

Power Finance & Risk

Exclusive Insight on Power M&A and Project Financing

● MERGERS & ACQUISITIONS

Macquarie's energy storage bet

Macquarie's Green Investment Group is taking a stake in Californian energy storage developer **esVolta**. Page 5

● EMEA

Norway's Aker to control Mainstream

The Norwegian conglomerate is buying a controlling stake in Irish developer **Mainstream Renewable Power**. Page 22

● PEOPLE & FIRMS

Morgan Stanley names NA power, gas trading chief

The bank has named a new head of North American power and gas trading among other senior appointments. Page 24

Financing in works for Texas IPP

Taryana Odayar

An independent power producer in Texas is close to selecting arrangers for a potential financing of its merchant generation portfolio.

The sponsor is **TexGen Power**, the former **Exelon** subsidiary that was known as **ExGen Texas Power** until a restructuring in 2017.

TexGen tapped **Cantor Fitz-**

gerald last year as financial adviser for a refinancing, with lender outreach starting around November.

Banks that are understood to be under consideration for the financing include:

- **CIT Bank**
- **ING Capital**
- **Investec**

The company is said PAGE 20 »

PFR Hedging & Offtake Strategies Roundtable 2020/21

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Experts in project finance banking and law, risk advisory and development left no stone unturned in this discussion of the risks and rewards of choosing between various hedging and offtake strategies.

They answered important questions such as what tax equity is willing to underwrite and syndicate in terms of merchant streams and hub versus busbar,

and how corporations that were recently burned by their PPA contracts have changed course.

The conversation also looked at how bankruptcies, such as that of Pacific Gas & Electric, have increased the popularity of community choice aggregators, and provided reflections on the misuse of power hedges and predictions for battery storage assets.

PAGES 7-18 »

I Squared to acquire Atlantic Power

Taryana Odayar

I Squared Capital has struck a \$961 million deal to take listed independent power producer **Atlantic Power Corp** private.

Atlantic Power's board of directors has unanimously approved the deal, which is slated to close in the second quarter of 2021, subject to various approvals and consents.

Shareholders will receive \$3.03 per share in cash, PAGE 5 »

Goldman to arrange securitization of Chilean power receivables

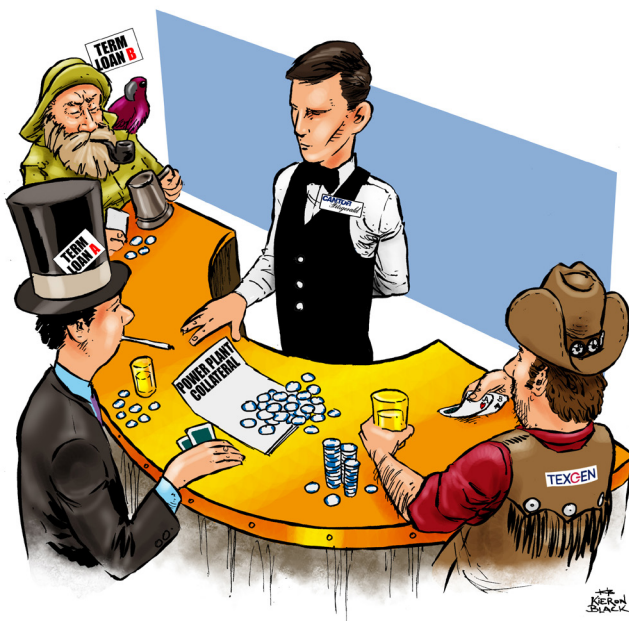
Carmen Arroyo

Goldman Sachs is arranging a receivables securitization for a group Chilean power producers that have been affected by a power price freeze that was implemented in 2019.

The transaction is expected to take the form of a \$489 million offering of seven-year notes with a bullet maturity of January 28, 2028.

The bankruptcy- PAGE 23 »

TEXGEN HOLD'EM: Who will raise the most?



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● THE BUZZ

Better late than never

The years-long stampede of international capital into the US renewable energy sector has continued unabated in the first few weeks of 2021, as latecomers from around the world have finally got in on the action.

The US renewables market can be daunting for newcomers for several reasons – not least the existence of this funny tax equity stuff – but there are clear attractions, too, such as the robust, competitive project finance market and wide range of possible offtake contracts (see this week's roundtable, starting on page 7, for an in-depth discussion of this topic).

This provides investors with a lot of choice in terms of the balance between risk and reward, or as debut investor **Greencoat Capital** put it: "The fast growing US renewables market provides interesting investment opportunities, with a range of returns available from differing offtake contracting strategies."

The British firm appears to have aimed for the "safer" end of the spectrum for its initial foray, buying a minority stake in a portfolio of contracted and mostly operational wind farms in Texas (see story, page 19).

A slightly bolder move, perhaps, was made by Spain's **Naturgy Energy Group**,

which bought a large pipeline of solar and storage projects at various stages of development from **Macquarie**, while **Total** opted for a joint venture with South Korean-owned developer **174 Power Global** (see stories, page 6).

Total has of course been involved in US renewables for many years as a shareholder of distributed solar company **SunPower Corp**, but the new JV is its first investment in utility-scale renewables in the country.

Moving in the opposite direction is **EDP Renewables**, one of the most active and established players in large-scale renewables in the US, which recently added a distributed solar development team by acquiring New York-based **C2 Energy Capital's** business (see story, page 6).

C2, a scrappy company whose clients include high schools, churches, municipalities and **Walmart**, was still owned by founding principals **Richard Dovere** and **Candice Michalowicz**, rather than a venture capital or private equity fund. "There are not that many opportunities like that anymore," says a deal watcher.

That may be true, but whatever opportunities are still out there, **PFR** will be aiming to track them every step of the way. ■

Power Finance & Risk

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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
Apex Clean Energy	Altavista (80 MW Solar, 50%)	Virginia		Algonquin Power & Utilities Corp is the buyer (PFR, 12/21).
Atlantic Power	Atlantic Power	US	RBC Capital Markets, Goldman Sachs	The deal had been approved as of January, with I Squared as buyer (see story, page 5).
Blackstone Group	Onyx Renewable Partners	US	Macquarie Capital	Advisers have been revealed (PFR, 1/18).
Building Energy Asset	Portfolio (40 MW Solar)	Chile	ADVAL, Prothea	Sonnedix has purchased the projects (PFR, 1/11).
C2 Energy Capital	C2 Omega (85%)	US	Guggenheim Securities	EDPR inked the purchase as of January (see story, page 6).
Caithness Energy	Shepherd's Flat (845 MW Wind)	Oregon	Nomura Greentech	Brookfield Asset Management has agreed to buy the asset as of January 8 (PFR, 1/18).
Capital Dynamics	Saticoy (Storage, 49%)	California	Cohnreznick Capital	The sale is expected to close in March (PFR, 1/18).
Cemig	Light (26%)	Brazil	Itau BBA, BTG Pactual, Santander, XP Investimentos, Citi	Cemig is looking to sell the stake as of January (PFR, 1/18).
Centrica	Direct Energy	US	Citi, Credit Suisse	NRG Energy has closed the purchase (PFR, 1/11).
Clear Energy Hydro	Clear Energy Hydro	New York		A Greenbacker fund invested in the firm as of January (see story, page 6).
Colombia	Interconexion Electrica (51.41%)	Colombia		Grupo Energia Bogota is eyeing the stake (PFR, 1/18).
Consolidated Edison	Stagecoach Gas Services (50%)	US	TD Securities	The developer is selling a stake in the firm (PFR, 1/11).
Cubico Sustainable Investments	Portfolio (158.5 MW Wind)	Brazil		AES signed the purchase as of January (see story, page 21).
esVolta	esVolta	US	Nomura Greentech	Macquarie agreed to buy a stake as of January (see story, page 5).
Eletronorte	NTBE (49%)	Brazil		Eletronorte has issued an RFP for an adviser (PFR, 1/18).
Hecate Energy	Portfolio (1,500 MW Solar-plus-storage)	US	Cantor Fitzgerald	The sponsor is looking for a buyer as of January (PFR, 1/18).
Invenergy	Atchison (300 MW Wind)	Missouri		Ameren Missouri closed the purchase in December (see story, page 6).
	Hardin (150 MW Solar)	Ohio		The deal closed in late 2020, with Dominion Energy as buyer (see story, page 6).
Light	Portfolio (Hydro, 51%)	Brazil		Brasal Energia has agreed to buy the stakes (PFR, 1/11).
Navitas Holdings	Chuspa (10 MW Hydro)	Panama		Polaris extended the MoU the second week of January (PFR, 1/18).
Macquarie	Hamel Renewables	US		Naturgy Energy Group closed the purchase as of January (see story, page 6).
Mainstream Renewable Power	Mainstream Renewable Power (75%)	Europe, LatAm	DNB Markets, Nordea Bank, Green Giraffe	Aker agreed to buy the stake in January. Close is expected later this year (see story, page 22).
MAP Energy	Portfolio (renewable)	US		Global Infrastructure Partners is the buyer (PFR, 1/11).
Photosol Group	San Juan I (299 MW Solar-plus-storage)	New Mexico	BNP Paribas	The sponsor is testing the equity market as of the second week of January (see story page 1).
PSEG Power	Portfolio (468 MW Solar)	US	Goldman Sachs	Teasers circulated in November (PFR, 1/18).
RWE Renewables	Portfolio (861 MW Wind, 24%)	Texas	Marathon Capital, Jefferies	Greencoat Capital agreed to acquire the stake as of January (see story, page 19).
Recurrent Energy	Slate (300 MW solar-plus-storage)	California		Goldman Sachs Renewable Power closed the purchase in January (PFR, 1/18).
SolMicroGrid	SolMicroGrid	US	Vertical Capital Advisors	Morgan Stanley Energy Partners invested in the firm as of January (see story, page 20).
Terra-Gen	High Prairie (400 MW Wind)	Missouri		Ameren Missouri has acquired the asset (PFR, 1/11).
Trina Solar	Llanos 4 (27.4 MW (DC) Solar)	Colombia		Isagen closed the purchase as of January (see story, page 22).
	Llanos 5 (25 MW (DC) Solar)			

