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Power Finance & Risk

Exclusive Insight on Power M&A and Project Financing

MERGERS & ACQUISITIONS

Clearway Snaps Up First Solar Project

First Solar has sold the 150 MW North Rosamond project in California, with **U.S. Bank** providing tax equity. Page 7

LATIN AMERICA

EDF, Canadian Solar Close Brazil Financing

The complex 321 MW Pirapora solar debt package has been funded with long-term privately placed notes. Page 14

PPA PULSE

Renewables to Power Fossil Fuel Giants

Exxon Mobil and South Korean energy company **SK E&S** have signed PPAs with wind and solar projects in Texas. Page 15

Trio of Disputes Set to Shape Burgeoning Tax Equity Insurance Biz

Taryana Odayar

A highly specialized but competitive market for insurance against risks inherent in renewable energy tax equity investments has emerged and blossomed over the past three years. And while three active tax disputes loom large, industry insiders expect the final rulings to bolster the niche industry, whichever way they fall.

The tax equity insurance industry, though young, already counts some dozen carriers among its ranks, including big names like **Zurich Insurance Group, American International Group** and **Chubb Limited**, which provide coverage to about 25 to 30 tax equity investors, most of whom are financial institutions.

While tax insurance has been around since the 1980s, when **Lloyd's of London** first covered investors against potential tax losses in lease transactions, and energy tax credits were first introduced in the U.S. in 1978, the concept of renewable energy tax equity is much newer.

A substantial increase in investment and production tax credits for solar and wind projects in 2006, combined with the growing popularity of renewables, contributed to a steadily growing market for tax equity, while the introduction of the Section 1603 cash grant program in 2009 ensured that the incentive remained in place throughout the financial crisis.

However, relying on the tax code for the viability of an investment introduces an element of risk that neither financial investors nor project developers are particularly comfortable with—the risk of an unexpected, unfavorable tax ruling.

"The returns on tax equity investments are reason- PAGE 9 »

Deadly California Wildfire Hits Credits, Bonds, YieldCo Linked to PG&E

The devastating Camp Fire in California was finally fully contained on Nov. 25 but the financial impact is only beginning to be felt, and not just for **Pacific Gas & Electric**.

PG&E is expected to face severe liabilities if it is found to have contributed to the disaster and its stock has plummeted since the beginning of November. The knock-on effects, meanwhile, include downgrades for the debt of wind and solar projects with PG&E offtake contracts, pressure on a yield company with a large California portfolio and a catastrophe bond recently issued by the utility trading down to almost zero. FULL COVERAGE: PAGES 10-12 »

Developer Lines Up Anchor Customer for Empire State Transmission

Richard Metcalf

A high-voltage transmission line developer has signed a letter of interest with a potential anchor customer for a 1,000 MW project designed to deliver renewable energy from Upstate New York to Brooklyn.

While the identity of the customer has not been disclosed, the letter of interest PAGE 13 »

Apollo to Syndicate Term Loan B for GE EFS Portfolio Purchase

Shravan Bhat

The three banks that financed **Apollo Global Management**'s purchase of a portfolio of renewable, gas-fired and midstream energy assets from **GE Energy Financial Services** have launched the debt into syndication in the term loan B market.

RBC Capital Markets is left lead on the $275 million seven-year loan, with PAGE 8 »

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PFR Power Finance & Risk

EDITORIAL
Richard Metcalf
Editor
(212) 224-3259

Shravan Bhat
Reporter
(212) 224 3260

Taryana Odayar
Reporter
(212) 224 3258

Stuart Wise
Data Associate

Kieron Black
Sketch Artist

PRODUCTION
Sam Medway
Manager

PUBLISHING
Laura Spencer
Senior Marketing Manager

Adam Scott-Brown
Director of Fulfillment

Nina Bonny
Customer Service Manager
(212) 224-3433

SUBSCRIPTIONS
Jon Ljekocevic
Sales Executive
(212) 224 3043

ADVERTISING/ REPRINTS
John Weber
Commercial Director
(203) 458 0725

CORPORATE
Andrew Rashbass
Chief Executive Officer

John Orchard
Managing Director, Banking & Finance Group

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

MERGERS & ACQUISITIONS

End in Sight for GE Capital's Homer City Odyssey

A **GE Capital** subsidiary has found a way to divest its stake in the Homer City coal-fired plant in Indiana County, Pa., which underwent Chapter 11 bankruptcy proceedings last year.

The **General Electric** division is selling its roughly 11% stake in the 1,884 MW facility to an investor specializing in distressed situations, **Knighthead Capital Management**, which already owns a 7.4% interest in the plant.

The financial terms of the transaction were not disclosed in paperwork submitted to the U.S. **Federal Energy Regulatory Commission** on Nov. 21.

Winston & Strawn is representing the project company on the FERC approval process while **Orrick** is representing GE Capital and **Latham & Watkins** is advising Knighthead.

A story so epic, it needed two Chapter 11s.

GE Capital had been the project's majority shareholder since an earlier restructuring in 2012 (PFR, 10/18/12), but was left with just 10.65%, held through a vehicle called **GPSF Securities**, following last year's bankruptcy process.

Morgan Stanley arranged a $150 million six-year exit financing for the project company, **Homer City Generation**, as part of the most recent restructuring. The exit loan took the form of a senior secured term loan B priced at 1,100 basis points over Libor, sold with an original issue discount of 93 (PFR, 2/9/17 4/20/17).

As a result of the Chapter 11 process, the ownership of the project was transferred to the holders of its senior secured debt, a group of asset managers, insurance companies and investment funds, on a *pro rata* basis.

Among the former creditors are asset managers **Vanguard** and **TCW Group**, with 20.2% and 19.64% stakes in the plant, respectively, **Golden Tree Asset Management** with 12.66%, and life insurance company **Aegon** with 11.44%.

Various investment funds managed by **Wellington Management Company**, **Elliott Management Corp.**, **Preston Securities** and **Hartford Funds** each hold less than 10% and undisclosed investors own the remaining 7.22%.

Knighthead's chief operating officer, **Edward Massaro**, and a GE spokesperson based in Atlanta, Ga., did not immediately respond to inquiries about the recent deal between the two companies. ■

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
Abengoa	A3T (220 MW Gas)	Mexico	TBA	Private equity firms are sizing up the project, which part of Abengoa's insolvency divestments (PFR, 10/8).
AltaGas	Portfolio (277 MW Hydro)	Canada	TBA	AltaGas is looking to raise around $1 billion from the three-project divestiture (PFR, 11/5).
BayWa r.e.	Portfolio (450 MW Renewables)	U.S., Europe		The German developer expects to sell its portfolio by year-end (PFR, 11/19).
Blackstone	Lonestar Portfolio (1,110 MW Gas, Coal)	Texas	Citi	The sale of the portfolio, code named Project Matador, is said to be entering a second round (PFR, 10/15).
Clearway Renew	Patriot (226 MW Wind)	Nueces County, Texas		Avangrid Renewables is buying the project and taking a tax equity ticket (PFR, 11/19).
● Clean Energy Ventures	Quadrant (117 MW Wind)	Midwest	CCA Group	Skyline Renewables has agreed to pay $208.5 million for four operating wind farms (see story, page 7).
Coronal Energy	Portfolio (345 MW solar)	U.S.	BAML, Scotia	The sale process for the 20-project platform has entered its second phase (PFR, 11/26).
Cypress Creek Renewables	Buckleberry (52 MW Solar)	Pitt County, N.C.		John Laing Group is buying the recently completed project, expected online by year-end (PFR, 11/19).
Duke Energy	Renewables Portfolio (2,907 MW Wind, Solar)	U.S.	Morgan Stanley	Duke is running a sale process to formalize inbound interest it has received (PFR, 10/1).
Engie North America	Portfolio (75 MW Solar)	U.S.	CohnReznick Capital	Goldman Sachs has bought a majority stake in the distributed solar and battery portfolio (PFR, 11/26).
Engie N.A., Harbert Management Corp., Mitsui & Co.	Astoria I, II (1,230 MW, Gas)	Queens, N.Y.	Morgan Stanley, PJ Solomon	As the sale of the assets nears a second round of bidding, deal watchers note varying levels of interest (PFR, 10/15).
EDP Renewables	Meadow Lake VI (200 MW Wind)	Benton County, Ind.	CIBC	Axium Infrastructure is buying an 80% stake in the duo, expected online in the next six months (PFR, 11/12).
	Prairie Queen (200 MW Wind)	Allen County, Kan.		
	Sharp Hills (250 MW Wind)	Special Areas 3 & 4, Alberta		
	Nation Rise (100 MW Wind)	North Stormont, Ontario		
● Emera Energy	Portfolio (1.1 GW Gas)	New England	JP Morgan	The Carlyle Group has emerged as the buyer of the three projects with a $590 million bid (see story, page 5).
● First Solar	North Rosamond (150 MW Solar)	Kern County, Calif.		Clearway Energy has bought the project with U.S. Bank providing tax equity (see story, page 7).
● GE Energy Financial Services	Saguaro (105 MW Gas)	Nevada	TBA	MSD Capital, which already owned 50% of the co-gen facility, is buying the remaining interests (PFR, 11/26).
	Homer City (1,884 MW Coal, 11%)	Indiana County, Pa.		Knighthead Capital Management is buying GE's stake (see story, page 2).
JERA, Toyota Tsusho	Goreway (875 MW Gas)	Ontario	TD Securities	The sale process for Canada's second largest CCGT launched two weeks ago (PFR, 11/19).
Mainstream Renewable Power	Andes Portfolio (1.3 MW Wind, Solar)	Chile	KPMG London	The Irish developer is seeking an equity partner to build and operate its $1.65 billion renewable portfolio in Chile (PFR, 9/17).
● NextEra Energy	Oleander (789 MW Gas)	Brevard County, Fla.		GE EFS is leasing the five-unit CCGT as its PPAs expire over the next decade (see story, page 5).
North American Power Group	Rio Bravo Fresno (28 MW Biomass, 50%)	Fresno, Calif.		NAPG is in talks with potential buyers of its 50% stakes in the projects (PFR, 8/27).
	Rio Bravo Rocklin (28 MW Biomass, 50%)	Lincoln, Calif.		
Olympus Power	Top of Iowa (80 MW Wind)	Worth County, Iowa		Black Hills Electric Generation is buying the 17-year old project (PFR, 11/19).
● Pattern Energy	Stillwater (79.75 MW Wind)	Montana		Pattern's yieldco is buying 51% while Canada's Public Sector Pension Investment Board takes the remainder (see story, page 6).
Southern Current	Portfolio (80 MW Solar)	U.S.	TBA	Soltage has acquired the under-construction assets using third-party equity, debt and tax equity (PFR, 11/12).
SteelRiver Infrastructure Fund	Trans Bay Cable (Transmission Line)	California	RBC (seller), Wells Fargo, Pillsbury Winthrop	NextEra Energy is paying $1 billion including the assumption of project debt (PFR, 11/26).
Sumitomo Corp. of Americas	Turquoise Nevada (50 MW Solar)	Washoe County, Nev.	Whitehall	Whitehall is running the sale process for the project, which is due online by the end of 2020 (PFR, 10/29).
● SunEnergy1	SE Solar (21.8 MW Solar)	North Carolina		Greenbacker Renewable Energy has acquired the portfolio while simultaneously arranging financing (see story, page 7).
● Tenaska	Portfolio (2 GW Solar)	Midwest		Capital Dynamics is buying 14 pre-construction stage projects as it bets on renewables growth in MISO (see story, page 8).

