typically, we'll co-advise on securitizations and that's what we've done historically. We've advised on a few successful securitizations, and were at the front end of the process working with the rating agencies to put in the time to get them comfortable, allowing for the appropriate rating levels. There haven't been too many to speak of, so we feel our batting average is fairly strong here. The securitization process requires our focused skill set in that you really need to understand the ground-up financing structures and project risk and be able to explain that to the rating agencies in a way that some of the bigger banks would be challenged to do without a renewables focused boutique advisor in the mix.

Q&A: NICK KNAPP, COHNREZNICK CAPITAL — PART III

Nick Knapp

PFR: How attractive does the project finance market look as we head into the second half of 2018?

In terms of investors, we touched on the new sponsor investors and strategics but from a capital markets standpoint it's the same dynamic—it's been a strong market for a long time. But the creativeness that the competitive landscape has created has continued to improve.

It helps when lenders have a broader energy background, especially when you are talking about merchant risk as sponsors look to get some of that merchant component sized into tax equity and debt transactions. The broader energy experience is beneficial because these investors are used to underwriting merchant conventional power and oil and gas projects. In comparison, renewables has a much cleaner story as it relates to managing downside risk, as there is no cost of fuel, so it removes a key risk variable they are typically used to dealing with.

Tax equity has been a great story for the past couple of years in terms of the number of investors focused on the space. There have been a lot of new players, heavily driven by tech companies and insurance companies, and I don't think that trend stops. We went from five to ten names in tax equity a few years ago. We're probably somewhere between 45 and 50 names that are dedicated, have a team focused on renewables with an annual budget target, and I think that continues. People are getting the risk profile that a tax equity investment provides for and if you have an interest in supporting sustainability it's a good way to move the needle on that cause but also have a safe high yield investment.

PFR: How do you view tax equity going forward? Are you seeing tax reform's impact on the market?

It's healthy. Pre-tax reform, I was saying that I think that tax equity spreads will converge to back-leverage spreads. Because of tax reform, I don't know that we get to that point, but they continue to be highly competitive and I would still say we're seeing all-time lows for the after-tax yields. So the number of investors remains at that higher 45-to-50 range and it's growing, it's not going the other way.

The biggest issue with tax reform was the uncertainty around it. Trying to close deals not knowing what the tax rate is was challenging. But turning the corner, once it was all finalized and we've removed the uncertainty, this industry has always been resilient. We've always had uncertainty in policy for all of these years and now we have a strong longer-term horizon.

There's been some reduction in annual volume targets from a couple of investors, just because of tax capacity and not having as much with a lower tax rate, but that's completely neutralized by the newer investors who are coming in at scale.

PFR: Do you think any macro factors have stopped new investors from entering the market?

No, I don't. I think if you look at it historically, the more mature the market gets the more investors you're going to have. We are really past the inflection point of whether this is a strong and sustainable industry. At this point, investors understand the risk and it's just a matter of doing the work to solve and mitigate those risks. With tariffs, especially for solar, it impacted development and timing of commercialization activity but people are sizing that in now and everybody comes to the table to figure out where and how to recover that incremental cost. We're currently not seeing any material delays related to tariffs or tax reform.

The current tax credit policy has a nice, steady phase-out and we don't have the historical expiring [production tax credit] dynamic every one or two years. That was binary risk—that's tough to get around. With current policy, you can proactively prepare, you can price it into your PPA, price in your equipment costs according to what we have, and it allows for consistency.

Knowing the horizon that we have here for tax credits, it's not a one-year rush. That's a big part of why the new strategics are coming in with a strong focus. We are extremely bullish on the level of activity over the next few years. As long as the large corporates and energy strategics continue to stand behind the renewable and sustainable industry—and we have no reason to believe they're not going to—I don't think there's going to be a big activity dip when tax credits are phased down as scheduled.

PFR: In recent years, we've seen some less-traditional tax equity investors enter the market, including Starbucks and Google. Will more of these companies enter the tax equity market in the years to come, or will it remain mostly banks and the odd insurance firm?

Yeah, they will—it's happening now. A lot of corporates, including a handful of major tech companies—some of the same guys that are signing PPAs—are already active with tax equity. And the same thing is happening with insurance companies—names that aren't really known as tax equity investors are plugging away but staying under the radar. We're on our third and fourth tax equity investments with a few of them. I think that dynamic continues to play out. For the tech companies, it will be a big program for them, similar to what we saw with **Google**. The repatriation policy changes have been a big part of the story that really helped push things along even more. Historically, it was a matter of a tax director stepping out of their comfort zone without a strategic corporate story and a management push behind them. They were looking at the investment returns, compared to their core business—it doesn't necessarily make sense from that perspective. But when you view it as supporting the renewables industry and hitting their sustainability goals, which is now being driven from c-suite down, it's more attractive and is leading to strong traction. ■

STRATEGIES

Goldman, Mosaic Price Co-sponsored Solar ABS

Mosaic and **Goldman Sachs** priced a co-sponsored solar loan securitization on June 25, a $317.52 million deal dubbed Mosaic Solar Loan Trust 2018-2-GS.