● 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
Allete Clean Energy	Diamond Spring (303 MW Wind)	Oklahoma	FNBC Leasing (JP Morgan)	Tax equity	\$350m		The deals both closed on December 30 (PFR, 1/18).
Allete South Wind	Nobles 2 (250 MW Wind)	Minnesota	BofA	Tax equity			
Apex Clean Energy	Portfolio (Wind Solar Storage)		Helaba	Ancillary facilities	\$75m		The financing has closed as of the second week of January (PFR, 1/18).
Ares Management Corp	Lincoln Land (300 MW Wind)	Morgan County, Illinois	Santander	Term loan	\$500m		Deal closed on December 31 (PFR, 1/18).
Clearway Energy Group	Mesquite Sky (354 MW Wind)	Texas	Mizuho, CIBC, MUFG, Santander, SMBC	Construction loan	\$427m		Close announced on Jan 5 (PFR, 1/11).
Equinor, BP	Empire Wind (816 MW)	New York (offshore)		Debt			Société Générale appointed as financial adviser (PFR, 11/30).
				Tax equity			
Essentia Energia	Portfolio (474 MW Solar)	Brazil	Banco ABC	Term loan	\$19.2m		Deal closed on December 22 (PFR, 1/18).
Exelon Corp	ExGen Renewables IV (975 MW Solar, Wind)	US	Jefferies	Term loan B	\$750m	7-yr	Deal closed on December 15 after pricing tightened to L+275 bp (PFR, 12/7).
Grenergy Renovables	Portfolio (130 MW Solar)	Chile	Natixis	Term loan	\$85m		Loan closed in the first week of January (PFR, 1/18).
Innergex Renewable Energy	Griffin Trail (225 MW Wind)	Texas	SMBC, CIBC	Construction loan	\$276.2m		Close announced on December 29 (PFR, 1/11).
			Wells Fargo	Tax equity	\$171.4m		
Interchile	Cardones-Polpaico (Transmission)	Chile		Bond refinancing	\$1bn		The sponsor has sent out RFPs to banks (PFR, 10/19).
InterEnergy Group	Portfolio (255 MW Wind, Solar)	Panama	Citi	Bond refinancing	\$262.664m	18-yr	Issuance closed in December (PFR, 1/11).
Invenergy	Samson Solar Energy (1,310 MW Solar)	Texas	Santander, SocGen, Caixabank	Construction financing			Close announced on January 13 (PFR, 1/18).
	Traverse (999 MW Wind)	Oklahoma	CIBC, MUFG, Santander, Natixis, SMBC	Construction loan	\$1.2bn		Deal was live as of first week of January (PFR, 1/18).
	Maverick (278 MW Wind)	Oklahoma	Rabobank, NordLB, CoBank, KeyBank	Construction loan	\$356.4m		Loans closed on December 30, 2020 (PFR, 1/18).
				Ancillary facilities	\$11m		
	Sundance (199 MW Wind)	Oklahoma	Rabobank, NordLB, CoBank, KeyBank	Construction loan	\$250.4m		
				Ancillary facilities	\$9.5m		
Inversiones de Generación Eléctrica	Jilamito (14.8 MW Hydro)	Honduras	IDB Invest	Term loan	\$20.25m		Debt package approved in December (PFR, 12/14).
Oaktree	Seaside LNG (50% of JAX LNG)	Florida	Investec	Term loan (holdco)	\$122m	C+5yr	Lender meetings scheduled for second week in December (PFR, 12/7).
				Ancillary facilities	\$25m	C+5yr	
Pattern Energy	Western Spirit (1 GW Wind, Transmission)	New Mexico	HSBC, CIBC, CoBank, MUFG, SocGen, Santander	Term loan	\$82m	C+10-yr	Close announced on January 4 (PFR, 1/11).
				Construction debt	\$1.624bn		
				Ancillary facilities	\$396m		
Pine Gate Renewables	Pine Gate NC Portfolio (Solar, Storage)	North Carolina	Crestmark	Term loan			Deal announced on January 14 (see story, page 21).
			US Bank	Tax equity			
sPower	Luna Storage (100 MW/400 MWh)	Los Angeles County, California	KeyBank, EDC, Credit Agricole, SVB	Term loan	\$115m	C+5yr	Deal closed on December 29 (PFR, 1/11).
				Ancillary facilities	\$40m		
Strata Solar	Portfolio (130 MW Solar)	North Carolina	CIT Group	Term loan	\$69m		The sponsor has closed the debt as of January (PFR, 1/18).
Sunpin	Portfolio	US	Crayhill	Revolver	\$50m		The financing has closed (PFR, 1/11).
TexGen Power	TexGen Power (2.2 GW Gas-fired)	Texas	Cantor Fitzgerald (adviser)	TBC	TBC	TBC	Proposals sought from potential arrangers in November 2020 (see story, page 1).
Tokyo Gas America	Aktina (500 MW Solar)	Texas	BofA, Morgan Stanley	Tax equity			The sponsor has secured the commitment (PFR, 12/21).

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NORTH AMERICA MERGERS & ACQUISITIONS ●

Macquarie swoops on energy storage developer

Macquarie's Green Investment Group has agreed to take a stake in Californian utility-scale energy storage developer **esVolta**.

The investment will support esVolta's expansion across North America and fund equity investments in its more than 600 MWh portfolio of contracted energy storage assets, primarily in California. It will also support esVolta's more than 2 GWh development pipeline.

The investment is initially structured as a bridge loan but this will convert to equity after regulatory approvals

are received, including from the **Committee on Foreign Investment in the United States** and the **Federal Energy Regulatory Commission**.

"Demand for energy storage in our home state of California remains strong, and we see vast opportunities for geographic expansion as well as additional product and service offerings," said **Randolph Mann**, founder and CEO of esVolta.

Nomura Greentech and **Hogan Lovells** advised esVolta on the deal, while **Orrick** advised Macquarie's GIG.

"GIG is perfectly positioned to accelerate that growth and help deliver esVolta's substantial development pipeline," said **Greg Callman**, global head of energy technology at GIG. "Energy storage is critical to enabling increased renewables deployment, and we're looking forward to leveraging our capabilities with esVolta to accelerate the energy transition across California and beyond."

New York-based private investment firm **RBP Partners** will remain a substantial shareholder in esVolta post-transaction.

"We are looking forward to

working closely with GIG and the esVolta team in coming years to take maximum advantage of the opportunities ahead for the business," said **Digby Beaumont**, managing director at RBP.

Last year, esVolta clinched a landmark financing for what it claimed was the first large-scale standalone battery storage portfolio to reach financial close (**PFR**, 5/20). **CIT Bank** acted as coordinating lead arranger on the roughly \$140 million loan, which financed esVolta's 136 MW/480 MWh esFaraday portfolio in California. ■

Dominion buys Ohio solar project

Dominion Energy has bought a 150 MW solar project in Ohio from **Invenery**.

The asset is the Hardin solar facility, located in the county of the same name, which recently came online and sells its electricity and renewable energy credits to **Facebook**.

"We are thrilled to partner with Dominion and Invenery to bring an additional 150 megawatts of new solar energy to the grid," said **Urvi Parekh**, head of renewable energy at the social media giant.

The deal, which closed last year, marks Dominion's first so-

lar investment in Ohio, where it already owns and operates a Cleveland-based natural gas local distribution company serving 1.2 million customers.

"With this solar project, Dominion Energy is expanding our solar generating portfolio into Ohio, where we have a deep history of

serving our customers and communities through our local distribution business," said **Diane Leopold**, executive vice president and chief operating officer.

Construction of the Hardin project was completed in December. **Invenery Services** will oversee operations and maintenance, said **Ted Romaine**, senior vice president of origination at Invenery. ■

I Squared to acquire Atlantic Power

«FROM PAGE 1 representing a 48% premium to the 30-day volume weighted average price for the period ending January 14, 2021.

"As our fellow shareholders know, the future value of our shares is highly dependent on power prices and re-contracting outcomes for several major Power Purchase Agreements that are expiring in the next three to five years," said **James Moore, Jr.**, president and CEO of Atlantic Power. "The acquisition of our shares for cash would remove this uncertainty for investors and provide immediate and significant cash value."

"Atlantic Power has an attractive portfolio of assets that I Squared Capital is well positioned to manage and we look forward to working together," said **Thomas Lefebvre**, partner at I Squared Capital.

Atlantic Power's convertible bonds will be turned into stock as part of the deal. Preferred shareholders and medium term note-holders will also receive cash.

Atlantic Power will be delisted from the **Toronto Stock Exchange** and **New York Stock Exchange**.

The terms of the deal also include a \$12.5 million termination

fee to be paid by the target if the deal does not close for certain specified reasons, such as the company accepting a better offer from another buyer.

There is also a \$15 million reverse termination fee, which I Squared will owe to Atlantic Power if the buyer somehow causes the deal to fall apart.

ADVISERS

The financial and legal advisers to I Squared on the deal are:

- **RBC Capital Markets** – financial
- **Sidley Austin** – US legal counsel

- **Stikeman Elliott** – Canadian legal counsel

RBC is also arranging financing to support of the deal.

Atlantic Power's advisers are:

- **Goldman Sachs** – lead financial adviser to the special committee
- **Blair Franklin Capital Partners** – financial adviser to the special committee, the board, and also the board of **Atlantic Power Preferred Equity**
- **Cleary Gottlieb Steen & Hamilton** – US legal counsel
- **Goodmans** – Canadian legal counsel
- **Kingsdale Advisors** – strategic shareholder adviser and proxy solicitation agent ■

● NORTH AMERICA MERGERS & ACQUISITIONS

Greenbacker invests in hydro owner-operator

A recently created **Greenbacker Capital Management** fund has invested in an owner and operator of hydro power plants in New York state.

The company is Denver-based **Clear Energy Hydro**, which acquires small, distributed hydro plants in order to refurbish and repower them, and is focused primarily on the New York Community Distributed Generation (CDG) market.

The company owns three facilities in New York and plans to use the proceeds from the Greenbacker loan to modernize them and to acquire additional plants in the state.

The company is led by partners **Matthew Wenger** and **Michael Prendergast**.

CEO Wenger is also a founder of the **Columbia Basin**

Trust and **Columbia Power Corp.**, while chairman Prendergast is the founder of **ClearPower North America** as well as Clear Energy Hydro's parent company, **Infinite Peaks Holdings**.

The deal marks the fourth investment for the recently created Greenbacker fund, which aims to provide flexible capital to small- and medium-sized renewable energy developers. At the end of last year, the fund invested in another hydro IPP in the Northeastern US, namely **Dichotomy Power** ([PFR, 12/9](#)).

Clear Energy Hydro's ability to optimize assets through both physical rehabilitation and revenue model enhancement make it an important player in the market, says **Benjamin Baker**, the fund's managing director and principal. ■

Total, 174 Power Global form renewables JV

French oil giant **Total** has signed a 50:50 joint venture agreement with **Hanwha Group**-owned solar and energy storage developer **174 Power Global** to develop a 1.6 GW portfolio in the US.

The portfolio comprises 12 utility-scale solar and energy storage projects spread across Texas, Nevada, Oregon, Wyoming and Virginia, which 174 Power Global will contribute to the JV from its development pipeline.

One of the projects is already online, as of last year, and the remainder are due to begin operations between 2022 and 2024.

The deal is "a first significant step" for Total into the US utility-scale renewable energy market, said **Julien Pouget**, director of renewables at Total.

Until now, the French energy company's involvement in US re-

newables has mostly been limited to its majority stake in residential and distributed solar developer **SunPower Corp.**, which it has held since 2011 ([PFR, 6/21/11](#)).

174 Power's president and CEO, **Henry Yun**, added that there will be significant opportunities for the JV to expand its solar and energy storage footprint.

"Both 174 Power Global and Total have a strong understanding of one another's business strategies and investment standards," noted Yun.

The transaction is in line with Total's goal of securing 35 GW of renewable production capacity worldwide by 2025.

At the end of 2020, the Paris-based firm's gross power generation capacity worldwide was around 12 GW, including close to 7 GW of renewable energy. ■

EDPR to acquire distributed solar platform

EDP Renewables has signed a deal to acquire a majority stake in **C2 Energy Capital's** US distributed solar platform, **C2 Omega**.

EDPR will take an 85% stake in the company, which comes with an 89 MW portfolio of operational or almost operational projects, as well as 120 MW of near-term pipeline projects.

The transaction implies an enterprise value for C2 of \$119 million, not including earn-out payments.

EDPR identified C2 as a potential target after a search conducted by **Guggenheim Securities** as buy-side financial adviser. "We went through an exhaustive research and vetting process before deciding to acquire C2 based on its impressive track record, strong management team, and quality of

existing assets," said **Miguel Angel Prado**, CEO of **EDP Renewables North America**.

C2's existing management team, led by **Richard Dove**, will continue to be involved in day-to-day operations. Dove is taking the title of chief investment officer of the rebranded business, while his business partner **Candice Michalowicz** will be chief operating officer. EDPR's Prado will oversee the business as CEO of **EDPR NA DG**.

The transaction is expected to close in the first quarter of 2021.

Legal advisers on the deal are:

- **Linklaters** – corporate counsel to C2
- **Norton Rose Fulbright** – tax, corporate, CFIUS counsel to C2
- **Skadden** – counsel to EDPR
- **Orrick** – counsel to EDPR

Naturgy acquires Candela assets

Spain's **Naturgy Energy Group** has bought a portfolio of US solar assets developed by **Candela Renewables** from **Macquarie**.

