

Power Finance & Risk

Exclusive Insight on Power M&A and Project Financing



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● PROJECT FINANCE

NextEra convertible bond to fund wind portfolio purchase

NextEra Energy has priced a \$500 million convertible bond offering which will partly fund the acquisition of a wind portfolio. *Page 7*

● LATIN AMERICA

LAP refinances Chilean wind duo

A subsidiary of **Latin America Power** has issued bonds to refinance a pair of wind farms in Chile. *Page 18*

● PEOPLE & FIRMS

US Bank recruits CoBank PF head

Bill Gallagher, the former head of project finance at CoBank, is preparing to start in a new role at US Bank. *Page 19*

Illinois peaker portfolio hits the auction block

Alfie Crooks

A Texas-based fund manager is auctioning off a portfolio of gas-fired peaking power plants located in Illinois.

Rockland Capital has launched a traditional two-stage auction process for three simple-cycle gas-fired peakers, totaling 773 MW, a source close to the process tells *PFR*.

BNP Paribas and **Scotiabank**, acting as sell-side advisers, started circulating marketing materials on June 23.

The assets that are up for sale are:

- The 355 MW Shelby County Energy Centre in Neoga

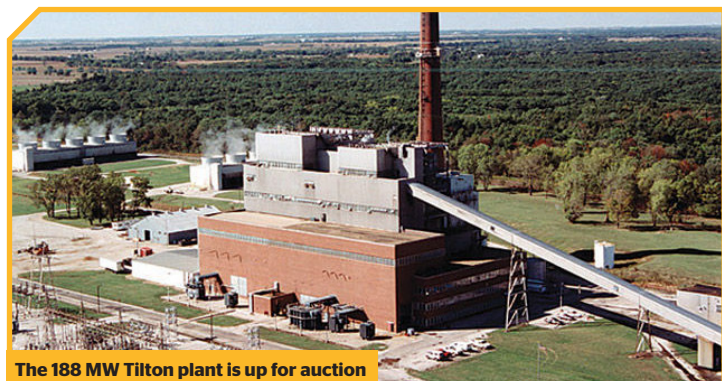
- The 230 MW dual-fuel Gibson City Energy Center in Gibson City
- The 188 MW Tilton plant in Tilton

First round bids are due over the summer.

The auction is expected to draw interest from private equity firms and infrastructure companies, adds the source, noting that the assets will be sold unlevered.

THE PORTFOLIO

Rockland had considered refinancing the Tilton peaker earlier this year, courting **CIT** *PAGE 2»*



The 188 MW Tilton plant is up for auction

Sunnova clinches latest solar securitization

Taryana Odayar

Sunnova Energy International has closed its latest securitization backed by leases and power purchases agreements, which it says is the solar sector's first securitization transaction to have refinanced collateral from a previous securitization.

The \$319 million issuance, which priced at 2.58%, was completed on June 17. **Credit Su-**

isse was sole structuring agent and bookrunner.

The notes have an average weighted life of 7.46 years. They are due to be repaid on April 30, 2031 and have a final legal maturity of April 28, 2056.

Kroll Bond Rating Agency gave the notes a A- rating.

"We were able to achieve our tightest spread over the *PAGE 5»*

Clean Line's Skelly launches new transmission biz

Alfie Crooks

Michael Skelly, the founder and former chairman of transmission developer **Clean Line Energy Partners**, has launched a new venture.

Skelly will act as CEO of **Grid United**, an early-stage transmission development company based in Houston.

Meanwhile, **Kris Zadlo**, a senior vice president overseeing regulatory affairs, storage de- *PAGE 20»*

Eletrobras privatization clears final hurdle

George Hames

The privatization of state-owned **Eletrobras** was confirmed on June 21 after a final vote took place in the Brazilian congress.

The Brazilian lower house voted 258-136 to sign off on the privatization bill following senate approval earlier this month (*PFR*, 6/8).

The law requires the state to sell roughly a quarter of its 60% stake in the company, making Eletrobras majority pri- *PAGE 19»*



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● NORTH AMERICA MERGERS & ACQUISITIONS

Illinois peaker portfolio hits the auction block

«FROM PAGE 1 **Bank** and **KeyBank** on a possible raise, but neither picked up the mandate and a deal didn't materialize, according to deal watchers.