The $273.84 million senior class 'A' notes, rated A- by **Kroll Bond Rating Agency**, were priced at 135 basis points over swaps, slightly wide of where the senior notes of Mosaic's last ABS transaction were priced. The class 'A' bonds in that deal were priced at 130bp over swaps in April (PFR, 4/12).

The $17.03 million 'B' tranche of the most recent offering was meanwhile priced at 190 bp over swaps, while the $15.04 million 'C' tranche was priced at 315 bp, yielding 6.048%.

The deal is the first co-sponsored transaction from Mosaic and Goldman since the bank agreed to purchase $300 million of loans from the Oakland, California-based solar finance company in September last year (PFR, 9/8). The loans backing the transaction include collateral purchased by Goldman as well as loans that Mosaic still held on its own balance sheet.

Goldman also acted as lead manager and initial purchaser on the deal.

The transaction is backed by a pool of loans on residential rooftop solar systems made to mostly prime borrowers with an average FICO score of 741. Despite the focus on prime credit, Kroll flagged a handful of risks to investors, including a lack of performance data on the long-term loans in the deal.

Additionally, Mosaic has some issues around "financial condition and liquidity", according to the rating agency, which notes that the company has operated with negative cash flow since it was founded and reported a loss of $26.9 million for 2017.

Before this offering, the most recent solar securitization to be sold was from **Vivint**, which priced a $466 million deal backed by leases and power purchase agreements on June 6 via **Credit Suisse** and **Citi**. The same company sold a $344 million private ABS transaction at the same time, bringing its total capital markets funding to $811 million. ■

PEOPLE & FIRMS

ING Launches Americas Sustainable Finance Team

ING Capital has created an Americas sustainable finance team in New York, appointing a former metals and mining banker to lead the group and bringing in an environmental impact assessment professional.

The newly created roles expand the firm's global sustainable finance practice, which is headed up by managing director **Leonie Shreve** in Amsterdam.

Taking up the role of Americas sustainable finance head is **Anne van Riel**, who was previously a director in ING's metals and mining group. She will report to ING's head of Americas lending, **Bill James**, in New York, as well as functionally to Shreve.

Melisa Simic, formerly a senior associate in environmental and social impact assessment at consultancy **Ramboll Environ**, is also joining the sustainable finance team as vice president.

Van Riel has been working in structured finance at ING since 2008, apart from a one-year stint at **BBVA** from 2010 to 2011, where she also worked on project finance deals. Previously, she has worked at **KPMG** and Dutch development bank **Nederlandse Financierings-Maatschappij voor Ontwikkelingslanden** (FMO).

While van Riel's LinkedIn profile notes her work on transportation, oil and gas and metals and mining deals, ING emphasized her experience handling transactions related to energy efficiency, climate change and water scarcity in its announcement of the appointments. ■

ALTERNATING CURRENT

The Soviet Hydro Project That Put Russian Caviar in Peril

AC

A 2.6 GW hydro project built in the Soviet Union in the 1950s is partly to blame for the decline of sturgeon that has devastated the Russian caviar industry, according to a British wildlife conservation researcher.

By blocking the migration of the critically endangered fish up the Volga to their spawning grounds, the hydro facility has pushed them "to the brink of extinction," writes **Hannah Dickinson** of the **University of Sheffield**, England, in an article timed to coincide with the **FIFA** World Cup hosted by Russia (*The Conversation*, 6/17).

One of the "Great Construction Projects of Communism", the Volgograd project was authorized by **Joseph Stalin** in 1950 and its powerhouses came online between 1958 and 1961. It is now operated by **RusHydro**.

Despite hydraulic fish-lift technology being incorporated into the design, the dam has contributed to a dramatic reduction of the spawning grounds of sturgeon, including the prized beluga fish, according to Dickinson.

"It is undeniable that the Volgograd station has played a part in the demise of the Russian caviar industry," she writes, noting that the sturgeon population in the Volga has fallen 90% since 1970, prompting a Russian ban on commercial sturgeon fishing and black caviar exports in 2002.

Restrictions on caviar production and sales have led to a thriving black market that is supplied by illegal poaching, threatening the Volga's sturgeon population even further.

Dickinson's advice for soccer fans visiting Volgograd for the World Cup is not to buy any black caviar to take home as a souvenir. "But, if you are that way inclined," she adds, "make sure to stick to customs regulations and try your utmost to ensure the caviar is from reputable farmed sources." ■