The portfolio consists of a 3.2 GW utility-scale solar project pipeline and 2 GW of co-located energy storage projects, collectively known as **Hamel Renewables**.

Three of the projects – with a combined solar capacity of 340 MW and 50 MW/200 MWh of storage – already have executed or awarded power purchase agreements.

Candela was established in San Francisco in 2018 by co-founders **Brian Kunz** and **Nik Novograd**, who quickly put in place a development services agreement with Macquarie ([PFR, 6/28/18](#)).

As part of the deal, Macquarie would have exclusive rights to acquire and finance projects originated by Candela, through the Hamel vehicle.

Two years later, Candela hired **Nomura Greentech** to run the capital raise that led to the investment by Naturgy ([PFR, 7/13/20](#)).

"Having Naturgy as a strategic investor is a milestone in Candela's evolution," reads an announcement from the developer. "It broadens our access to capital, and offers our clients the scale and a long-term owner they may want as we create the energy infrastructure of the future."

As part of the deal, Hamel has signed a five-year development services agreement with Candela. ■

Power Finance & Risk



PFR Hedging & Offtake Strategies Roundtable 2020/21

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● PFR HEDGING & OFFTAKE STRATEGIES ROUNDTABLE 2020/21

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EDITOR'S NOTE

Reports of the death of the long-term investment grade utility power purchase agreement, settled at the busbar, may have been a tad exaggerated.

Such contracts are still out there, if you know where to look.

For it is not universally true that utility companies have comfortably exceeded the requirements of their state renewable portfolio standards. Besides which, in some service territories, wind and solar may anyway be the cheapest option to replace coal-fired plants that are due to retire. Some developers even feel it is still worth the effort to go toe-to-toe with a recalcitrant load-serving entity before the state public utility commission over the pricing of an avoided cost PURPA PPA.

But even if the long-term utility PPA were to disappear completely, there are some people who would not mourn its demise.

Because after working their socks off to get hold of one of these contracts, developers may wonder whether it was worth it. Bidding in requests for proposals is so competitive these days that they may walk away with less than \$20/MWh. Developers of renewable energy projects have been telling PFR for years that what they would really like to do is go completely merchant. They believe in their product, and they are bullish on the market for it.

The only catch is that they need financing, especially tax equity, and they are not going to get that, as a rule, without some contracted cash flows. Not in this market.

Contracts for difference, swaps of various flavors, price floors and ceilings, insurance products, parent guarantees and letters of credit have all been introduced, either individually or in concert, in an attempt to bridge the gap between what the developers want – upside – and what tax equity investors and lenders want – certainty. The result is a sometimes bewildering array of financial products, each of which shifts risk from one party to another. When it works, it's great. Everyone gets what they want.

But when it doesn't work... disaster!

So, in order to deepen our understanding of the benefits and the pitfalls of advanced hedging and offtake strategies, PFR brought together a group of experienced market participants to share their perspectives and insight, as well as the latest trends and innovations, in this lively discussion.

Enjoy!

Richard Metcalf

Editor

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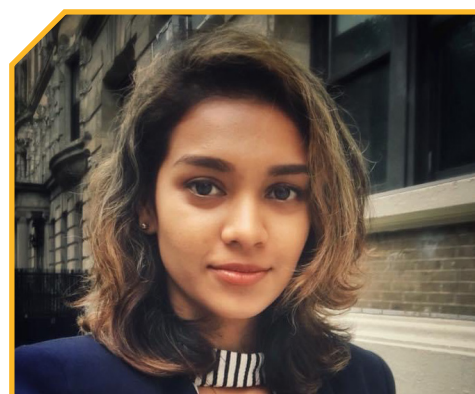
Jeff McAulay, Co-founder and President,
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Carlos Mendez, Managing Partner, **Crayhill Capital**



Emilie Wangerman, Vice President, Business
Development, **Lightsource BP**



Taryana Odayar, Reporter, *Power Finance & Risk* (moderator)

PFR: Traditional utility PPAs have been harder to come by in recent years, which means that sponsors are increasingly going to commodity trading desks to get power hedges. What are the key factors to consider when selecting a hedge product in terms of the risks covered, like basis, weather, counterparty and credit?

Emilie Wangerman, Lightsource BP: We still have a pretty balanced portfolio. Merchant is a great opportunity to increase your revenue and benefit from overall a different customer base. On the other hand, we do still have the unicorn of the 20-, 25-year PPAs with the utilities. That's important for us to maintain balance in our portfolio.

There is also a lot of growth in merchant

types of products. We're saying merchant, but in reality what you just asked about – hedges, things like that – aren't truly merchant. There is a difference between truly going merchant and then short-term contracting or hedges or things like that.

For us, the key risks that we see are around the counterparty are their credit quality and the term of the deal. As we get to a shorter tenor, we run into the risk of being able to finance and having limited tax equity available in the market. Are tax equity investors going to take a 12-year hedge or a 10-year hedge? Or are they going to want something that is a 25-year PPA?

Then, as you mentioned, there is the product itself. Any time you move away from the busbar on to a hub-settled PPA or contract,

then you're going to introduce that basis risk, which isn't necessarily just for these types of products. Even a virtual PPA or a physical PPA would incur that basis risk.

John Bills, Cantor Fitzgerald: I would agree. From our perspective, we focus on the particular parts of the capital structure and what those parts may need. To the extent that it's tax equity, as Emilie mentioned, those are traditionally the important aspects needed.

We've also been able to structure deals that rely upon parent guarantees, letters of credit and other forms of protection that ensure that the tax equity does not end up in a situation where they don't want to be, with respect to challenged ability to produce the tax credits or to receive the investment tax credit.

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So we really focus on what's necessary for a given deal to make that work, and we're not afraid to structure something which doesn't have that traditional PPA, or where your corporate PPA has basis risk, or you have a shorter-dated hedge. How do you still find a way to get sufficient capital from tax equity investors to make the deal work? How do you make that meet the risk-reward profile for the equity investors that are part of the capital structure?

Then, to the extent that debt may be involved – not typically done in wind or solar deals, but in battery storage, where it may be standalone and unable to raise tax equity – how do you think about what the lenders may need in that scenario?

So certainly, covering counterparty credit risk in that regard, basis risks, weather risks, etc., are all part of the equation that one has to manage, and also manage it across different investor classes.

Jeff McAulay, Energetic: I definitely agree with the themes highlighted here. At Energetic Insurance, we focus on counterparty credit risk, which shows up in a number of different places. Debt and, particularly, tax equity is driving the bus these days for those requirements of what you need to see in a counterparty.

Certainly, utility credit, in some cases, is not what it used to be. There have been a few scares on the West Coast. It's unclear if that means, 'Whew! We got through that, utility credit is completely unassailable,' and *that's* what that proved, or: 'Wow! We came really close – I'm not sure how that's going to go from here.'

As well as CCAs [community choice aggregators] – this is kind of a new animal, and there's a lot of uncertainty about how to treat CCA credit.

So even at that traditional utility level, there are some question marks.

Then, obviously, there's the huge groundswell over the past decade of corporate PPAs. The contracts for differences are with very large, very sophisticated buyers. We're seeing a lot of those large, 100% renewable energy purchase obligations go through, and now there aren't as many to be had. How many times can you go 100% renewable?

What we're seeing now is that those large

tech companies, the first movers there, **Walmart, Amazon, Facebook, Google, Apple**, all those, are pushing those requirements down through their supply chain, which means less creditworthy counterparties. We're seeing compression in terms of the term of the PPA they're willing to sign. So all of this comes back to: How do you get financiers comfortable with some of those risks?

Project finance, as we all know, is about allocation of risk. So we're looking for creative ways to help people fill the gaps and get these deals financed.

Ian Cuillerier, White & Case: By the time the lawyers get involved, often, the front end discussions and structuring may have already transpired, limiting the options. So I'm reacting to what I see come across my desk, and all these discussions have already transpired. What I do see is that often the tension is between what the sponsors retain for themselves as upside in the balance of how much of a given project is going to be merchant, and how much is going to be dedicated already, committed to longer-term contracts. Then the other tension is on the terms of what is going to be demanded by the lenders or the financing parties to insist on this risk needing to be hedged or that risk.

To the extent there are corporate players, their interests and their requirements are going to be much different. What story can they tell their shareholders? How are they going to present it? What level of complexity?

Counterparty risk, as everyone has said, will limit the options available to some players in the market.

Bills, Cantor Fitzgerald: On that last point, and what Jeff mentioned earlier about CCAs in California, as well as utilities and maybe other entities in California that are willing to enter into resource adequacy contracts, we've done a series of transactions on the debt side in California that have involved CCAs, in some cases unrated, in some cases with shadow or private ratings, in some cases with public ratings. So we've spent a lot of time educating and bringing in lenders that were unfamiliar with them, as well as dealing with risk related to large utilities there that may have had some challenging credit points in the past, and other types of entities.

“Project finance, as we all know, is about allocation of risk. So we're looking for creative ways to help people fill the gaps and get these deals financed”

The lender universe is shifting away, on the thermal side, from the PJM Interconnection deals, and trying to find other deals that are out there. We're helping package that risk for them and have been successful in doing that in California and now in ERCOT, and have more in both of those markets.

So both in terms of the type of contracts and the counterparties, there are a lot of tools in the toolkit, and we're trying to make sure we bring those to bear into markets that are outside of PJM on the thermal side.

Wangerman, Lightsource: I am frequently battling the ever-tightening constraints of tax equity relative to the rapid growth in demand from offtakers, who are also requiring more constraining contract terms. Even in situations when the offtaker has strong creditworthiness, the project economics are strong, and the offtake contract terms are adequate, tax equity may choose not to invest because they feel over weighted in that particular market. Because there is limited tax equity, this means we are unlikely to proceed with that project even though it could and should get built.

It's interesting how much financing is the tail that's wagging the dog. Obviously, it's a big part of the renewables growth, but it is an interesting component to it. So what we're looking to do is work with people like John that are willing to take a little bit more risk or people like Jeff that can actually reduce the risk and help us increase the opportunities. Because there's just so much interest out there, it's really a question of whether, at the end of the day, you can finance the projects.

With corporates engaged, you're absolutely right that there's different types of interest there. They typically don't like long-term contracts. They don't want the operational

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risk. So you have to get creative with your contracting to address that, and with your financing. Financing has to get more comfortable with more merchant risk, because it is just the future of the market.

Carlos Mendez, Crayhill Capital: I agree with everything the panel is saying. The problems associated with financing these investments are very much structural. The Federal ITC renewable energy subsidy influences everything from how projects are ultimately financed, the amount of leverage available, the timing of those financings and so on. I think the market will be well served by having alternative offtake contracts and financeable power hedges that mitigate reliance on subsidies.

PFR: What are some of the rewards of substituting power hedges for PPAs?

Mendez, Crayhill: Our perspective comes as both a financier of project development capital for and owner of utility-scale solar power generation facilities. In the RTO regions we operate in; PJM, CAISO and to a lesser extent MISO, the cost benefit analysis of power hedges versus PPAs varies greatly.

For instance, in an electricity load environment where renewables are prevalent and a duck shaped power production curve exists such as in California, the liquidity, structure, term, period (five-day or a seven-day), and ultimately, price, are completely different versus markets that do not have an imbalance between peak demand and renewable energy production.

In contrast, in New England, there is only a marginal shortfall of power generation. Demand is characterized by the need to address intermittent gaps driven by such events as scheduled power plant maintenance and one time needs from large power consumers. In the MISO, there exists yet another scenario where there is a foundational need for additional power production capacity, and so there is a smaller distinction being made in economic terms between conventional versus renewable generated electricity.