● **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 Taryana Odayar at (212) 224 3258 or e-mail taryana.odayar@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
Ares-EIF, I Squared Capital, CEF	Oregon I (869 MW Gas)	Lucas County, Ohio	Barclays, Credit Suisse	Debt	TBA	TBA	The two banks initially hired to sell the project will first refinance debt into the term loan B market (PFR, 11/19).
Avangrid Renewables, Copenhagen Infrastructure Partners	Vineyard (800 MW Offshore Wind)	Massachusetts	CCA Group (adviser), Santander (adviser)	Debt, Tax Equity	$3.5B	TBA	The capital structure for the estimated $3.5 billion, two-phase project remains to be finalized (PFR, 10/8).
Burns & McDonnell, Robinson Power	Beech Hollow (1,075 MW Gas)	Robinson Township, Pa.	Guggenheim	Equity	TBA		The project was initially envisioned as a waste-coal facility more than 15 years ago (PFR, 11/19).
Clean Energy Future	Oregon II (955 MW Gas)	Lucas County, Ohio	Cantor Fitzgerald, BNP	Equity, Debt	$900M		Siemens is providing the turbines and has already committed $200 million of equity (PFR, 11/19).
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).
Fotowatio Renewables Ventures	Potrero (270 MW Solar)	Jalisco, Mexico	IFC	Debt	$65M	12-yr	The project is expected to cost $250 million and come online in 2020 (PFR, 11/12).
Fortistar	Primary Energy (298 MW Waste Heat)	Indiana	Investec	Debt	$240M	7-yr	The deal was expected to launch mid-November, replacing the $215 million acquisition financing from 2014 (PFR, 11/5).
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).
● Genergiabio, BAS Projects Corp.	Corrientes (18 MW Biomass)	Argentina	CIFI	Debt	$43M	TBA	A syndicate of banks is financing the $67 million project, which has a 20-year PPA with Cammesa (see story, page 13).
IGS Solar	Portfolio (35 MW [DC] Solar)	Northeast U.S.	ING Capital	Debt	TBA	TBA	Marathon Capital structured the deal, which will finance 4,000 residential systems under development (PFR, 11/26)
			U.S. Bank	Tax Equity	TBA		
Innergex Renewable Energy	Cartier (590 MW Wind)	Quebec	TBA	Debt	>C$400M	TBA	A group of banks is putting together long-term project financing to pay off a one-year bridge facility (PFR, 11/19).
Middle River Power III	Portfolio (523 MW Gas)	San Joaquin Valley, Calif.	MUFG	Debt	$246.5M	4-yr	The Avenue Capital Partners subsidiary has closed acquisition financing (PFR, 11/19).
Macquarie Infrastructure Partners, Siemens Financial Services, CEF	Lordstown (856 MW Gas)	Lordstown, Ohio	ICBC, Crédit Agricole	Debt	TBA	TBA	The sponsors hope to cut pricing and tweak the cash sweep structure (PFR, 11/19).
● Morgan Stanley Infrastructure Partners	Bayonne (644 MW Gas)	New Jersey	Crédit Agricole, Investec	Debt	$500M	7-yr	The acquisition financing closed on Nov. 21 and was 3x oversubscribed (see story, page 8).
Naturgy	Sertao I (30 MW Solar)	Brazil	Kinea	Bond	R$130M	14.25-yr	Kinea, a private equity firm from Itau Unibanco Group, acquired 50% of the notes (PFR, 11/19).
	Sobral I (30 MW Solar)			Bond	R$135M	15.25-yr	
● Neoen	Capella (100 MW Solar)	El Salvador	FMO, IDB, Proparco	Debt	$90M	TBA	The $143 million project has a 20-year PPA with Delsur and includes a 3 MW/1.5 MWh battery (see story, page 14).
NTE Energy	Reidsville (500 MW Gas)	North Carolina	Whitehall	Debt, Equity	$650M	TBA	The City of Camden, S.C., signed a 20-year PPA with Reidsville, becoming it twelfth customer (PFR, 10/1).
NTUA Generation	Kayenta II (27 MW Solar)	Navajo County, Ariz.	Karbone (adviser)	Tax Equity	$13.3M		Prospective tax equity investors for the $39 million project received teasers on Oct. 18 (PFR, 10/29).
● oneGrid	Empire State Connector (Transmission)	New York	TBA	Debt	>$1B	TBA	The 265-mile line would deliver power from Utica to the Gowanus neighborhood in Brooklyn (see story, page 1).
Prumo Logística, BP, Siemens	Porto do Açu III (1,673 MW Gas)	Brazil	IFC, IDB Invest, BNDES	Debt	TBA	TBA	The asset is estimated to cost $1.1 billion with financial close expected in the next few weeks (PFR, 11/26).
Soltage	Portfolio (100 MW Solar)	U.S.	Fifth Third Bank	Debt	TBA	7-yr	Soltage also used equity from Basalt Infrastructure Partners to acquire the portfolio from Southern Current (PFR, 11/12).
			U.S. Bank	Tax Equity	TBA		
Southern Power (Southern Co.)	Portfolio (1.6 GW Wind)	Texas, Oklahoma, Maine	BAML, JP Morgan, Wells Fargo	Tax Equity	>$1B		CCA Group is structuring the tax equity raise (PFR, 11/12).
Talen Energy Supply	Portfolio (2.3 GW Gas)	Northamptio County, Pa.	MUFG	Term Loan B	$475M	7-yr	Two operating gas-fired projects in PJM are being levered up at 400 basis points over Libor (PFR, 11/19).
Tellurian	Driftwood (LNG)	Louisiana	Goldman Sachs, Société Générale	Equity	$8B		The sponsor has slashed the equity commitment and intends to replace the difference with debt (PFR, 11/5).
				Debt	$20B		

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MERGERS & ACQUISITIONS

Carlyle Bid for Gas-fired Trio Bears Fruit

The Carlyle Group has agreed to buy a trio of combined-cycle gas-fired projects in New England from **Emera Energy** for $590 million after a competitive sales process run by a bulge-bracket investment bank.

JP Morgan ran the auction for the approximately 1.1 GW portfolio on behalf of the Canadian utility holding company.

The portfolio comprises the 560 MW Bridgeport facility in Bridgeport, Conn., the 265 MW Rumford project in Rumford, Maine, and the 283 MW Tiverton plant in Tiverton, R.I.

The transaction is expected to close in the first quarter of 2019, pursuant to U.S. **Federal Energy Regulatory Commission** and antitrust approvals.

Potential buyers were said to be putting together between $400 million and $600 million in acquisition financing to support their bids for the portfolio, *PFR* reported in November (PFR, 11/12).

Emera will use a $500 million chunk of the proceeds to retire corporate-level debt, a spokesperson for the company in Halifax, Nova Scotia, tells *PFR*. The rest will go toward capital investment opportunities within its regulated utility businesses.

"This transaction, part of the three-year funding plan we introduced during our third quarter earnings results, increases Emera's financing flexibility to capitalize on our regulated growth opportunities today and in the future," said **Scott Balfour**, the company's president and ceo, in a statement.

> **"This transaction ... increases Emera's financing flexibility to capitalize on our regulated growth opportunities"**

Skadden acted as legal adviser to Emera.

Cogentrix, Carlyle's management platform in the power generation space, will operate the facilities once the transaction closes. Cogentrix already manages Carlyle Power Partners' roughly 1.4 GW fleet of power plants in the northeastern U.S.

"Through this acquisition, **Carlyle Power Partners** will increase its generation capacity in the attractive New England market, making us one of the largest owners of power generation facilities in the region," said **Matt O'Connor**, Carlyle Group managing director and head of Carlyle Power Partners, in a statement.

A spokesperson for Carlyle in New York declined to comment on the financing of the acquisition or the use of advisers.

The sale leaves Emera with just one CCGT in its operating portfolio, the 290 MW Bayside power plant in Saint John, New Brunswick, according to its website.

Emera's other generation assets include a pumped storage hydro facility, the 600 MW Bear Swamp project in Massachusetts, which it co-owns with **Brookfield Power**, and a 30 MW biomass facility called Brooklyn Power, located in Brooklyn, Nova Scotia.

NextEra Finds Work-around for Market Power Issue in Florida

NextEra Energy is said to be using a lease-based structure in order to stay below market power thresholds that otherwise would have restricted its acquisition of a primarily gas-fired facility in Florida.

NextEra agreed to buy the 789 MW Oleander simple-cycle project near Cocoa in Brevard County, which can run on oil as well as gas, from **Southern Power** in May, along with a 65% stake in one unit of the 660 MW Stanton combined-cycle plant near Orlando (PFR, 5/24).

However, the acquisition would have pushed NextEra over the market power limits on generators in Florida, according to a person familiar with the transaction.

PATH OF LEASE RESISTANCE

To mitigate this issue, **GE Energy Financial Services** will lease the five-unit Oleader project from NextEra until 2029, according to paperwork filed with the U.S. **Federal Energy Regulatory Commission**.

GE EFS—whose parent company supplied the turbines and has been the plant's long-time operations and maintenance contractor—expects to take control of the facility's uncontracted 155 MW unit 1 as soon as FERC approves the deal, which could be on Jan. 4, and will take control of the remaining four units as their offtake agreements expire.

Units 2, 3 and 4 each have a capacity of 155 MW and sell their output to **Seminole Electric Cooperative** until December 2021 while **Florida Municipal Power Pool** buys the generation from the 160 MW fifth unit under a contract that expires in 2027.

GE EFS will pay a monthly fee to NextEra in exchange for proceeds from energy, capacity and ancillary service sales.

Skadden is NextEra's legal counsel on the deal while **Orrick** is advising GE EFS.

Attorneys representing the companies and NextEra officials in Washington declined to comment while spokespeople for GE EFS in New York did not respond to an inquiry.

Constellation Energy Group brought Oleander online in 2002 and **Southern Company** acquired it three years later for $206 million (PFR, 4/15/05).

FAST FACT

155 MW

The size of Oleander's first unit, which GE EFS will take control of pursuant to the deal closing.

MERGERS & ACQUISITIONS

Mystery Bidder Enters InfraREIT Fray

An unnamed bidder is challenging **Oncor Electric Delivery Company**'s bid for **InfraREIT**, prompting deal watchers to try to narrow down the identity of the mystery bidder.

Oncor recently agreed to buy **Hunt Consolidated**'s publicly listed InfraREIT for about $1.275 billion, plus the assumption of $945 million of debt, in a complex transaction that is expected to close by mid-2019, subject to regulatory and stockholder approvals (PFR, 10/19).

Although InfraREIT's board of directors and conflicts committee have unanimously approved the acquisition, the "go-shop" provision of the agreement whereby InfraREIT could solicit higher bids through Nov. 17, has resulted in a competing "third party" bid.

Although the identity of the bidder could not be discerned by press time, a deal watcher closely following the process tells *PFR* that the bidder is likely to be "a strategic player in and around the [Texas] area."

Three names that could fit the bill are Texas-based public utility **El Paso Electric**, Albuquerque-headquartered **PNM Resources** and Oakville, Canada-headquartered **Algonquin Power & Utilities**, say deal watchers, adding that financial and private equity players could also be contenders.

The challenging bid has not fazed Oncor, says a spokesperson for the company in conversation with *PFR*.

"From an Oncor perspective, we believe that our transaction is the best thing for the state of Texas and we believe InfraREIT's assets are a terrific fit for our operational portfolio," the spokesperson said.

Oncor intends to power through with its plan to file for regulatory approval with the **Public Utility Commission of Texas** within the next few weeks, he added.

In an announcement issued by InfraREIT, the company notes that the new bid is likely to result in a "superior proposal" than the agreement with Oncor. The company's board of directors and conflicts committee's recommendation that stockholders vote to approve the Oncor transaction remains unchanged.

GO-SHOP

With the help of its financial adviser **Evercore**, InfraREIT initially reached out to 37 potential acquirers during its go-shop period, comprising 23 strategics, 14 financial players and two parties who made unsolicited inquiries, according to InfraREIT.

Only four parties proceeded to the next round, signing confidentiality agreements with InfraREIT, before the emergence of this new bidder.

Deal watchers estimate that out of the 37 parties that InfraREIT reached out to, which they speculate could have included **Berkshire Hathaway Energy, American Electric Power, Xcel Energy** and Canada's **Fortis**, only about five to 10 potential buyers are likely to have followed up.

"[InfraREIT] probably cast a very wide net," said a source tracking the deal. "That being said, InfraREIT is very small so although larger players took a look at it, it was probably too small for them to spend time on and have the inclination to do."

"You have to be motivated to do it," he added. "If you're small then it's a meaningful transaction, but if you're large like Berkshire or AEP then it's not worthwhile."

Structured as a real estate investment trust, InfraREIT owns and leases rate-regulated electric transmission assets in Texas. The Company is externally managed by **Hunt Utility Services**, an affiliate of **Hunt Consolidated**, a diversified Dallas-based holding company managed by the **Ray L. Hunt** family.

InfraREIT's Dallas-based vice president of investor relations, **Brook Wootton**, and Algonquin's investor relations team in Ontario declined to comment on the developments. Spokespeople for AEP and PNM did not respond to inquiries by press time. ■

Pattern and PSP Acquire Treasure State Stake

Pattern Energy has dropped down a 51% stake in an operational project in Montana into its yield company, while a Canadian investor has acquired the remaining 49%, for a combined total of about $46 million.

The yieldco, **Pattern Energy Group**, acquired the majority stake in the Stillwater Wind facility, located in Stillwater County, which came online late last month. Pattern's acquisition of the stake is being financed with available liquidity and represents about 35 MW of the facility's 79.75 MW generation capacity.

Taking the minority stake in the facility is Canada's **Public Sector Pension Investment Board**, which is co-investing on the same financial terms as Pattern, according to a PSP spokesperson.

Davies Ward Phillips & Ward advised PSP on the acquisition, which the pension fund investor executed through a vehicle called **Vertuous Energy** (PFR, 10/5).

Pattern will operate the facility, which is fitted with 31 **Siemens Gamesa** wind turbines and has a 25-year power purchase agreement for its full output with public utility **NorthWestern Energy**.

"This accretive acquisition is another proof point of our ability to execute our growth strategy and increase our CAFD without relying on issuing common equity," said **Mike Garland**, ceo of Pattern Energy, in a statement.

"Stillwater is the first of two projects from our iROFO list in Montana, a robust wind resource region, and the fourth project we have executed under the joint venture arrangements with PSP Investments. It is also the first acquisition we have made directly from Pattern Development 2.0, providing meaningful benefits to the business through our 29% ownership interest in Pattern Development 2.0." ■

Greenbacker Stocks Up on N.C. Solar

Greenbacker Renewable Energy Co. has acquired a 21.8 MW solar portfolio in North Carolina from a developer, the latest addition to its rapidly growing solar fleet in the state.

Greenbacker is buying the three-project SE Solar Portfolio from **SunEnergy1** while simultaneously arranging back leverage and tax equity financing.

Spokespeople for Greenbacker in Kansas City, Mont., and SunEnergy1 did not immediately respond to inquiries as to the names of the individual projects, further details of the financing or the identities of advisers.

Located in Camden, Jamesville and Martin counties, the construction-stage facilities are expected to be online early next year. Once operational, the projects will sell their full output to an investment grade utility offtaker under the terms of a 15-year, fixed-price power purchase agreement.

"With the SE Solar Portfolios, we continue to focus on solar assets in North Carolina which provides [sic] significant long-term value to our investors," said **Charles Wheeler**, ceo of Greenbacker, in a statement. "Over the coming year, we expect to expand the Company's investment in pre-operational solar assets as we grow our solar portfolio."

Earlier this year, Greenbacker bought three development-stage solar projects also located in N.C., including one 6.75 MW project from **ReneSola** (PFR, 6/21), and two projects from **ET Capital** totaling 13.5 MW (PFR, 6/19).

With the addition of the SE Solar Portfolio, Greenbacker will own about 278.7 MW of generation capacity, including development-stage and construction-stage projects, split between 61.5 MW of wind and 217.2 MW of commercial and residential solar power.