Our recent conversations with the largest hedge providers in the US bear out how these prevailing regional market conditions affect hedge structures. As an example, in

the fourth quarter of 2020, twelve-year term hedges were readily available in the MISO while there was less availability at similar economics for that same contract term in the CAISO. We expect availability and constructs of hedges to change from quarter to quarter as those regional markets continue to rapidly evolve.

Another aspect to keep in mind is that the hedge counterparties are market makers and their ability to set off the risk of any particular contract to yet another party varies greatly from one hedge provider to another. In low volume renewable energy hedge markets, there exists a large variance in available contract terms amongst any group of hedging counterparties depending on their specific access to liquidity. That's another consideration when you're dealing with what's the art of the possible. Ultimately, you cannot rely on any single counterparty.

“We believe that, as hedging products become more flexible and widely available, this power sales approach for solar power plants will become more prevalent and will benefit end consumers”

Specifically, the benefits that our firm is trying to achieve with these hedging products goes back to what Emilie was saying; a financeable solar project that can address the growing industrial demand for three- to five-year power contracts. Hedge products may be able to fill in the offtake gaps of a particular solar power plant and negate the need for long-term, inflexible PPAs entirely. That may mean the solar project may be less financeable, resulting in less beneficial, lower levered debt, and less favorable tax equity, but those inefficiencies can be potentially offset by higher net revenues from higher electricity prices associated to shorter term power arrangements. That is the goal.

Obviously, we are not able to implement offtake plans with rolling hedges with every single generation asset, but we are committed to further exploring the approach when possible. We believe that, as hedging products become more flexible and widely available, this power sales approach for solar power plants will become more prevalent and will benefit end consumers.

PFR: And what are some of the more popular hedging strategies?

Wangerman, Lightsource: There's a difference between a financial hedge versus a physical hedge. There's a difference between a virtual PPA, which is really a financial transaction, versus a physical PPA.

If we're really truly talking about just hedges, then for us the biggest focus is how long we can stretch that out. What is the tenor?

On the proxy generation side, they're introducing things like proxy generation PPAs, and that is getting into insurance products that Jeff can probably talk about.

At the end of the day, what are these different transactions doing? A hedge is allocating almost all of the operational risk to the seller. You have commitments, based on physical or financial delivery, that are based on your actual shape. So it introduces a lot of risk on that side. On the other hand, if you do something like a proxy gen PPA, it's really limiting that risk.

Yes, it's still based on proxy generation, and you're comparing it, and you're committing to that particular design of this site. That's probably unique to the developer, that we bear a lot of risk by just committing to the design early on, when we introduce things like hedges and proxy gen PPAs. With a physical PPA, or even a financial PPA, you don't really have to decide on 90% of the design until far along in the process. But with these types of contracts you're committing really early on.

So I think it depends on what you're referring to as a hedge – are we truly talking about traditional hedges, or are we talking about things that hedge risk but are more like a proxy gen PPA, which balances the risk a little bit more? It introduces different counterparties, which is great for us, so it opens the market up, and it balances against a true hedge, which introduces a lot of shape risk.

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McAulay, Energetic: Our friends at **REsurety** with their proxy revenue swap, at least on the wind side, are seeing that as very popular.

A contract for differences fits the bill in many ways, and because it's a corporate counterparty, if they're highly rated, that solves your problem. But in many cases, as Carlos was mentioning, you need to bring in hedges with the large banks or oil majors. So there's this play between those two and we've seen a couple of different structures. But even when you've got a hedge provider, it's a swap. They're turning around, and there's another counterparty on the other side. We've had projects where a developer says, 'No, I'm fine on counterparty risk. I have this hedge.' Then the hedge provider calls us and says, 'Hey I've got this downstream offtaker, can you help me out with their credit?' So it's just shifting where that goes.

Then the big thing we get into is contract mismatch. Who's holding which part of the risk? Shape, volume, basis, everything that's been said.

So where does this wrap up? Ultimately, it's trying to get the project financed, and there's this trade-off. What risk protection tools do you need to put in place to get financing? Sometimes that's binary and sometimes it's a sliding scale, meaning if I cover this risk a little bit better, I can get access to a lower cost of capital. At which point, you're trading off between the cost of the risk management product – hedge, insurance or otherwise – and your cost of capital.

The one thing that we see most commonly undervalued is time and complexity. Everybody has a box in the spreadsheet model, a cell for the cost of capital or the cost of a hedge or a floor price or merchant tail. Nobody has a box in their model that says, 'What happens if this thing blows up in six months because the term that I got in November isn't true in March?' Or just complexity. You've built this beautiful tower of interlocking contracts, and then you go to get it financed, and the bank says, 'What the heck is this?' Or the commercial offtaker says, 'How do I take this to my board?'

I'm doing the opposite of answering your question, really, which is not talking about the things that are most popular. But we're getting these complex structures now, and to enable to get them to work it's about re-simplifying or being able to wrap them together

“What happens if this thing blows up in six months because the term that I got in November isn't true in March?”

so that you have a clear package to go back for financing.

Bills, Cantor Fitzgerald: To hit on the popular, I think beauty is very much in the eye of the beholder. What we've done is, because of the massive increase in scale, the massive increase in quantity of wind, solar and batteries that are coming in, the buyer universe in those needs to be inherently able to accept a bit more risk than they've traditionally accepted.

A strategic buyer may be much more willing to enter into a virtual PPA or provide a parent guarantee and build in those commercial, very attractive, high-priced, “popular” hedges, because they're well-priced, because they're direct end users that want this renewable product, and we see that.

We have an affiliate that has a consulting business within **Amerex Energy Services** at Cantor, and they have over a thousand customers in the US. Many of them are in Texas and ERCOT. Demand ranges from 1 MW to maybe 50 MW plus for any given type of transaction, that can range from one-to-two years to three-to-five years. But it's rare to see five, seven and 10 years.

Parties that can warehouse that and wait for that have a lot of interesting capabilities. That's part of what's popular and beneficial. Then there are other parties that are fine to de-risk some of that and leave some of that upside open.

As we think about tax equity, they're going to come at it from a different perspective. They're going to want to make sure that tax equity structure stays in place, but if that tax equity provider is someone that also provides hedges, they may be a little more willing to think about the structure differently.

It's a much simpler story on the thermal side, where you sort of know, with some exceptions, that you're going to be dealing with these risks.

It's either a commercial bank package, or we package it for private placement investors in the 4(a)(2) market, or we think about it in the gray market or private debt fund market.

We structure according to what we think their metrics will be, and it may just be two to three years of hedges, it may be five to seven years of hedges. We'll think about that risk profile in the context of the debt that we're going to put in place, and that debt is going to be customized to raise the capital we need or to refinance what we need or to be the initial stage for an M&A sale. The popular hedge is very much a function of who the right investors will be.

What I've seen is, if you enter into a transaction too quickly, where you're obligated on it, you can find yourself six months later – as Carlos alluded to – in a situation where you almost wish you hadn't done it. There's enough change, uncertainty and volatility that what is interesting in one market one day may not be very interesting six months from now. The plans of many of our developers have changed dramatically from what they were planning to do even just a year ago, in terms of asset type and hedge type.

“The plans of many of our developers have changed dramatically from what they were planning to do even just a year ago, in terms of asset type and hedge type”

PFR: Is it common to find power hedges being misused if the terms are pushed to extremes, or cookie-cutter structures used inappropriately?

Bills, Cantor Fitzgerald: There have been many lessons learned on how to hedge over the course of at least the 20-plus years that I've been in investment banking in the power space. We've seen a lot of disasters in terms of how to enter into hedges that can, at the time, seem like a good idea, but it turned out hedging wind with gas wasn't necessarily a great

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idea in certain markets. Hedging a wind project in one region in Texas in another region might not have been a great idea, because you didn't really understand the curtailment, congestion and basis risk that result therefrom. So, yes, we've seen these things go wrong, and I think lenders, tax equity providers have really learned a lot from that.

I'm sure there will still be things that we look back with hindsight and say, 'Wow! We should've seen that coming.' But I believe parties are very sensitive to this now. While I would say parties may still try to do less hedging rather than more, I think they're very 'eyes wide open' on the risks that we're talking about. They may end up not truly perceiving the nature of the risk, because there will be changes in the marketplace that are maybe black swan in nature. Five-, six-sigma events that they just didn't appreciate or just didn't understand the magnitude of. But people are mindful of what the key risks are in the marketplace, and most are very attuned to that.

Because now, you don't have a choice. Strategics are used to managing these kinds of risks. Investment, private equity funds, infrastructure funds now need to realize, for the most part, if they want to transact in sufficient quantity, many of them also have to understand that. We're seeing the direct institutional investors also realizing that that needs to be a part of what they do.

We see that even on the fully-contracted deals, with PPAs. Parties, in order to get the terms they require, oftentimes will have to deal with risk at the very back end of those projects where there may be a number of operational and commercial risks.

Wangerman, Lightsource: There is still that little bit of hesitancy because of being burned in the past, particularly with wind in the Midwest and West Texas. But I'm also seeing that people are getting more comfortable again. That's great news, because we are moving to a power markets world, and we will not have those unicorns of long-term, high-IRR PPAs. They're going to be the past.

And frankly, the flexibility of different types of contract structures is a benefit to the market. There really isn't a reason to have those fixed-rate, long-term PPAs as the only solution. There's a lot of value in short-term

contracting. It introduces a huge amount of new customer base.

On the developer side, it helps that we are backed by BP. We have a big oil major behind us, and that helps us because we don't just have to have one type of product, because the future is going to need diversity and balance.

"There really isn't a reason to have those fixed-rate, long-term PPAs as the only solution"

Being able to tell our financing parties that we're not going anywhere has been really helpful. Some of the smaller players can't really take advantage of that, because they don't have that creditworthiness in the background.

PFR: What are the key considerations that lenders and investors take into account with a hedged asset that they would not otherwise need to think about?

Wangerman, Lightsource: One particular thing that is different with a hedge is operational risk. Typically, when you have an as-generated resource, you're contracting based on that as-generated component of it. So whatever you generate is procured and paid for. When you get into shape risk, you have to introduce a different level of risk. You're accounting for committing to this quantity in this time frame. As you start to prepare for that, you're introducing complexity, on our side, to planning as well as execution.

You have to make sure that your forecasting is correct, and you have to get more complex with your forecasting. It's much more specific in terms of that particular quantity on that day, in that season. So it's really moving more towards a power marketing role.

The last thing is counterparty risk. We've mentioned that a lot. Is the counterparty going to try to get out of this contract? But you can introduce risk, if you're starting to hedge with a counterparty who might say they actually don't want the contract, and they're

going to break it because they found a better deal. It hits everyone along the line.

You can't have a junior person that doesn't understand what they're committing to in negotiations, and all the way to operations and asset management. They have to keep track of how the project is performing at a different level than they're accustomed to in solar. It cuts across the board. It introduces complexity and risk, frankly. It also introduces higher revenue, which is good. I don't want to miss that part of it. There are benefits as well.

Bills, Cantor Fitzgerald: I'd echo what Emilie said, which is that having the full suite of commercial management within the company or the portfolio that you're looking at is incredibly critical. We start and think through that well before we would package a financing. We make sure we understand what are the hedges that will be in place and how they will be managed from day one, when you enter into the financing, all the way through to when the revenues come in the door. An obligation may arise as a result of an operational challenge. How is that managed? You have a firm obligation to deliver certain types of power. How will that be done commercially?

The lenders or other investors that may come into the deal need to have a true, detailed understanding, to a pretty high degree, of how it's going to be managed from day one to maturity, in the case of a lender, or to exit in the case of an equity investor.

That's so much more important when you have hedges versus just the busbar PPA, where you sit back and produce.

PFR: The recent high-profile bankruptcy of PG&E may have accelerated the move toward CCAs and corporations. How does the move away from large, investment grade counterparties to smaller counterparties affect offtake contracts?