Skyline Seals $208.5M Wind Portfolio Acquisition

Skyline Renewables has agreed to pay $208.5 million for a mostly contracted 117 MW wind portfolio in a deal that will involve the associated tax equity going to another investor.

The owner of the portfolio, **NJR Resources**' subsidiary **Clean Energy Ventures**, intends to use the sale proceeds to reduce its external financing needs.

The portfolio comprises NJR's last four operating wind farms, three of which sell their output under long-term power purchase agreements. The facilities are:

- The 50.7 MW Alexander wind farm in Rush County, Kan., fitted with 21 **Siemens** turbines, which has been online since February 2016 and sells 25 MW of its output to **Kansas City Board of Public Utilities** under a 20-year PPA;
- The 39.9 MW Ringer Hill wind farm in Somerset County, Pa., fitted with 14 **General Electric** turbines;
- The 20 MW Carroll wind farm in Carroll County, Iowa, fitted with nine Siemens turbines, which has been online since February 2015 and sells its output to **MidAmerican Energy Co.** under a 25-year PPA; and
- The 6.3 MW Medicine Bow wind farm in Carbon County, Wyo., fitted with nine **Vestas** turbines, which has been online since 1998 and has a PPA with the **Platte River Power Authority** through 2033.

Meanwhile, an "unidentified investor" will separately purchase the tax equity in the projects, according to a U.S. **Federal Energy Regulatory Commission** filing dated Nov. 21.

The parties to the deal have requested FERC approval by Dec. 28. in order to "preserve significant resources for investment in other economic projects," the details of which were redacted in the filing.

Since 2009, NJR's CEV subsidiary has invested about $700 million in solar projects and intends to invest $500 million over the next four years.

CCA Group acted as financial adviser to Skyline while **Hunton Andrews Kurth** provided legal counsel. **Bryan Cave Leighton Paisner** represented the seller.

The NJR acquisition will double the size of the portfolio of operational wind farms owned by Skyline, which is a partnership between **Transatlantic Holdings** and Paris-based investment firm **Ardian Infrastructure**.

Following its formation, the company moved quickly to build its fleet with a flurry of acquisitions in Texas. Its most recent purchase was **Starwood Energy Group Global** 51% stakes in the 230 MW Horse Creek and 230 MW Electra projects (PFR, 10/22). Both projects are hedged under 13-year fixed-price swap agreements with **Merrill Lynch Commodities**.

Spokespeople for NJR declined to comment on the use of advisers.

First Solar Finances, Sells California Solar Project

First Solar sold its 150 MW North Rosamond solar project in Kern County, Calif., after sealing tax equity for the facility earlier this month.

Clearway Energy Group has taken ownership of the project, according to an Oct. 11 filing with the U.S. **Federal Energy Regulatory Commission**.

U.S. Bank provided the tax equity check and was advised by **CCA Group** on the deal, *PFR* has learned.

Spokespeople for First Solar in Phoenix, Clearway in San Francisco, U.S. Bank in St. Louis and CCA in Boston did not respond to inquiries about whether debt financing was also involved.

First Solar signed a 15-year power purchase agreement with **Southern California Edison** for the North Rosamond project in 2016 and it is expected to be online next year.

The developer has two other fully-permitted projects contracted with SoCalEd and due to be online in 2019—the 150 MW Sun Streams facility in Maricopa County, Ariz., and the 100 MW Sunshine Valley unit in Nye County, Nev. (PFR, 12/9/16).

First Solar announced the sale of another project with the same utility offtaker—the 100 MW Willow Springs plant in Kern County, Calif.—to **D.E. Shaw Renewable Investments** on Oct. 17, a fortnight after *PFR* reported the deal (PFR, 10/1).

PROJECT FINANCE

CapDyn Bets on MISO Solar with Tenaska Deal

Capital Dynamics has bought a 2 GW development-stage solar portfolio in **Midcontinent Independent System Operator** from **Tenaska**.

The Swiss private equity firm expects to begin work on the 14 projects by the end of next year in order to avail itself of the 30% investment tax credit and aims to bring them online between 2021 and 2023.

The greenfield projects are located in Michigan, Missouri, Illinois, Wisconsin, Indiana and Minnesota and the largest is pegged at 200 MW.

CapDyn has signed a developer service agreement with Tenaska but will take it upon itself to select an engineering, procurement and construction contractor, appoint panel suppliers and arrange financing.

The next step for the sponsor will be to secure offtake contracts, after which it will look to raise debt and tax equity on the projects.

"If you look at the supply stack in MISO, wind and solar penetration has been lagging behind other markets," **Benoit Allehaut**, director of Capital Dynamics' clean energy infrastructure team, tells *PFR*. "It's primed for a shift to renewables with all the utility RFP-led procurement mandated by the IRPs [integrated resource plans] as well as corporate PPAs."

Allehaut declined to comment on the purchase price for the project pipeline.

CapDyn is a seasoned user of the capital markets when it comes to project finance, having issued some $1.8 billion in privately placed notes for its U.S. renewable energy facilities over the past two years.

Unlike other private placement issuers, the firm typically does not work with placement agents and is expected to tap its existing network of institutional debt investors when it finances the newly acquired portfolio of projects.

The firm will look to lever up the projects with debt and tax equity making up about 40% of the capital stack each and cash equity from its energy infrastructure funds topping up the remaining 20%.

The transaction highlights the trend of financial investors getting involved in early-stage project development as spreads for contracted renewables are compressed. ■

Apollo to Syndicate Term Loan B for GE EFS Portfolio Purchase

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Bank of Montreal and **Goldman Sachs** acting as co-lead arrangers.

The deal was launched on Nov. 27 with initial price talk pegged at 425 basis points over Libor and a proposed original issue discount of 99.5. Commitments are due by Dec. 11.

The debt package includes a $35 million five-year revolver and a $50 million 364-day letter of credit.

Moody's Investors Service has given the senior secured holding company loan a Ba2 rating, noting its structural subordination to project finance loans at nine of the 18 assets and what the rating agency describes as "limited project finance protections."

Those include a "lenient maintenance financial covenant of 1.1x debt service coverage ratio," a "weak excess cash flow sweep" and "no debt service reserve or major maintenance reserve fund requirements."

The rating agency also notes the "potential for additional indebtedness under the senior secured credit facilities."

On the plus side, Moody's noted the portfolio's geographical and technological diversity, adding: "The top six contracted assets are expected to contribute more than 60% of the cash flow during the term of the term loan."

Moody's also expects GE EFS personnel to move to Apollo as part of the trade, which would improve the private equity firm's ability to manage the operating assets.

The holding company through which the loan is being issued is called **Apollo Infra Equity US Holdco**. Apollo is providing $619 million of equity to the company to fund the acquisition, which was signed on Oct. 5 (PFR, 10/8).

The portfolio includes an economic interest in **Invenergy**'s 1.5 GW Lackawanna gas-fired project in Scranton, Pa.—an item which was not revealed in an Oct. 11 filing requesting authorization for the transaction from the U.S. **Federal Energy Regulatory Commission** (PFR, 10/16). The interest is understood not to be an equity stake.

Spokespeople for Apollo, GE EFS and the banking group in New York either declined to comment or did not respond to inquiries. ■

Bayonne Debt Closes Three Times Subscribed

The acquisition finance package for **Morgan Stanley Infrastructure Partners**' acquisition of the Bayonne Energy Center in New Jersey closed on Nov. 21, having attracted some $1.5 billion in commitments.

The $500 million seven-year mini-perm was three-times oversubscribed, says a person close to the deal.

Crédit Agricole and **Investec** were initial coordinating leads and **Industrial and Commercial Bank of China**, **KEB Hana Bank** and **Nomura** were CLAs.

Two dozen lenders participated in total.

The bookrunners were able to tighten pricing from initial talk of 275 basis points over Libor to 250 bp during syndication, as reported by *PFR* in October (PFR, 10/19). The loan is understood to have 25 bp step-ups in years five and seven.

Morgan Stanley closed its acquisition of the 644 MW Bayonne project, which sells its ouput into **NYISO**'s lucrative Zone J, for $900 million on Oct. 15.

It is partially contracted under tolling agreements with **Direct Energy Business Marketing** that have three different expiry dates.

The seller, **Macquarie Infrastructure Corp.**, said it would use the proceeds of the sale to pay down debt, among other things.

Law firm **Kirkland & Ellis**, led by debt finance partner **Rohit Chaudhry**, advised the lenders. ■

Trio of Disputes Set to Shape Burgeoning Tax Equity Insurance Biz

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able and decent and have limited upside, but you have to have a certain protection and that's where the insurance comes into play," says **Izzet Bensusan**, managing partner and founder of **Captona** and **Karbone**.

From the investor's point of view, since developers are usually already obliged to indemnify them for adverse events such as the disqualification of a project or recapture of a tax credit, the insurance product is as much about counterparty risk as tax risk, if not more.

"In many situations, the developers are going to be on the hook anyway for a tax indemnity, so the tax insurance is simply bringing a more creditworthy balance sheet to the table," explains **Gary Blitz**, head of the tax insurance practice at insurance broker **Aon** and co-head of the firm's transaction solutions group.

Over the last three years, as demand for these insurance products has taken off, premiums have steadily fallen as insurers have become familiar with an array of complex tax-oriented structures including partnership flips, sale-leasebacks and inverted leases.