Cuillerier, White & Case: What we're dealing with are counterparty credit issues. As you're moving down the chain from larger institutions with better credit risk, how do you manage that, anticipate for it, and the like? How in this market do we deal with counterparty credit risk? It is important to think of this risk holistically, where entering into the hedge presents new risks that need to be

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factored into the deal structuring. Handling those with weaker credits and smaller counterparties is more of a challenge. In dealing with those risks, parties are forced to revisit what was believed to have been already agreed, and this happens more often with lower grade counterparties. The competing interests of the counterparties versus other competing interests of other stakeholders puts the discussion in starker contrast where that counterparty risk is more present, shall we say.

In terms of managing the risk, as you would any other deals, as you move down, it's perhaps requiring more specific independent collateral for your transactions or more revenue streams, including multiple assets, number one. And number two, that may include things that you wouldn't necessarily include in other deals. Where is the actual cash flow going? Are you thinking about control over cash flows and the like, when you're dealing with counterparties that have that counterparty risk that you don't otherwise see with some of the larger names?

You're going to deal more with the nitty-gritty of the cash flow. You're going to get more in the weeds to your counterparties' operations.

Bills, Cantor Fitzgerald: We've closed transactions with multiple CCAs in them on the debt side. We've done credit work where needed, we've got ratings where needed,

"You're going to deal more with the nitty-gritty of the cash flow. You're going to get more in the weeds to your counterparties' operations"

and we've been able to get commercial lenders and/or private investors comfortable on those transactions.

The marketplace in California is one that absolutely needs resources. They absolutely need resource adequacy. The nature of these assets is critical infrastructure, and these parties now realize that they have to contract at a much longer tenor than they were traditionally doing. We've seen very attractive pricing in those contracts on the thermal side for a number of years. You're certainly able to go out beyond just the two-to-three years that you've typically seen, and at levels that are many, many times what they were just a few years ago.

The assets are being run very differently. Combined-cycles are being run effectively like peakers. Mid-merit assets that fill in the gaps around the duck curve are run very differently, yet the revenues they can receive through heat-rate call options plus resource

adequacy are substantial and are able to be financed by commercial lenders.

We proved that point in our High Desert transaction with a number of CCA and utility counterparties in the midst of some question and uncertainty around utility counterparties. We've also been able to close transactions around other types of uncertainty related to large utilities in California. It's very California-specific, but it can be extracted, as Ian said, to any number of types of counterparties that you might end up entering into contracts with.

PFR: PFR has received inquiries about the REC market recently. The REC market isn't as large or as liquid a market as wholesale power. There are also a number of unrated entities who participate, which is challenging from a financing perspective. How much impact can an unbundled REC contract have on the availability of financing for a project? Does it depend on the state that the RECs are generated in?

Wangerman, Lightsource: Definitely. RECs and the value of RECs varies dramatically depending on the region that you're talking about. If you're talking about an RA product and tacking on RECs in California, that's one structure and value. If you're talking about ERCOT, where there is no forward capacity market, and all of the value is incorporated

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into the energy rate, then that energy rate is going to be the dominating factor. Plus they don't really have requirements from a renewable perspective. So the RECs are not going to be the prominent factor there. Really, you're just selling the RECs as an overall benefit, and most of that value is going to come from the energy.

In PJM, there's a lot of REC value in Pennsylvania, and we have one of the largest portfolios of solar there. On the other hand, you're highly dependent on that state being closed off, and the value of those SRECs in particular. If regulation came in and changed that, you can dramatically impact the value of those RECs. It really does depend on which market you're talking about. If you move into the Midwest, if you're talking about Ohio, they don't necessarily have a REC value that something like Pennsylvania or New Jersey or Maryland has.

Either way, there is inherent value in RECs. The question is, how much can you depend on that, and how much will financing parties value it? Is it a long enough contract that you can actually get valuable debt on? Or do you have to just assume that's another merchant revenue stream and that you can't necessarily get the full value on the financing side?

Mendez, Crayhill: In the early part of the last decade, we invested heavily in the development of utility-scale solar projects in the UK. The Renewable Energy Certificate, RECs, scheme was very straightforward; a direct subsidy from the government of the United Kingdom to renewable energy project owners. The lack of complexity of the subsidy afforded the market certainty of execution when structuring financing for such projects. There certainly was a lack of funding participants at the time, but at least there wasn't a scheme as complicated as the ITC and some of the state-level subsidies here in the US.

John, you mentioned warehousing. Ideally, we would be able to construct and connect solar and wind projects to the grid and then optimize both government subsidies and market hedges, not be forced to do so earlier in the development process. That is how we were able to proceed in Britain because there was no need to include a tax-related third party in the ownership of the project prior to construction as called for in the US regu-

lation. We were able to fund, construct and bring operational 32 utility-scale solar projects and then, when we had the portfolio stabilized, we optimized our offtake contracts with the full benefits of subsidies.

From our perspective, we see a lot of potential value in providing warehousing capacity for projects to be able to layer off offtake risk over time and not have to commit to long-term PPAs upfront. The reason that these long-term PPAs are committed to early is because financing parties are generally not comfortable without having these long-term offtakes in place upfront. Hedges of course, as we have been discussing, are an alternative, but the timing issue I mentioned before makes it difficult to lock in a tax equity partner in the face of variable outcomes associated to negotiating and finalizing acceptable hedges.

"We certainly will all benefit from straightforward financial contracts that satisfy offtake conditions for readily available senior funders"

Bill mentioned structural issues with renewable power hedges in the past. This type of friction is not uncommon in early-stage, high growth structured finance markets. Somewhat analogous are the misstructured variable-to-fixed, interest rate swaps in high yield bond and loan securitizations back in the late 90s. As interest rates changed, the hedges failed to work as anticipated, causing all sorts of problems and financial losses. But, the market fixed those asset-liability issues, and then the CLO market over the next 20 years evolved into approximately a \$600 billion market today. I feel we are at a similar juncture, where we can figure out these hedging structures appropriately and enable the renewable market to grow at an unprecedented rate. We certainly will all benefit from straightforward financial contracts that satisfy offtake conditions for readily available senior funders.

Bills, Cantor Fitzgerald: Part of that impatience comes from the fact that many of these are held by small firms that have developed these assets. They're not the large corporate entities that did it back in the late 90s, early 2000s. These are now very large developers. But you had the range, from a single individual to companies that are maybe 40 to 50 people, and those are our clients. There's a very finite time under which they have to either sell that project or raise equity capital and tax equity capital and/or debt capital to get the project built. You have to pick or choose something, otherwise the options expire, the permits expire.

In the US, there's not a lot of corporate patience for the development angle like there used to be in the days of the **Calpines**, the **AESes**, the **Dynegys**, etc. So that dynamic has shifted dramatically, and those are our clients. We feel that sense of urgency and we want to lay out the ability for accessing warehouses like Carlos's company or strategies that will warehouse the risk. But we also want to show what a longer-term PPA deal looks like.

In some cases, our clients will want to just sell the projects, and in other cases, they'll want to hold on to it and warehouse it or sell a stake to someone that may want to warehouse some of that risk with them and ride it for a while. So there's a spectrum. For many of these projects there's a window, and if you don't try to close the deal in that window, there may not be a deal to be done. So we're very mindful of that, and that does feed into why, as Carlos said, there's a bit of a lack of patience in our particular marketplace.

PFR: On the subject of corporate PPAs, it seems that a few corporations have been burned with some of the contracts they've taken on. Any comments on how corporate PPAs have evolved in response?

Wangerman, Lightsource: Yes, corporates are moving beyond just the virtual PPA. They are interested in actual physical delivery. Because they were burned, they're introducing new products.

McAulay, Energetic: As with any uncertain market and any long-term contracts, there's going to be winners and losers. And there

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“Trading renewable energy, as a commodity, used to be like trading a head of cattle, and now we’re selling filet mignon”

are some corporate buyers who are happy to justify why they’re losing money, why they’re paying out on certain contracts. But I think that’s generally leading to a higher level of experience and education within the industry, and going forward the buyers are becoming increasingly sophisticated.

In terms of where we’re seeing demand, the reason you have a corporate counterparty is to provide some of that downside risk hedging to get financed. But it’s not as simple as just a corporate counterparty. One of the things we see a lot of the time is that a corporate will sign through an unrated subsidiary. The name might be familiar, but when you actually come down to the contract, it turns out there’s a longer story. Can we see financials on that subsidiary? No. We see that as a gap that needs to be filled.

Additionally, a lot of times they have a buyer’s credit posting that they’re responsible for, which either comes in the form of a sufficiently high rating, cash collateral or letter of credit. We’re finding, especially in the last year, or the last six months even, that that posting of the letter of credit has become more painful, tying up that cash, or tying up their credit capacity.

So we have folks that maybe two or three years ago, when they signed, that was fine, but now they are squirming. Or, even worse, the project changed hands and all of a sudden the seller has the ability to crank up that collateral requirement at the same time that the interest rate, or even that opportunity cost, has gone up.

On the seller side, they can generally get through that with a surety bond in addition to a letter of credit. On the buyer side, it’s a little bit more complicated. So we’re seeing insurance products essentially being able to support or reduce that letter of credit posting. That’s on the corporate side.

Then, even when that corporate has even a hedge standing behind them, there’s contract mismatch to go through, and the shorter-term compression going down the supply chain.

Going back to your question on RECs, in many cases, in the lower-priced market, they don’t really want the power. They just want the RECs. And they want to have additionality. So not just purchasing unbundled RECs, but being able to say, ‘I helped that project exist, and I’m doing my part.’

And then, just show to their board that they’re not losing too much money in purchasing those RECs, that’s why the hedge piece might come into play.

Ultimately, I think the theme of this conversation is increasing sophistication from all sides. Trading renewable energy, as a commodity, used to be like trading a head of cattle, and now we’re selling filet mignon. We’re shaping it, parsing it out, selling different terms, different volumes, different structures to folks as they value it more highly.

Bills, Cantor Fitzgerald: I’d highlight that there are still those great contracts, those great PPAs, those unicorns. There are not just one or two of them, so it’s probably not quite appropriate to say they’re unicorns. But when you have them, the cost of capital is so competitive. And we’ve run very successful processes with respect to those.

Return requirements have had to shift dramatically downward to reflect the extreme competition and demand from sources in North America, Europe and Asia that are competing with very different types of interest rate environments and costs of capital and viewpoints on tenor.

So the amount of operational and other risk that parties like that are willing to put in their book, to take home a return that to some buyers in North America may not seem reasonable, is what’s ultimately going to drive buyers – by necessity, because necessity is the mother of invention – to figure this out. If you don’t, your alternative is competing against those types of buyers that have very strong risk appetites with respect to potentially very low cost of capital.

And those will continue to exist, and that’s the exit strategy. Once you package it, that type of low-cost investor universe, for now,

is very much a viable alternative. So the gold pot at the end of the rainbow is clearly there. Just to connect the dots of where we’re headed to.

The other point is that the sheer demand for renewables and the general shift away from thermal has also significantly improved the demand dynamic for renewables. We’ve seen that progress from wind to solar and now batteries. As it has shifted, it has been impressive to watch in terms of its magnitude and geographic scale.

I think these are important points to consider when you think about why are people doing what they’re doing around this merchant risk.

“Start as early as you possibly can on your hedging, because it’s more complicated than you think”

Cuillerier, White & Case: A separate point to consider, one that is overarching, in addressing deal terms for any particular financing transaction, is to think about the individual transaction as one of many. Take a step back from the particulars. As you’re scaling up the size of operations and hence also of the related financing transactions, there is some benefit to consistency and thinking ahead to the next steps. If you’ve done three projects, having consistent hedging strategies that are easy to explain for offtakers or people that are buying sets of projects in given markets, that consistency is an easier story to tell, and can only benefit those that are exiting at some point in the future. So as you’re doing the here and now, think of what might transpire in the future.

Then there’s execution risk. Start as early as you possibly can on your hedging, because it’s more complicated than you think it’s going to be at the end of the day. Always is.

PFR: What is tax equity willing to underwrite and syndicate in terms of merchant streams, hub vs busbar?

PFR HEDGING & OFFTAKE STRATEGIES ROUNDTABLE 2020/21 ●

Bills, Cantor Fitzgerald: The tax equity market is a very unique market, and it's a very small market in many ways, in terms of the participants, and it's a very attractive market for them as a result of that.

But it's also very large in terms of dollar amounts, and that scale has only increased as we've gone from 10 MW, 50 MW projects in wind and solar and maybe even a fraction of that in battery to now 1,000 MW projects in wind, 500 MW-plus projects in solar, 400 MW, 500 MW projects in battery. The tax equity needs are pretty massive.

Meanwhile, the corporate tax rate was cut significantly. That's significantly reduced the tax capacity for corporates and made the market even more difficult than it was before, for financial institutions, insurance companies and other corporates that participated in it. So there are so many uncertainties around how that will evolve.

It's important to understand the specifics of a deal. The more middle-of-the-fairway that deal is in terms of contract and certainty, relationship or sponsor, the easier that will be to finance. To the extent it's innovative, it's not a well-known sponsor, you better have some reasons why that tax equity participant wants to be a part of it, and you'd better make sure that there's sufficient ability for them to syndicate the risk that they need to syndicate on the deal.

So the more you shift to a warehousing structure, like Carlos mentioned, the more need there will be to do something that's either a virtual PPA, LCs, parent guarantee, etc, to allow you to do that. To the extent you do that, oftentimes a hedge that's done by one of the large tax equity providers can be a good reason for them to do multiple transactions for one deal.

Many things are still very uncertain now with the shifting to the Biden administration and how the legislature will ultimately shape the various incentives. How will battery-related ITCs play into this? Carbon sequestration? There are so many more unknowns than knowns that I think you will have to fall back to a deal that you know will work for a tax equity investor.

Mendez, Crayhill: Yes, we work with tax equity partners to execute on our investment plan, but as we all have experienced, the use of tax equity is extremely nuanced.

“Many things are still very uncertain now with the shifting to the Biden administration and how the legislature will ultimately shape the various incentives”

As an example, one cannot warehouse tax equity for a project under the current regulations and attract such investment interest post achieving operational status. That forces project owners and developers to lock in tax equity interest early in the deployment process, prior to construction. Furthermore, the rules make it difficult to have multiple institutional tax equity investors co-invested in a single project and results in the need for a single sponsor.

Unfortunately, that translates into significant negotiation leverage by the tax equity sponsor on the whole financing structure of the project. For instance, as tax equity typically requires a certain minimum set of contracted cash flows, reserve accounts are required to be established to protect against potential future basis risk which can be especially difficult to anticipate upfront when employing a mix of hedges for the power offtake plan.

Despite all the much needed benefits the ITC scheme provides today, we look forward to when solar cell efficiency and market demand for green power combine to allow for financing without any subsidies.

Wangerman, Lightsource: If there's a different way that the federal government decides to invest, that could be a true game changer. With a Biden presidency, I expect there is going to be a renewable investment. The question is, when? How are they going to invest? You're not going to see renewables going away. The question really is, how are entities going to participate in it?

Carlos said earlier that a lot of companies are getting involved from an ESG viewpoint. I also think they're getting involved in renewables because it's cost effective. Not only are

they hedging your risk of market volatility, but they're also a good investment.

This is moving from being a niche market to a market where lots of different products are going to be commoditized and sold. And to Ian's point earlier, the importance is being able to replicate so that you can introduce consistencies and reduce the complexity, as Jeff mentioned earlier.

On the other hand, complexity and innovation is what's really going to expand this market. I think the next three to five years are going to be really exciting.

PFR: Finally, what structured products might be available to enhance grid penetration for battery storage? At least one developer has secured a fixed price hedge for ancillary services in ERCOT for a portfolio of battery projects.

“Complexity and innovation is what's really going to expand this market. I think the next three to five years are going to be really exciting”

Bills, Cantor Fitzgerald: We have financed quick-start generating resources that are carbon efficient but thermal that are heavily dependent upon ancillary services in ERCOT. While there's no true capacity market in ERCOT, the ancillary services market can be lucrative. In fact, you can find bilateral transactions to provide you with significant benefits if you're a quick-start or responsive resource. How much you want to actually bilaterally contract on ancillary services versus be fully merchant goes back to Carlos's warehouse point.

Importantly, that kind of resource provides a valuable, valuable service. You have a market in ERCOT that's almost 90 GW, and there's 30 GW or so of wind and solar that'll be online, probably, by the end of this year. More coming. So a third of your generation is intermittent by nature, and yet you have

● PFR HEDGING & OFFTAKE STRATEGIES ROUNDTABLE 2020/21

a tiny amount of quick-start generating resources – less than 2 GW. So how much of a difference in wind forecast and sunshine does it take to be in a very problematic situation? Batteries and quick-start generation are critical resources that ERCOT needs. The market is finding a way bilaterally or on a merchant basis for its counterparties to find ways to finance and develop and construct and operate those assets.

Wangerman, Lightsource: Another key point is that the markets have to embrace storage and they really are starting to do that, to have products that are specific to the value that storage brings. Different types of storage, from long duration to short duration. California is a little bit ahead of the game with creating products, like flexible ramping products, and on the ancillary services side as well as on the capacity side.

Then, as you start to introduce products like that in the centralized capacity markets on the East Coast, like PJM, you're really going to start to see an uptick, because there is inherent value in being able to address intermittency as well as those steep ramps that come with duck curves.

Storage is going to be a vital component balancing the overall market. That's not just intraday. It's intraday and intra seasonal.

Mendez, Crayhill: For battery-only projects that we invest in or finance, we are dependent upon hedges to mitigate revenue variability. As Emilie points out in the PJM and John on ERCOT, as penetration of solar and wind generation increases as a percentage of the total power generation capability of a region, large-scale batteries are ideally suited to address the inherent timing mismatches of such power delivery.

However, certainly in the PJM where we are investing now, there lacks long-term offtake contracts with viable counterparties for what batteries do well – frequency modulation. So, battery owners need to also rely on capacity payments and opportunistic energy arbitrage, all of which are predominantly uncontracted, merchant risk.

As battery costs have dropped drastically, PJM RegD hedges that pay a fixed price over a 3- to 7-year term while the operator then pays the difference between the highest and lowest price on any given operating day, are now becoming attractive.

Generally, the economics of stand-alone battery projects remain 'cuspy' though their functionality is now such a critical part of operating a power grid that we expect utilities to be strong buyers of such projects in the near-term. ■



White & Case is a pioneering global law firm serving a diverse range of clients. Our cross-border and local experience uniquely positions us to navigate the legal challenges and advances in the renewable energy industry.

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NORTH AMERICA MERGERS & ACQUISITIONS ●

UK's Greencoat debuts in US renewables

British renewables investor **Greencoat Capital** is making its first investment in US renewables with the acquisition of a stake in a portfolio of Texas wind farms.

The firm has agreed to acquire a 24% stake in the 861 MW portfolio for \$160 million through an investment vehicle called **Greencoat Vela**.

The transaction implies an enterprise value of \$300 million for the 24% stake.

The British firm has brought in clients of **BAE Systems Pension Funds Investment Management** and **Towers Wat-**

son Investment Services as co-investors.

The seller of the assets is **RWE Renewables**.

In December, the company sold a 51% stake in the same portfolio to **Algonquin Power & Utilities**. As a result of the Greencoat transaction, RWE's stake in the projects has been reduced to 25%.

The projects are:

- Stella Wind Farm – a 201 MW project in Kennedy County
- Cranell Wind Farm – a 220 MW project in Refugio County
- East Raymond – a 200 MW project in Willacy and Camer-

on counties

- West Raymond – a 240 MW project in Willacy and Camer-on counties

All of them are operational except Raymond West, which is expected to be commissioned in the first quarter of 2021.

"Further US wind and solar investments are expected as Greencoat builds on its leading position in European renewables by expanding its activities in the US," reads a statement issued by the British firm. "Greencoat believes that the fast growing US renewables market provides interest-

ing investment opportunities, with a range of returns available from differing offtake contracting strategies."

Marathon Capital advised RWE on the sale of a stake to Greencoat as well as the previously announced sale of the majority stake to Algonquin. **Jefferies** was Greencoat's financial adviser on the acquisition.

Norton Rose Fulbright was Greencoat's legal adviser. The team was led by partners **Keith Martin** in Washington, DC, and **Becky Diffen** in Austin. **Shepard Mullin** advised RWE ■

Canadian firm launches \$1bn renewables platform

Alternative asset manager **Power Sustainable Capital** has launched a \$1 billion renewable energy investment platform targeting the US and Canada.

The company, a subsidiary of **Power Corp of Canada**, is providing a sponsorship commitment for the platform, dubbed the Power Sustainable Energy Infrastructure Partnership (PSEIP).

The other founding partners are:

- **DesJardins Group** (strategic anchor investor)
- **Great-West Lifeco** – an insurance group based in Winnipeg
- **National Bank of Canada**
- **Après-demain** – a Swiss family-owned life sciences and asset management group

DesJardins' commitment to PSEIP marks its largest participation in wind and solar farms to date, according to group president and CEO, **Guy Cormier**.

Through Power Sustainable Capital's subsidiaries **Potentia**

Renewables and **Nautilus Solar Energy**, the partnership will invest in the development, construction, financing and operation of renewable energy assets across North America.

"This is a landmark moment for Power Sustainable, and the first of several projects we intend to bring to the sustainable investment marketplace in the coming years," said **Olivier Desmarais**, chairman and CEO of Power Sustainable Capital.

The investment platform will be led by co-managing partners **Pierre Larochelle** and **Pierre-Olivier Perras**, both of whom have been appointed from roles at another of Power Sustainable Capital's subsidiaries, **Power Energy Corp**.

Larochelle had been president and CEO of Power Energy Corp since 2012, having joined the company in 2009. Before that, he had been president and CEO of **Adaltis**, vice president of business development at **Pic-**



"This is a landmark moment for Power Sustainable, and the first of several projects we intend to bring to the sustainable investment marketplace."

Olivier Desmarais, chairman and CEO of Power Sustainable Capital

chio Pharma and vice president of mergers and acquisitions at **Credit Suisse First Boston** in London.

Perras joined Power Energy

Corp in 2019 after more than twenty years at **BMO Capital Markets**, where he held various leadership positions including, in his last role, head of the power, utilities and infrastructure investment banking group.

"Together with our founding partners' support, we have all the winning elements to establish a leading operational-driven investment platform that stays ahead of market trends and creates sustainable long-term value for our investors and the communities where we operate," said Larochelle and Perras in a joint statement.

Power Sustainable Capital has offices in Montréal, Toronto, Shanghai, Beijing and New Jersey.

Besides its energy infrastructure platform, which includes Potential, Nautilus and Power Energy Corp, it also invests in Chinese equity markets through its Pacific platform and holds private equity investments in **Lion Electric** and **Lumenpulse**. ■

● NORTH AMERICA PROJECT FINANCE

Financing in works for Texas IPP

«FROM PAGE 1 to be open to either a term loan A or term loan B transaction.

"It's a tough financing because there's a lot of merchant," explains a person close to the situation. "They are looking for ideas from the market. They didn't come out with an ask. They are going out asking: 'How much loan will you give me?'"

Houston-headquartered TexGen was established in April 2018 as a result of the Chapter 11 restructuring of ExGen Texas Power, which had filed for bankruptcy the previous year due to a downturn in Texas wholesale power prices.