TRIPLE THREAT

The budding insurance business could soon face disruption, however, depending on the outcomes of three court cases.

"The entire wind and solar markets are watching these cases with interest to see how they are decided," says **Keith Martin**, a partner at **Norton Rose** and the firm's co-head of projects based in Washington, D.C.

The best known of the three is the Alta Wind case, a dispute over the size of the cash grant for the massive wind project of the same name in California. The case grabbed headlines in July after the **U.S. Appeals Court for the Federal Circuit** sent it back to the **U.S. Court of Federal Claims** to be reheard under a different judge, eight years after the original financing (PFR, 8/16).

The case could redefine how appraisers determine a project's fair market value, limit the range of transactions that insurers are willing to underwrite, have ripple effects on premiums or influence the decisions of new players around whether to enter the market.

"The question is: 'Will insurance underwriters react to the cases going forward?' And the answer is: 'Of course,'" says Blitz.

Faced with transactions with a similar structure and fact pattern to Alta Wind, insurers may either rework the terms of the policy to bring it in line with the case and tax law or refuse to provide coverage at all.

Determining the eligible basis in tax equity transactions could also become trickier.

"Since the appeals court sent the Alta case back to the lower court in late July, the market may be less confident about which is the better way to step up asset basis—sell the project company or rely on a developer fee—but most deals closing this fall have been relying on project company sales," says Martin.

DEVELOPING SITUATION

Another dispute involving the 1603 cash grant concerns **Invenergy**'s tax equity partnership with **U.S. Bank** for the Bishop Hill wind farm in Illinois. The Treasury doled out a smaller cash grant than the sponsor had applied for, citing a contentious $60 million "developer fee."

Invenergy is now seeking the roughly $12 million shortfall in damages, while the tax division of the U.S. **Department of Justice** claims, firstly, that the developer fee is an ineligible component of the cost basis for the facility and, also, that when the fee was paid, the developer and the tax equity partnership were not separate entities for tax purposes.

"Early skirmishing in the Bishop Hill case suggests that Invenergy will win on whether a developer fee can be added to the tax basis," opines Martin. "It is just an issue at this point of how much."

"LEGAL SHAM"

The third case has to do with a third-party tax equity investment rather than a cash grant and involves paint manufacturer **Sherwin-Williams**, which provided $7 million to finance assets for mobile solar company **DC Solar Solutions**.

The partnership in the case, Solar Eclipse Investment Fund III, was described as a "legal sham" by the **Internal Revenue Service**, which reduced the tax basis in the assets to zero after claiming the partnership inflated its asset prices (PFR, 9/20).

"MORE RIGOR"

The perception that the IRS is more aggressively auditing deals seems, if anything, to be a boon for the insurance business.

"At the start of the cash grant program, the Treasury paid everything sponsors requested," says **David Burton**, a partner at **Mayer Brown** and the head of the firm's renewable energy group in New York. "Then the Treasury started haircutting and people started being more conservative. You've seen more rigor around appraisals, preference for bigger balance sheet players able to back an indemnity, and more use of ITC insurance."

In particular, there has been growing demand for insurance against a revaluation of a project's tax basis, which tends to take the form of a seven-year policy paid up-front.

More tax equity insurance providers are expected to enter the market as the business grows, and Blitz reckons two or three more could enter next year.

"In an odd way, these cases are a positive thing as they give underwriters some clarity before they enter the market," he says. "What the insurer seeks to achieve with the insurance product is to add certainty where the tax law has ambiguity."

The rulings could also affect premiums, especially if insurers end up paying out. But a tax loss resulting from a court case does not guarantee an insurance payout, given the bespoke nature of the policies.

"What insurers do when they underwrite a transaction is set terms based on what is before them," says Blitz. "There may be recourse against a sponsor, or credit-enhancing a sponsor's obligation, and there also may be a deductible or limitations on the policy's terms and conditions."

However the cases are resolved, experts say the steady decline in premiums is likely to continue.

"As long as appraisals are done consistently with whatever adjustments the decisions ultimately require, I don't think it will cause premiums to go up," says **Richard Cogen**, a New York-based partner at **Nixon Peabody** and co-leader on the firm's energy and infrastructure projects team. "Uncertainty causes bigger impacts on the market than having clear guidance and certainty." ■

CAPITAL MARKETS

California Wildfire Blindsides Catastrophe Bondholders

The frequency of devastating wildfires has rocketed in California over the past two years. Camp Fire, fully contained as of Nov. 25, looks set to wipe out a catastrophe bond. **Jasper Cox**, reporter at *GlobalCapital*, explores the sharp questions that arise about how to model and price an emergent risk to companies, buildings and people when this is bundled out to the capital markets.

The catastrophe bond was bid at close to zero two weeks ago on the expectation that its sponsor, **Pacific Gas & Electric**, will be found liable for the devastating fire.

Camp Fire is the most damaging wildfire in California's history. It has caused at least 85 deaths and destroyed about 14,000 residences, according to the **California Department of Forestry and Fire Protection** (CAL FIRE). It had been active since Nov. 8.

If PG&E is determined to have caused it, as is expected, it would trigger a cat bond issued to cover its liabilities for wildfire damages.

Cat bonds act as a form of insurance, where risk is outsourced to the capital markets. Investors receive a coupon but can lose all of their principal when a certain trigger related to a peril is breached.

At the time of its issuance in August, PG&E's bond, named Cal Phoenix Re, was innovative as the first to cover only wildfire risk. Also unusual was its structure, covering third-party damages for which the company is liable. More typically, cat bonds offload an insurer's own risk from policies underwritten.

Given the losses and unique nature of the bond, market participants are now questioning the pricing of the risks that it covered. This could have wider implications for the entire cat bond market.

TWISTED FIRE STARTER?

Under so-called inverse condemnation, California utilities are liable for fire damage caused by their equipment, such as electrical wires.

After large potential liabilities from 2017's wildfires, PG&E decided to take up insurance.

This included the $200 million Cal Phoenix Re, with a three-year tenor, to cover it against damages caused by wildfires for which it is responsible.

On Nov. 12, PG&E announced in a filing with the U.S. **Securities and Exchange Commission** that it experienced an outage on a transmission line around the area Camp Fire was thought to originate.

This was seen as an indication that it started the blaze, and therefore is liable for the immense amount of damage caused. The firm's share price dropped by 46% in the two days following the filing, after an initial 32% fall since the fire had started.

Cal Phoenix Re starts to pay out to cover PG&E's wildfire liability when the cost reaches $1.25 billion, and it expires at the $1.75 billion level. That range is $500 million in size; the $200 million bond is only part of the capacity to cover it with the rest covered by other insurance methods.

On Nov. 19, modelling firm **Risk Management Solutions** estimated that Camp Fire had caused insured losses of $7.5 billion to $10 billion. Given the scale of the damage, the bond looks set to pay out in full.

ONE FOR THE VULTURES

And investors took note; two weeks ago the bond was valued at around four cents on the dollar. "It certainly is not looking as though anything but vulture funds will be circling around that one," said one official at a risk modelling company.

But it could take a while to determine liability. "My guess is it's going to take a few months, [but] I think definitely less than a year," said one portfolio manager investing in insurance linked securities (ILS).

The portfolio manager noted that CAL FIRE's website still lists the cause of Tubbs Fire, which occurred in October last year, as under investigation.

Another company that owns an electric utility in California, **Sempra Energy**, also issued a cat bond to protect against third-party wildfire damage, at a size of $125 million.

But as there is no suggestion of it being at fault for Camp Fire or another of the big blazes since, that bond has remained resilient. Its average value was put at 98.95 cents on the dollar two weeks ago.

There are estimated to be around 30 bonds with some exposure to wildfires in the U.S.

One bond issued by **United Services Automobile Association** in the Residential Re 2018 series is thought to be at risk of reaching the trigger point.

'BIT OF A PUNT'

The market is now voicing doubts about the risk calculation for the Cal Phoenix Re bond.

It paying out depends on two events occurring in conjunction. The first is a large amount of wildfire damage.

This should not be too hard to calculate in theory: modelling damage from natural catastrophes is the bread and butter of the cat bond market.

But wildfire occurrence in California is detaching from the historical average. Seven of the top 20 most destructive conflagrations on record in the state have occurred in the past 13 months when Camp Fire is included, according to an **Aon** report published earlier this month.

Climate change, higher housing density in at-risk areas and lack of vegetation control are blamed.

As well as the fire itself, for Cal Phoenix Re to pay out PG&E must be found liable. This is not just about whether its equipment ignited the fire, but also about this being determined legally. While insurers regularly take on liability risk, the ILS world is less accustomed to it.

It may have presented a modelling challenge.

"It seemed to me as though that was done in a relatively rudimentary way," said the risk modelling official. **AIR Worldwide**, one of the best-established risk modelling companies, was appointed to model both Cal Phoenix Re and SD Re. It did not respond to a request for comment.

Another disadvantage for a bond covering third-party liability may be the extension risk. If a likely trigger event occurs near the end of the risk period covered by a cat bond, money can be withheld from investors in a designated extension period, until it has been determined whether the bond has been triggered.

Bonds covering liability may require a greater extension period given the legal implications: for Cal Phoenix Re the period covers five years.