The company owns four gas-fired assets in Texas totaling more than 2.2 GW. It has been owned by a group of former creditors since the restructuring ([PFR, 11/7/17](#)).

The power plants are situated near major metropolitan areas in the state, specifically around

Houston and Dallas-Fort Worth.

The plants are:

- The 750 MW Wolf Hollow I CCGT in Granbury
- The 530 MW Colorado Bend I CCGT in Wharton
- The 800 MW Mountain Creek boiler in Dallas
- The 150 MW LaPorte simple-cycle plant in LaPorte, about 25 miles southeast of Houston

There was previously a fifth asset in the portfolio, namely the 1,265 MW Handley Power project in Fort Worth, but Exelon held on to it during the bankruptcy proceedings with a bid of \$60 million.

In the wake of the restructuring, TexGen brought in several energy finance veterans to fill its C-suite positions ([PFR, 10/15/19](#)). The team now comprises:

- CEO **John Adams**
- CFO **Jeff Kinneman**
- Chief commercial officer **Colby Rodriguez**

- Chief accounting officer **Jay Leitstein**
- Chief operating officer **Daniel Booth**
- Vice president, strategy and finance, **Harin Patel**

CEO Adams has over 40 years of experience in operations in the US and abroad, having previously been chief operating officer at **Blackstone's Kindle Energy**, executive vice president of **Calpine Corp**, and executive vice president of **Mitsubishi Power Systems**.

Kinneman's more-than-30-year career includes working as a credit portfolio manager on **Deutsche Bank's** energy trading desk, head of structured finance at Calpine, director of credit and risk management at **CenterPoint Energy** spin-off **Texas Genco**, which later became **NRG Texas**, and vice president at **Enron**.

Rodriguez, the chief commercial officer, has more than a decade of hedging and trading experience, having joined

from **Talen Energy**, where he was director of Ercot power trading and before that traded energy at Calpine for a decade.

Chief accounting officer Leitstein previously held the same title at **New Fortress Energy** and has also worked at Kindle Energy, **PSEG** and Exelon.

CREDITORS

The former creditor group that owns TexGen, as per a December 2017 Texas **Public Utility Commission** filing, includes funds managed by:

- **Fidelity Management & Research**
- **Fortress Credit Advisors**
- **GSO/Blackstone Debt Funds Management** (since rebranded as **Blackstone Credit**)
- **Guggenheim Partners Investment Management**
- **Oppenheimer Funds**
- **Avenue Capital Management**

PineBridge Investments was also a member of the group but has since exited. ■

● NORTH AMERICA MERGERS & ACQUISITIONS

Morgan Stanley backs microgrid developer

Morgan Stanley Energy Partners has invested in **SolMicroGrid**, a developer and operator of microgrid systems for commercial and industrial customers in North America.

The strategic partnership will support the growth of the developer's energy-as-a-service business model and help accelerate the development of its assets, capabilities and product offerings.

Vertical Capital Advisors acted as financial advisor to SolMicroGrid on the deal.

White & Case acted as legal adviser to Morgan Stanley.

A portion of the proceeds from the investment will support the initial deployment of the com-

pany's solar-enabled microgrid systems to commercial and industrial customer locations in California.

"We believe this is a compelling opportunity to work with a forward-thinking, entrepreneurial management team and look forward to building on SolMicroGrid's early success to provide clean and reliable on-site power to community-critical businesses," said **John Moon**, head of Morgan Stanley Energy Partners, which is part of **Morgan Stanley Investment Management**.

Alpharetta, Georgia-based SolMicroGrid is led by its co-founders, CEO **Matthew Ward** and president **Joyce Bone**. ■

Missouri wind build-transfer closes

Ameren Missouri has closed the acquisition of its second wind farm, the 300 MW Atchison Renewable Energy Center in northwest Missouri, pursuant to a build-transfer deal with **Invenery**.

The wind farm is still under construction, with about 100 MW already online and a further 50 MW to 75 MW expected to become operational by the end of March. The remaining capacity is expected to be in place later this year.

Formerly known as Outlaw Wind, the project and the build-transfer deal were originated by **Tradewind Energy**. Tradewind's parent company, **Enel Green Power North America**, sold it to Invenery in 2019 ([PFR, 8/20/19](#)).

The first wind project acquired by Ameren Missouri through a build-transfer deal was the 400 MW High Prairie Renewable Energy Center in Adair and Schuyler counties. This transfer took place in December 2020 ([PFR, 12/23](#)).

The combined investment in the two projects stands at around \$1.1 billion, which will come out of the \$4.5 billion set aside by the utility for a 3.1 GW fleet of renewable generation it intends to have in place by 2030.

"We're planning for the long term with deep carbon reductions to achieve our goal of net-zero carbon emissions by 2050," said **Marty Lyons**, chairman and president of Ameren Missouri. ■

PPA PULSE ●

Pepsi picks Ørsted wind projects for PPAs

PepsiCo has selected two wind projects being developed by Ørsted to power its operations in the US.

The beverage maker will buy a portion of the output from the 298 MW Haystack wind project in Nebraska and the 367 MW Western Trail wind project in Texas under the terms of recently signed power purchase agreements.

Ørsted acquired the Haystack project from **Tradewind Energy** in October 2020 ([PFR, 10/29](#)). It is located in Wayne County, near Ørsted's existing Plum Creek wind farm, and will use existing interconnection infrastructure.

The Danish company made a final investment decision on



Western Trail around the same time that it acquired Haystack. It is located in Ford County, near Ørsted's Lockett Wind project.

Both projects are expected to be online in 2021.

CHOICE OF A NEW GENERATION

"We're proud to partner with Ørsted on two new wind projects in Texas and Nebraska this year, which will address nearly a quarter of our total

U.S. electricity needs and help grow new renewable energy generation capacity in the country," said **Roberta Barbieri**, vice president of global sustainability at PepsiCo, which is aiming to achieve net zero greenhouse gas emissions by 2040. ■

Here is a round-up of the rest of the past week's power and REC marketing news:

FIRSTENERGY HUNTS FOR SOLAR RECS

Three of **FirstEnergy Corp's** Pennsylvania utilities have launched a request for proposals for solar energy credits.

The three utilities, namely **Pennsylvania Power Co** (Penn Power), **Pennsylvania Electric Co** (Penelec), and **Metropolitan Edison Co** (Met-Ed), are seeking to purchase 137,000 Solar Photovoltaic Alternative Energy Credits (SPAECs) annually over a two-year period.

Boston-based consultancy **The Brattle Group** will conduct the RFP process. Qualifying applications are due on February 9 and bids on March 3.

Bidders can submit tranches of 500 SPAECs a year over the two-year period, with deliveries beginning in 2021. ■

NEXTERA PICKS UP RIDERS

Renewable energy riders are going through the regulatory process for an 8 MW solar array being developed by **NextEra Energy Resources** in Madison, Wisconsin.

Local utility **Madison Gas and Electric** filed an application on December 30 with the **Public Service Commission of Wisconsin** for approval of an agreement to partner with the City of Madison and the **Madison Metropolitan School District** on the project.

The city and the school district have entered into separate renewable energy riders with the utility, for 5 MW and 3 MW respectively.

Located north of Dane County's Rodefild Landfill in southeast Madison, the project is estimated to cost about \$15.3 million. If approved, the project will be brought online by the end of 2021. ■

● NORTH AMERICA PROJECT FINANCE

Pine Gate finances NC solar, storage assets

Pine Gate Renewables has closed financing for a 12-project portfolio of solar and solar-plus-storage sites in North Carolina.

The projects will sell their generation to **Duke Energy Progress**, **Duke Energy Carolinas** and **Halifax EMC**, an electric cooperative, under long-term contracts.

Crestmark, a division of **MetaBank**, provided construction and permanent loan financing for the portfolio. **US Bank** has committed tax equity.

Grissom Solar, a 6.9 MW solar project with a 10 MWh energy storage system, will be the first of the projects to start construction.

Located in Enfield, it is one of the projects that will sell its electricity to Halifax EMC. Its energy storage system will dispatch power during peak demand hours and provide ancillary services. The project is due to be online this spring.

Pine Gate already has 30 solar projects in North Carolina that are either operational or under construction. ■

● LATIN AMERICA MERGERS & ACQUISITIONS ●

AES bags two wind farms in Brazil

AES Brasil has signed a purchase agreement with **Cubico Sustainable Investments'** subsidiary in Brazil for two wind farms totaling 158.5 MW.

AES will finance the transaction, valued at R\$806 million (\$156 million), with R\$529 million (\$102 million) of equity and R\$277 million (\$53 million) of debt.

The projects are the 94.5 MW MS wind asset in the states of Ceara and Rio Grande do Norte, and the 64 MW wind farm in Rio Grande do Norte. Both have 20-year power purchase agreements awarded in 2009 and 2011 by **Aneel**. They were brought online in 2013.

The acquisition will increase the size of AES's renewable port-

folio in Brazil to 4 GW.

"This is another step in our growth strategy and the diversification of the company's portfolio through the acquisition of assets that can complement the hydro-power plants and with long-term PPAs, which will allow us to create value for our shareholders," said the firm in a statement.

AES's other wind projects in the country include:

- Ventus – a 187 MW project ([PFR, 8/11/20](#))
- Cajuina – a 1.1 GW multi-phase complex

The sponsor is also in the process of closing the purchase of a 420 MW wind portfolio from **Casa dos Ventos** ([PFR, 9/28/20](#)). ■

● LATIN AMERICA MERGERS & ACQUISITIONS

Norway's Aker to control Mainstream

Norwegian conglomerate **Aker** has agreed to purchase a controlling stake in Irish developer **Mainstream Renewable Power**, which is working on a 1.3 GW renewable portfolio in Chile.

Aker – whose holdings include fishing, biotech, oil drilling, construction and engineering companies – is investing in the renewables developer through an investment platform called **Aker Horizons**, which it plans to take public in Norway.

Aker Horizons is paying €900 million (\$1.092 billion) for a 75% stake in Mainstream under the terms of the deal. Further earn-out fees could add up to €100 million (\$121.27 million) by 2023.

Aker will also purchase a 50% stake of technology company **SuperNode** as part of the transaction. Founded in 2018, SuperNode develops technology to connect offshore wind production to the grid. Its founder, **Eddie O'Connor**, will remain a shareholder.

Aker is financing the acquisition with a €510 million (\$618.4 million) debt package arranged by Norway's **DNB Markets** and Denmark's **Nordea Bank**. The remaining €248 million (\$300.76 million) will be provided by Aker in the form of equity.

The deal is expected to close during the second quarter of this year and is subject to regulatory approvals.

Aker's advisers included:

- DNB Markets – financial
- Nordea Bank – financial
- **Green Giraffe** – financial
- **Bahr** – legal
- **Slaughter & May** – legal

Aker Horizon already has an offshore wind portfolio company, **Aker Offshore Wind**. This company will work with Mainstream's offshore wind division but the two companies will not be merged.

Mainstream has a 1.4 GW portfolio of projects in operation or under construction as well as a

"We are delighted to have such a highly respected business as Aker Horizons on board."

Mary Quaney, CEO, Mainstream

10 GW project pipeline and an additional 10 GW of identified projects.

"We are delighted to have such a highly respected business as Aker Horizons on board, enabling Mainstream to materially accelerate its growth plans to deliver a global portfolio of wind and solar assets," said Mainstream's CEO **Mary Quaney**, in a statement. "We plan to bring 5.5 GW of renewable assets to financial close globally by 2023, which sets us firmly on track to becoming one of the world's first pure-play renewable energy majors."

One of the large portfolios Mainstream is building is the 1.3 GW portfolio Andes Renovables in Chile, which was financed with several debt packages concluding late last year ([PFR, 10/1/20](#)). The projects have 20-year power purchase agreements awarded in Chile's power auction in 2016.