There are signs investors were sceptical

Sgt. Rodrigo Estrada of the **California Army National Guard** surveys the debris in Paradise, Calif., on Nov. 17.
Photo: Senior Airman Crystal Housman

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from the outset. The expected loss was modelled at 1%, corresponding to a one-in-100-year event, but the coupon ended up at 7.5%, giving investors a substantial premium.

"There is a reason why the bond priced at 7.5 times the expected loss," said the portfolio manager. "It sounds like the understanding of the risk is not there yet."

Twelve Capital, a large investment firm in the sector, has said it "was previously cautious about investing in these standalone wildfire cat bonds for various structural and legal reasons."

And the anonymous portfolio manager said: "There were a few problems with Cal Phoenix. One was the risk, which was I think underestimated quite significantly."

The risk modelling official said: "It feels to me as though for a lot of people this was a bit of a punt."

DULLING APPETITE?

Will the likely losses on Cal Phoenix Re dent the cat bond market's development?

The portfolio manager reckoned that PG&E would struggle to issue another bond. But the risk modelling official disagreed.

The latter also thought issuance prospects for utility companies in general were still bright.

"One thing this has proved is that utilities can access the market and can actually get a decent amount of capacity from the market," the official said.

"It will now be a question of, can the market get itself comfortable with the utility risk that's coming in, and therefore price that appropriately?" the official added.

"To me that is an issue of transparency, it's an issue of modelling credibility, it's an issue of greater explanation around how loss links to liability," the official said. "There's no reason why you wouldn't be able to bring a similar transaction to the market as long as it was modelled properly."

But the official suggested that investors would want a more detailed probe of the risks for a future PG&E bond, perhaps involving looking at more than one model.

And the recent wildfire activity may lead investors to wonder more generally about modelling.

"I think it will cause people to question what comes out of these models and start asking their modelling firms and modelling partners more detailed, more probing questions," said the official.

PG&E: TOO BIG TO FAIL?

Beyond the cat bond, Camp Fire is threatening PG&E's entire operations.

In its SEC filing, it said that if it is determined to be the cause of Camp Fire, it could face significant liability beyond its insurance coverage.

This "would be expected to have a material impact" on the "financial condition, results of operations, liquidity, and cashflows" of PG&E Corp. and its subsidiary, Pacific Gas and Electric Co..

Earlier this year, California passed Senate Bill (SB) 901, enabling PG&E to cover costs of the 2017 wildfires by issuing bonds that would be paid off through higher rates to consumers. But this is thought not to apply automatically to 2018 fires.

Moody's Investors Service, **S&P Global Ratings** and **Fitch Ratings** all downgraded PG&E in the wake of concerns about its liability.

"Moody's does not incorporate a view that a strategic bankruptcy filing is imminent because it is too early to determine if PG&E's equipment will be found to be the substantial cause of the Camp Fire," said the first of those ratings agencies.

"The gap in coverage within SB 901 is a material credit negative, particularly considering the magnitude of the Camp Fire," it added.

(A version of this article was first published in GlobalCapital on Nov 22.)

PROJECT FINANCE

California Wildfires Char Project Ratings

Devastating recent wildfires in California have prompted ratings agencies to downgrade projects exposed to **Pacific Gas & Electric** offtake contracts and project finance banks to review their loan books.

Moody's Investors Service, **S&P Global Ratings** and **Fitch Ratings** cut their ratings on the senior secured notes for **Berkshire Hathaway Energy**'s 550 MW Topaz solar project from Baa1/BBB/BBB to Baa2/BBB-/BBB- in November.

The project had already suffered downgrades in March (PFR, 3/2) and then again just two months ago after a California state ruling did not protect PG&E from liabilities should it be found responsible for causing the fire (PFR, 9/14).

PG&E's 25-year power purchase agreement with Topaz, located in San Luis Obispo County, expires in 2039. The project has $958.2 million of debt outstanding. BHE spokespeople in Des Moines, Iowa did not respond to an inquiry.

Commercial banks, meanwhile, have also put PG&E-exposed credits in their loan portfolios on watch, says a New York-based project finance banker.

"People have been tracking this risk for a while but the scale of it took some by surprise," he says. "I've got more calls about this in the past one month than the previous six."

The elevated risk may be mitigated by higher debt pricing, whether through step-up provisions in existing loan documentation, if they are triggered, or higher margins on new deals where PG&E is the offtaker.

While the Camp Fire in northern California has now been contained, it left 85 people dead and 296 unaccounted for, according to reporting from the *Washington Post* (WaPo, 11/26).

PG&E issued catastrophe bonds in August, named Cal Pheonix Re, which would act as a form of insurance, outsourcing risk to capital markets. The cat bond was bid close to zero two weeks ago on the expectation that PG&E would be found liable for the fire (see story, page 10).

Even with this and other forms of insurance in place, as the rating agencies review the utility's ratings for potential downgrades, investors and financiers are weighing the possibility that the damage liabilities from the fires could eventually trigger another PG&E bankruptcy.

> **"I've got more calls about this in the past one month than the previous six"**

"Remember that PG&E has been through bankruptcy once before and there's strong political will to ensure it won't happen again," notes the project finance banker.

YIELDCO EXPOSED

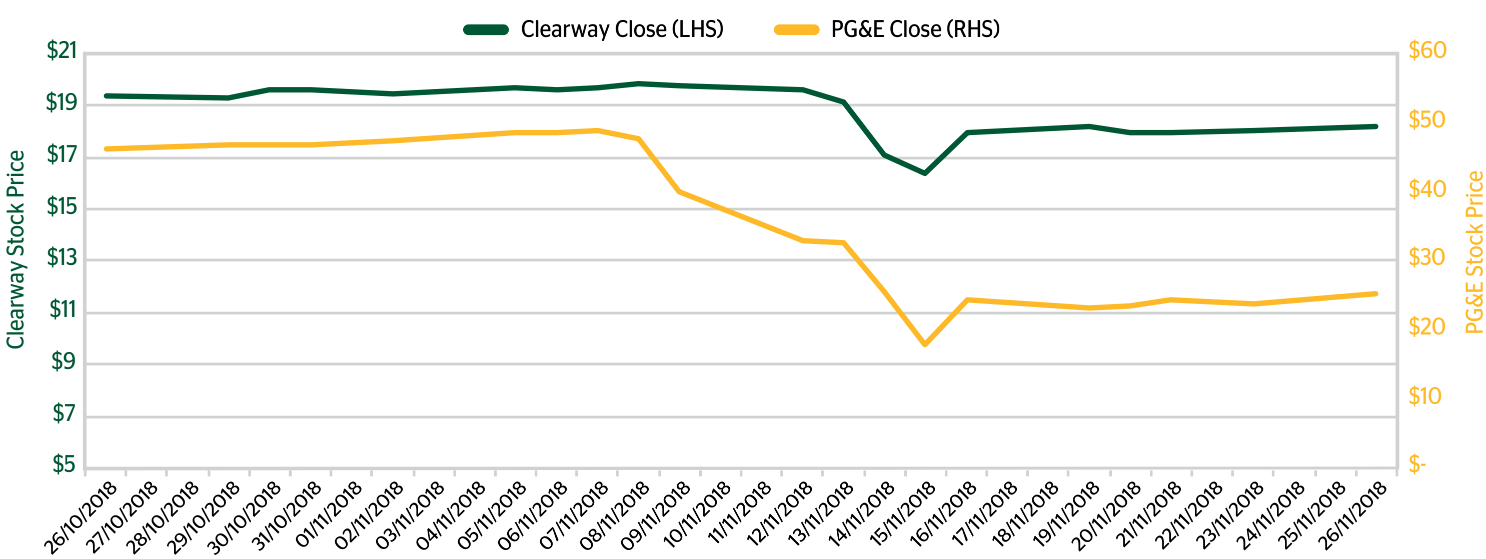
Meanwhile, the uncertainty around PG&E has trickled through to the stock performance of a yield company with significant exposure to the utility through PPAs.

Clearway Energy's stock price dropped almost 20% over two days, closing at an all-time low of $16.37 on Nov. 15.

During 2017, the yieldco earned roughly 23% of its consolidated revenue from PG&E.

Clearway's stock quickly bounced back, however, as PG&E's own stock rallied 40% later the same day on news of a comment from a **California Public Utilities Commission** official suggesting, as the project finance banker did, that the government would bail out PG&E. ■

Clearway Stock Recovery vs PG&E



Source: NASDAQ

Developer Lines Up Anchor Customer for Empire State Transmission Project

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for the Empire State Connector is a rare sign of confidence in a large-scale U.S. transmission project.

The project's developer, **oneGRID**, has been discussing the project with potential financial advisers and sponsors as well as customers, and will probably have engaged an investment bank by the first quarter of next year, says **John Douglas**, the company's co-founder and ceo in Toronto.

"We've talked to a lot of potential sponsors over the past couple of years about this project, ranging from big corporate folks that can build on balance sheet and put debt on later to the traditional project finance model sponsor," he says.

Based on those discussions, the developer expects between 60% and 70% of the project's output to be contracted, with the rest sold merchant into **New York ISO**'s highly profitable Zone J.

The sponsor could then potentially raise upwards of $1 billion of project finance debt toward the roughly $1.5 billion costs.

SKEPTICISM

Project finance bankers are eager to finance such projects on the basis of long-term contracts with shippers, but they often express skepticism that planned lines will make it through the permitting phase and into financing.

Michael Skelly's **Clean Line Energy** was working for years on an ambitious portfolio of high-voltage transmission projects before selling most of them and narrowing its focus to one, the Grain Belt Express in Missouri. Earlier this year, Skelly joined Clean Line's long-standing investment bank **Lazard Frères & Co.** as a senior adviser (PFR, 8/10).

The well-documented difficulty of obtaining land rights and other permissions for transmission lines that stretch hundreds of miles across county and sometimes state lines has led developers to explore unconventional routes. **Trey Ward** and **Joe DeVito**'s **Direct Connect Development Co.**, for instance, is working with **Canadian Pacific** with the intention of laying a 349-mile transmission line under existing railroads (PFR, 11/28/17).

OneGRID has taken a different approach, drawing the route of its project under the Erie Canal and the Hudson River.

"Innovative routes are finally beginning to percolate to the top," says Douglas, who notes that the project will require permits with the **U.S. Army Corps of Engineers** among other public bodies.

The U.S. **Federal Energy Regulatory Commission** granted authorization for the project to sell transmission rights in 2016 and the company is preparing to file an Article VII application with the **New York Public Service Commission** by the end of next year.

The 265-mile line would deliver generation from a converter station near Utica first east and then south to the Gowanus neighborhood of Brooklyn in New York City, where there is a **Consolidated Edison** substation.

While underwater cables are nothing new—they are an essential component in offshore wind farms—oneGrid's project is different from most others in that it will be buried under inland waterways as a way to avoid objections over the use of land.

WHAT'S ON THE MENU?

Assuming the project is approved for construction along the whole route, the other main hurdle to achieving economic viability will be the shipping contracts, which is where the recently announced letter of interest comes in.

OneGRID began the process of putting contracts in place by first obtaining non-binding supply offers from wind, solar and hydro developers in Upstate New York and then compiling a "menu" of options to present to various customers in the New York City area.

"We were saying: 'You can buy this much wind at this price for this tenor or this much hydro at this price for this term'," Douglas explains. Customers have expressed interest in contracts with terms of between 10 and 20 years.

London Economics International is serving as independent solicitation manager on the process, which has now entered a second stage, allowing other interested buyers besides the anchor customer to sign up for portions of the project's capacity.

Renewable energy suppliers and buyers have until Dec. 21 to confirm or update their bids for capacity on the line.

"It's been a 10-year emergence of contracted merchant as a bona fide asset class," says Douglas, who also developed the cross-border Lake Erie Power Connector project between Ontario and **PJM Interconnection**, which **ITC Holdings Corp.** acquired in 2014. "I think what's happened that has helped is the emergence of renewables. A lot of our projects unlock the delivery of renewables into a load center." ■

Debt Signed for Argentinian Biomass

Argentine construction company **Genergíabio** has signed financing with a syndicate of banks for an 18 MW biomass project in the province of Corrientes.

The lenders have committed $43 million for the Genergíabio Corrientes project, which has a total price tag of $67 million. Genergíabio is developing the plant alongside Spanish development bank **BAS Projects Corp.**

The lenders are **Corporación Interamericana para el Financiamiento de Infraestructura** (CIFI), acting as arranger, **Banco Ciudad de Buenos Aires**, **Banco Itaú Argentina** and **Compañía Española de Financiación del Desarrollo** (COFIDES).

Genergíabio Corrientes has a 20-year power purchase agreement with Argentina's wholesale power market administrator **Cammesa**, awarded in 2016 under the RenovAr renewable energy program.

Clifford Chance and **Perez Alati** were international and local counsel to the lenders while **Dentons** and **Tanoira Cassagne** advised the borrower.

Biomass only makes up a very small percentage of Argentina's total energy mix but interest in the sector is growing. In 2017, BAS Projects Corp. signed an agreement with **ADBlick Agro** to develop a fleet of 10 biomass plants totaling 100MW and requiring a total investment of roughly $300 million. ■

PROJECT FINANCE

Pirapora Solar Complex Reaches Close in Brazil

EDF Renewables and **Canadian Solar** have put the final pieces together of the debt financing for their 321 MW Pirapora solar complex in Brazil, raising a total of R$1.39 billion ($373 million) across several separate transactions.

The solar complex comprises 11 individual projects structured as three phases, grouped according to the date of the auction in which they won 20-year inflation-linked power purchase agreements with Brazilian power regulator **Aneel**.

The phases, which were financed separately, are:

- Pirapora Phase I (Pirapora V, VI, VII, IX, and X)
- Pirapora Phase II (Pirapora II, III, and IV) and
- Pirapora Phase III (Vazante I, II, and III).

Brazilian renewables firm **Omega Geração** is in the process of acquiring Canadian Solar's 20% interest in the whole complex and an additional 30% stake from EDF for a combined enterprise value of R$1.1 billion ($283 million), having signed a binding agreeement in August (PFR, 8/14). Antitrust regulator **Cade** approved the deal in September.

The first phase has a total capacity of 150 MW. Its long-term financing is made up of R$220 million in notes placed with institutional investors and a $R529 million 18-year loan from **BNDES**, which was the Brazilian development bank's first solar project finance deal (PFR, 8/7/17).

The institutional private placement has a 16-year tenor and was priced with no spread over the NTN-B, an inflation-linked Brazilian sovereign debt instrument, which a deal watcher said made it the lowest-priced long-term bond ever issued in Brazil.

The notes benefit from a reais-denominated guarantee from the **Inter-American Development Bank** and its affiliate, **IDB Invest**, covering up to R$315.3 million, of which IDB is picking up about 75% and IDB Invest 25%.

It was IDB's first structured credit guarantee product for a solar project in the country, although the institution had provided a similar structure for a wind project, **Atlantic Renewable Energy**'s 207 MW Santa Vitoria do Palmar wind farm.

As a result of the guarantee, the Pirapora I bonds were the first associated with a solar project in Brazil to receive a global investment grade rating. **Fitch Ratings** deems the notes A+ (equivalent to a triple-A local rating) with a stable outlook.

BTG Pactual was the lead coordinator of the issuance, which was registered on Oct. 11, and was also co-underwriter with **Itaú BBA**.

A raft of legal advisers were involved, including **Clifford Chance** and **Mattos Filho** as New York and local counsel to IDB and IDB Invest, **Linklaters** and **Pinheiro Guimaraes** representing the sponsors and **Mayer Brown** and **Cescon Barrieu** advising the underwriters.

The sponsors used the proceeds of the BNDES loan and the bonds to refinance bridge loans the sponsors had obtained in 2017.

The 90 MW second phase has meanwhile been financed with R$366 million of long-term project debt through **Banco do Nordeste**. BNB uses funding from the Northeast Constitutional Fund. The regional development bank has issued four debentures of almost R$100 million each to facilitate the financing.

The third and final phase, 81 MW in size, has also secured a long-term project financing. BNDES and the **Brazilian National Climate Fund** provided the debt, which totals R$271 million.

The Pirapora projects have been operational since mid-2018 and the complex is among the largest of its kind in Latin America.

The three phases are fitted with approximately 1.24 million modules manufactured by Canadian Solar at its manufacturing plant in Sao Paulo State, Brazil.

FAST FACT

$57 million

18-year ($R220 million) notes placed with institutional investors will back a portion of Pirapora's 150 MW first phase.

Neoen Reaches Close on El Salvador Solar Project

French independent power producer **Neoen** has reached financial close on its 100 MW Capella Solar project in El Salvador.

The total cost of the project is $143 million, of which about $90 million is being financed with debt.

The senior debt is being provided by **FMO** and **IDB Invest**, as co-lead arrangers, and **Proparco**.

The three development banks are understood to have provided around $30 million each. The remaining costs will be financed with sponsor equity.

The project will be connected to a 3 MW/1.5 MWh lithium-ion battery storage system which will be the largest of its kind in Central America. **Nidec** will install the storage facility.

The project also includes a 5.4-mile transmission line and interconnection facilities in the municipalities of Puerto del Triunfo, Jiquilisco and Ozatlán, in the Department of Usulután.

TSK and **Gensun** are the engineering, procurement and construction contractors on the project, which is expected to commence operations in early 2020.

Neoen won a 20-year power purchase agreement for the project through a public tender held in 2016 by **Delsur**, a Salvadorean electricity distributor (PFR, 5/19/17).

The dollar-denominated PPA with local distributors Delsur, **AES**, **Edesal** and **B&D** was priced at $49.55/MWh, which Neoen said was "significantly below the current market average" at the time of the award.

Capella Solar will be the IPP's second project in the country, the first being the 101 MW Providencia Solar facility, which was financed in 2015 and commissioned in 2017 (PFR, 12/15/15).

The Latest Renewable Offtaker Trend: Fossil Fuel Drillers?

The news media were quick to point out the irony of an oil major powering its operations with renewables when wind and solar power purchase agreements signed by **ExxonMobil** were revealed last week, but the exploration and production giant is not the only firm in the sector going down this route.

In June, South Korean upstream energy services provider **SK E&S**, which owns a stake in an Oklahoma shale gas field, signed a 20-year PPA for 50 MW from **E.On**'s 100 MW West of the Pecos solar project in Reeves County, Texas (PFR, 6/12).