"Through the acquisition of Mainstream, Aker Horizons will gain a platform to drive forward its renewable energy ambitions and position itself in a growing market for hybrid projects," said Aker Horizons CEO **Kristian Røkke**.

Aker is preparing to list Aker Horizons on the Euronext Growth market via an IPO, before transferring the listing to the Oslo Børs.

Aker is working with the following financial advisers on the IPO:

- **ABG Sundal Collier**
- DNB Markets
- Nordea Bank
- **Pareto Securities**

Norwegian law firm Bahr will provide legal advice. ■

Colombia's Isagén purchases solar pair

Colombian power producer **Isagén** has acquired two solar projects totaling 52.4 MW (DC) from China's **Trina Solar**.

The projects, located in Puerto Gaitán in Meta, are the 27.4 MW (DC) Llanos 4 and the 25 MW (DC) Llanos 5 solar parks.

The facilities, developed by Trina, are expected to start commercial operations in early 2022.

In the meantime, Isagén is developing its first wind farm in an attempt to diversify its hydro-dominated portfolio. The wind farm is the 20 MW Guajira I project in La Guajira, and it will also be brought online in 2022.

Isagén has already begun the permitting process for the 375 MW second phase of Guajira ([PFR, 6/2/20](#)).

The power producer owns the 300 MW Termocentro thermal power plant in Santander as well as the following hydro projects:

- San Carlos – 1,240 MW
- Jaguas – 170 MW
- Calderas – 26 MW
- Hidroeléctrica Miel I – 396 MW
- Amoyá – 80 MW
- Sogamoso – 820 MW

Brookfield Asset Management is the Isagén's majority owner through its subsidiary **BRE Colombia Hydro Investments**. ■

Rio Grande do Sul postpones disco privatization

The Brazilian state of Rio Grande do Sul has postponed the privatization of its power distribution company.

Bidders interested in acquiring **Companhia Estadual de Distribuição de Energia Elétrica** (CEEE-D) now have until March 26 to submit proposals. The original deadline was January 29.

The auction was expected to take place on February 3 but has been pushed back to March 31.

The state hired Brazilian national development bank **BNDES** to run the privatization process, which began in 2019.

Serving 26% of the state's territory, CEEE-D owns the concession for metropolitan regions including the capital Porto Alegre, in addition to the Mid-South, Campanha, Northern Oceanside and Southern regions.

The state is also planning to privatize its transmission and generation companies, **CEEE-T** and **CEEE-G**.

The privatization of CEEE-G is expected to be complicated by the company's involvement in 17 joint ventures.

A data room for this process was expected to open in December 2020. ■

LATIN AMERICA PROJECT FINANCE

Goldman to arrange securitization of Chilean power receivables

FROM PAGE 1 remote issuing entity, **Chile Electricity PEC** (CEP), will use the proceeds to acquire receivables from seven Chilean generation companies, or gencos.

The gencos are:

- **AES Gener** and **Guacolda Energia** (both subsidiaries of **AES Corp**)
- **Colbún**
- **Enel Green Power**
- **Enel Generación Chile**
- **Engie Energia Chile** and **Eólica Monte Redondo** (both subsidiaries of **Engie**)

The bonds are expected to bear Baa3 and BBB ratings from **Moody's Investors Service** and **Fitch Ratings**.

Citibank will act as offshore collateral agent and indenture trustee on the issuance, with **Banco de Chile** working as the onshore collateral agent.

According to paperwork submitted to Chile's Security and Exchange Commission on January 20, the receivables are expected to total \$547.11 million, allocated as follows:

- Engie Energia Chile and Eólica Monte Redondo: \$162 million
- AES Gener: \$90.11 million
- Enel Generación Chile: \$200 million
- Colbún: \$95 million

The generation assets owned by these companies cover 65% of the country's power demand.

The financing is a response to the Tariff Stabilization Law that the government introduced in fall 2019 in response to protests.

Although the gencos' assets are largely contracted under dollar-denominated power purchase agreements with local regulated utilities, known as dis-

tribution companies or "discos," the law included a measure to defer payments under such contracts for two years ([PFR, 11/6/19](#)).

RECEIVABLES

CEP will finance the acquisition of the generators' receivables "through the allocation of future surpluses payable by the distribution companies," wrote Moody's in its report on the transaction.

The surpluses are expected to arise as a result of lower wholesale power costs, as renewable energy projects come online, and the recovery of the deferred payments.

Solar and wind projects with PPAs awarded in 2016 are due to begin commercial operations either this month or in January 2023.

The **Ministry of Energy** will determine the value of the receivables every six months. By 2023, when all the receivables are accounted for, their total value is expected to reach \$1.35 billion.

The receivables are expected to be paid in full by December 31 of 2027.

IDB Invest is also negotiating with the gencos to finance a portion of the receivables acquisition, according to filings with Chile's securities regulator, the Superintendencia de Valores y Seguros.

IDB Invest has been working on two debt packages to provide credit relief to Chilean power companies since April, when the development finance institution's representative in the country said it would look to provide loans for this purpose ([PFR, 4/7/20](#)). ■

AES adds wind farm to Chilean pipeline

AES Gener, the Chilean subsidiary of **AES Corp**, is adding a 114 MW wind farm to its development pipeline as part of its 1.6 GW portfolio of renewable assets in Colombia and Chile.

The Don Alvaro wind project, located in the region of Biobío, will require an investment of \$154 million, according to filings with Chile's **Environmental Evaluation Service**.

The project will be fitted with 19 wind turbines with a capacity of 6 MW each. The output will be injected into the grid through the substation attached to the 148.4 MW Campo Lindo wind farm,

which is also being developed by AES.

Construction is expected to begin in October of this year.

AES's other projects in Chile include:

- Terra Energia Renovable – an 862.5 MW project to combine wind and solar energy ([PFR, 8/13/20](#))
- Andes Solar – a 500 MW solar project
- Los Olmos – a 100 MW wind project
- Mesamavida – a 67 MW wind project ([PFR, 7/27/20](#))
- Quebrada Seca – 266 MW wind project ([PFR, 1/5](#)) ■



BTG Pactual to hold power auction

Brazilian investment bank **BTG Pactual** has announced an auction to buy electric power in the country's free market later this month.

Interested companies have until January 21 to sign up as bidders in the auction, which is set for January 29.

The firm is looking for conventional or renewable energy resources to be delivered in the Southeast/Mid-West markets.

Generators can bid to supply power in across three timeframes – from 2022 to 2024, from 2024 to 2026 and from 2022 to 2026.

BTG has not disclosed the amount of power it plans to purchase. ■

AES Brasil to supply metallurgy firm

AES Brasil (previously known as **AES Tiete Energia**) has signed a memorandum of understanding with ferroalloys company **Companhia de Ferro Ligas da Bahia-Ferbasa** for a power purchase agreement.

Under the proposed 20-year contract, the developer would supply 80 MW of wind power to the customer starting in 2024. The firms still have to iron out the details of the PPA.

The power will come from a 165 MW wind farm that AES is developing as part of its 1.1 GW Cajuina wind complex in the state of Rio Grande do Norte. Construction is expected to start this year. ■

● PEOPLE & FIRMS

Latham hires LatAm partners from Clifford Chance

Latham & Watkins has hired two senior attorneys from **Clifford Chance** to lead its Latin American energy and infrastructure division out of New York.

Gianluca Bacchiocchi and **Guido Liniado** joined Latham as partners this month.

Bacchiocchi has spent the last six years at Clifford Chance, which he joined after four and a half years at **DLA Piper**. He had previously worked at **Greenberg Traurig** and **Mayer Brown**.

Liniado started his career in Buenos Aires at **Bruchou, Fernández Madero & Lombardi**, where he spent nine years. He then moved successively to **Cleary Gottlieb** and Clifford Chance in New York.

The two lawyers represent sponsors, banks and institutional investors on financing and capital markets mandates,

including project finance.

"Gianluca and Guido are two of the market's leading lights in the Latin America energy and infrastructure space," said **Tony Del Pino**, global chair of the firm's Latin America practice. "They are widely regarded for their practical, business-focused approach and understanding of the key issues, risks, and business drivers affecting deals in jurisdictions throughout Latin America. Their addition will significantly enhance our leading Latin America Practice at a time when many clients are navigating landmark business transactions in the region."

The moves come after **David Pen-na** returned to Latham's Latin America team after a year with the US **International Development Finance Corp**. He rejoined the firm in November ([PFR, 11/2/20](#)). ■

Morgan Stanley appoints NA power and gas chief

Morgan Stanley has appointed a new head of North American power and gas trading as well as two regional heads of power origination.

The new head of North American power and gas is **Kow Atta-Mensah**, who has been at Morgan Stanley for nearly 15 years.

The former holder of this position, **Jay Rubenstein**, who was also global head of commodities trading, left the bank reportedly after [compliance breaches related to the use of communications tools like WhatsApp](#).

Rubenstein has since joined **Citadel** ([PFR, 12/7/20](#)).

Meanwhile, **Angelin Baskaran**, who has been at the bank for more than 12 years, has been elevated to head of power origination, East, while her colleague **Ali Yazdi** has been promoted to head of power origination, West. Yazdi has been with the firm for about a decade, prior to which he spent more than a decade at **Powerex**, trading power in California and Southwest Markets.

Baskaran and Yazdi will be focused on structuring and trading power and gas, including selling power to corporates, utilities and community choice aggregators.



Kow Atta-Mensah

The two regional trading heads were among 171 bankers promoted to managing director at Morgan Stanley at the beginning of the year.

The other new MDs included:

- **Cody Gunsch** in the leveraged finance team, who oversees syndication for borrowers in the energy and power sector
- **Lavanya Balakrishnan** in the bank's global power and utilities group
- **Brendan Fogerty**, who has also taken on the role of global head of institutional commodity sales, overseeing the bank's hedge fund marketing business. ■

● NEWS IN BRIEF

● PROJECT FINANCE

HAWAII PUC GREENLIGHTS SWELL ENERGY'S VIRTUAL POWER PLANT

Distributed energy and grid solutions provider **Swell Energy** has received approval from the **Hawaii Public Utilities Commission** to deploy three solar-plus-storage projects on Oahu, Maui and Hawaii islands under a \$25 million contract with **Hawaiian Electric**.

DEVELOPER PLOTS ETHANE-FUELED POWER PLANT IN NORTH DAKOTA

Bakken Midstream Natural Gas is planning to bring online an electric cooperative power plant called the Williston Basin Energy Center that will run primarily on ethane in North Dakota, and has completed two rounds of capital raising.

● LATIN AMERICA

CHILEAN DEVELOPER GROWS PMGD PIPELINE

Developer **oEnergy** has begun the permitting process for the 12 MW (DC) Ayla solar asset in the Chilean region of O'Higgins, bringing its development pipeline up to 56.5 MW. The project will require an investment of \$12 million.

ENGIE BRAZIL SIGNS TURBINE SUPPLY WITH SIEMENS GAMESA

Engie Brazil has signed an agreement with **Siemens Gamesa** for the supply of wind turbines to the R\$2.2 billion (\$414 million) Santo Agostinho wind complex in the state of Rio Grande do Norte. The first phase of the complex will have a capacity of 434 MW.

● PEOPLE & FIRMS

MACQUARIE HIRES LATAM EXEC FROM SEMPRA

Macquarie Capital has hired **Alex Vicente**, a project finance and development official, as senior vice president. He previously worked for eight years overseeing Latin American energy investments at **Sempra Energy** and its subsidiary **IEnova**.

CS APPOINTS GLOBAL HEAD OF RENEWABLES

Credit Suisse has promoted **Ted Michaels**, its head of North America renewables in New York, to a new global position overseeing investment banking in renewables and sustainable energy technology. He has been with the firm for 14 years, handling corporate and project finance mandates and M&A.

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