And in September, **EDP Renewables** announced that it had signed a PPA with "a company from the energy sector" for 50 MW from its 200 MW Harvest Ridge Wind Farm project, which was formerly known as Broadlands Wind Farm (PFR, 9/4).

Now, ExxonMobil has signed long-term power purchase agreements for 500 MW from a wind and a solar project **Lincoln Clean Energy** is developing in Texas.

The PPAs, reportedly 12 years in length, follow reports that ExxonMobil had solicited bids for renewables over the summer with a deadline of June 8 (PFR, 9/4).

The oil and gas company will buy 250 MW from Lincoln's 300 MW Sage Draw wind project in Lynn and Garza counties and 250 MW from the developer's 350 MW Permian solar project, whose location could not immediately be learned. Lincoln registered a limited liability company called 2W Permian Solar in September.

The Sage Draw project is expected to be online in the first quarter of 2020 and the Permian solar project in the second quarter of 2021.

Here is a round-up of other recent PPA news:

PALEHUA WIND

Japan's **Eurus Energy Holdings** has inked a 22-year power purchase agreement with **Hawaiian Electric Co.** for the output from a 46.8 MW wind project on the island of O'ahu.

The Palehua Wind project, located on the eastern slopes of the Walanae mountain range on the western half of O'ahu, will be larger than any of the eight existing wind facilities in the state, according to the **Hawaii State Energy Office**, and it is expected to be online by the end of 2022.

The PPA, priced at $109.75/MWh, is awaiting approval from the state's **Public Utilities Commission**.

While more costly than wind projects on the U.S. mainland, Hawaiian Electric says the Palehua project will be "one of the state's lowest-cost renewable resources."

Eurus Energy Holdings is jointly owned by **Toyota Tsusho Corp.** and **Tokyo Electric Power Company Holdings**.

STEEL DEAL

Engie has announced the signing of two long-term power purchase agreements with non-utility corporations in Mexico and in Chile.

In Mexico, the company has won a 15-year contract to supply **Gerdau**, the largest producer of long steel in the Americas, with 100% of its electricity needs.

The generation will come from the 130 MW Akin Solar Park project Engie is developing in Sonora, northern Mexico. The project is expected to be online by the end of 2019.

RENEWABLES RUNWAY

In Chile, meanwhile, Engie will provide 105 GWh per year of capacity to Santiago de Chile airport operator **Nuevo Pudahuel**, under a 16-year PPA.

This generation will come from various existing Engie wind, solar and hydro assets in the country, a spokesperson for the company tells *PFR*.

"Engie is very proud to be tapping into the nascent green corporate PPA market and to deliver clean energy directly to its customers," said **Pierre Chareyre**, executive vice president at the company, in a statement.

COFFEE TOP-UP

Starbucks is the latest corporation to sign up for **Constellation**'s offsite renewables program, CORe, in a deal that will supply the coffee chain with 14 MW of generation from an Illinois wind project.

Under its CORe program, Constellation buys the output of renewable energy projects through power purchase agreements and sells it on to customers like Starbucks under separate long-term retail agreements.

In this case, the PPA is with **Enel Green Energy**'s 185 MW Hilltopper wind project in Logan County, Ill.

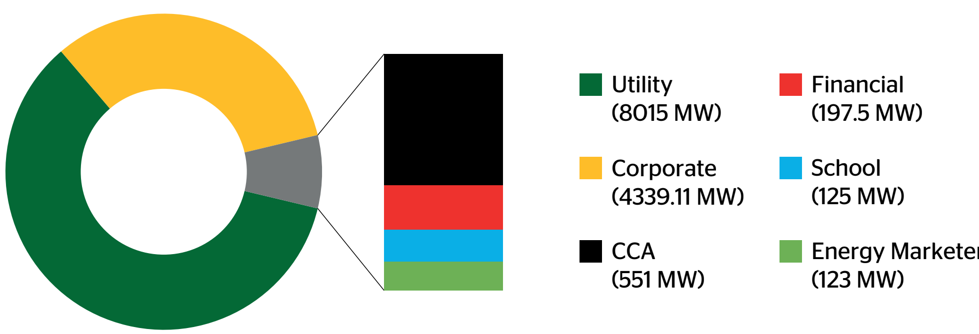
The 14 MW deal is sufficient "to brew nearly 100 million cups of coffee, or more than seven cups of coffee for every Illinois resident," according to Constellation.

Earlier this year, the owner of the Wells Fargo Center in Philadelphia, **Comcast Spectator**, signed a similar deal with Constellation for 9 MW from the same Enel project (PFR, 8/21).

The project's other offtakers are also non-utility companies, although they signed PPAs in their own right rather than going through a retailer like Constellation. **Bloomberg** is purchasing 17 MW and **General Motors** 100 MW (PFR, 4/9).

In October, Enel netted $180 million in tax equity from **Wells Fargo** for the project, which is expected to be online by the end of the year (PFR, 11/5). **CCA Group** advised Enel on the financing.

2018 PPAs by Offtaker Type



Source: Power Finance & Risk

PEOPLE & FIRMS

Investec Adds to N.Y. Power & Infra Team

Investec has grown its New York power and infrastructure finance team with the hire of a project finance banker from **Société Générale**.

The new recruit, **Parag Patel** (not to be confused with the senior energy investor of the same name who is a vice president at **Prudential Capital Group** in Dallas) started at Investec on Nov. 27.

A one-time project finance credit analyst at **Moody's Investors Service**, he had been at SocGen for almost five years.

In his new role, he reports to co-heads of power **Ralph Cho** and **Michael Pantelogianis**.

The expansion comes at a busy time for Investec, which recently closed a $500 million mini-perm financing, as initial coordinating lead alongside **Crédit Agricole**, to support **Morgan Stanley Infrastructure Partners**' acquisition of the 644 MW Bayonne Energy Center project in New Jersey (PFR, 11/21).

The South African firm is also leading on a $240 million loan to refinance **Primary Energy Recycling Corp.**, which owns a portfolio of behind-the-meter generation assets in Indiana (PFR, 10/30).

The Investec team recently bolstered its legal firepower with the addition of an attorney from a major New York law firm, hiring **Sean Kulkarni** from **Mayer Brown** to provide in-house counsel (PFR, 11/1).

Meanwhile, the bank is still understood to be scouting for a replacement for **Megan Don**, who left in August to take up an associate director role at **Barings** (PFR, 9/25).

Double Departure from SocGen

Two junior members of **Société Générale**'s New York-based energy project finance team have left the firm in recent months, *PFR* has learned.

Both of the bankers were associates and SocGen has already replaced both of them, says a person familiar with the situation.

The first to go, back in September, was **Benjamin Jeanpierre**, who had been at the bank's New York office for about four years, handling conventional power project finance, LNG project advisory and the development of U.S. offshore wind activity, according to his LinkedIn profile.

A former parachutist in the **French Air Force**, Jeanpierre worked in environmental consulting and engineering research, mostly in the Paris area, before moving into infrastructure project finance at **PwC** in 2012. He joined SocGen in Paris in 2014 and transferred to the bank's New York energy finance desk in 2016.

He has now returned to Paris, where he is an investment manager at **Infravia Capital Partners**.

More recently, **Parag Patel** left SocGen to take up a new role in **Investec**'s power and infrastructure finance group, where he started work on Nov. 27 (see story, above).

Patel had been with SocGen for almost five years, having previously worked as a credit analyst at **Moody's Investors Service**.

A spokesperson for SocGen in New York declined to comment.

ALTERNATING CURRENT

Powered by Battery & Solar, NASA's Insight Lander Touches Down on Mars

After hurtling 300 million miles through space for almost seven months, **NASA**'s Insight Lander successfully touched down on Mars on Nov. 26 and will be powered by solar for the next two years.

The $850 million mission marks the first successful Martian landing since the Curiosity Rover in August 2012. Landing on Mars is notoriously difficult—only 40% of Mars missions have been successful.

More remarkable than the voyage itself is that Insight's first minutes after landing were battery-powered by the unfurling of a complex, seven-foot wide decagonal solar array. Insight's batteries can hold up to 16 hours of power on a single charge.

For the next one year on Mars (equivalent to two years on Earth), these panels will power Insight's study of the Red Planet's interior to determine how planetary bodies with rocky surfaces, such as the Moon and Earth, are created.

Although Mars has weaker sunlight than Earth given its distance from the Sun, the panels provide 600 W to 700 W, enough to power Insight's instruments. Even when dust covers the panels, they should provide at least 200 W to 300 W.

Insight is fitted with solar panels supplied by Albuquerque, N.M.-headquartered **SolAero Technologies Corp.**, a manufacturer of solar cells for the space market.

They are populated with high-efficiency, triple-junction solar cells. The panels were integrated by **Northrop Grumman Innovation Systems** onto an **UltraFlex** solar array.

QUOTE OF THE WEEK

"As long as appraisals are done consistently with whatever adjustments the decisions ultimately require, I don't think it will cause premiums to go up. Uncertainty causes bigger impacts on the market than having clear guidance and certainty."

Richard Cogen, New York-based partner at **Nixon Peabody** and co-leader of the firm's energy and infrastructure projects team, on the impact of three pending court cases on the tax equity insurance market. (See story, page 1).