This will be the second time that Rockland auctions off its Tilton peaker, having previously sold it to **The Carlyle Group** in 2017, as part of a three-project portfolio called Lincoln Power, and bought it back in 2020 ([PFR, 9/18, 3/27/17](#)). Rockland completed the purchase through a portfolio company of its Rockland Power Partners III fund, called **Boomerang Power**, in reference to the back-and-forth nature of the deal.

Rockland's second private equity fund, Power Partners II, originally bought Tilton from **LS Power** in 2015 ([PFR, 4/8/15](#)). LS Power in turn had bought the asset from **Dynegy** in 2009 ([PFR, 8/10/09](#)).

Carlyle refinanced the Lincoln Power portfolio in the bank market in 2018 with a roughly \$323 million bank loan arranged by **Investec** ([PFR, 8/14/18](#)).

As for the Gibson and Shelby facilities, Rockland acquired the former from **Ameren** in 2014 as part of a three-project gas-fired fleet, and the latter in 2016 from **NRG Energy** ([PFR, 10/16/13, 11/13/15](#)). ■

Peaker assets up for grabs

Project Name	Capacity (MW)	Location	COD Year
Shelby County Energy Center	355	Shelby County, Illinois	2000
Gibson City Generating Station	230	Gibson City, Illinois	2000
Tilton Plant	188	Tilton, Illinois	1999

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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.

Generation Sale DATABASE

Seller	Assets	Location	Adviser	Status/Comment
7X Energy	Portfolio (9 GW Solar)	US		BP has agreed to buy the assets, in a deal expected to close this June (PFR, 6/7).
	Elara Energy (130 MW Solar)	Texas	CohnReznick Capital	A subsidiary of KEPCO is the buyer. The closing was announced in early June (PFR, 6/14).
AES Brasil Energia	AES Inova Soluções de Energia	Brazil		EDP purchased the platform in a deal that closed on June 14 (PFR, 6/21).
Aria Energy	Portfolio (90 MW Gas)	US		EPP has bought the assets, with the closing announced in mid-June (PFR, 6/21).
Basalt Infrastructure Partners	Uppco	Michigan	Moelis & Co	Axiom Infrastructure closed the purchase on June 3 (PFR, 6/14).
Basin Electric Power Cooperative	Great Plains Synfuels (Coal, Gas)	North Dakota		Bakken Energy and Mitsubishi Power Americas are interested in buying the asset as of early June (PFR, 6/14).
Balanced Rock Power	Balanced Rock Power	Utah	Lazard	The sponsor is seeking an equity injection as of early June (PFR, 6/7).
Blackrock	Kingfisher (298 MW Wind)	Oklahoma	Agentis Capital	DIF Capital Partners has agreed to buy the asset. The deal will close during this year's Q3 (PFR, 6/14).
Broad Reach Power	Broad Reach Power	US	Citi	Marketing materials circulated in April (PFR, 5/10).
Canadian Pension Plan Investment Board	Puget Holding Company (10%)	Washington	JP Morgan	The bank has taken final bids as of the second week of May and expects to close the sale by the end of the summer (PFR, 5/17).
Clearway Energy Group	Portfolio (District energy systems)	US	BofA	First round bids are due at the end of June (PFR, 6/14).
Basalt Infrastructure Partners, DCO Energy	DB Energy Assets	US	TD Securities	The banks have been mandated for the sale of the assets, as of the second week of May (PFR, 5/17).
Consolidated Edison, Crestwood Equity Partners	Stagecoach Gas Services	US	TD Securities	Kinder Morgan has emerged as the buyer, under a deal struck on May 31 (PFR, 6/7).
Columbia Basin Hydropower	Banks Lake (500 MW Storage)	Washington	Green Giraffe	The bank distributed teasers in April (PFR, 5/17).
Constellation Holdings, Peach Power	Albany Green Energy (50 MW Biomass, 94%)	Georgia		ReGenerate expects to get the purchase approved by June 28 (PFR, 5/24).
Cypress Creek Renewables	Cypress Creek Renewables	North Carolina	Morgan Stanley	Eight bidders have been identified during the second round, as of mid-May (PFR, 5/24).
EIG Global Energy Partners	Patriot (765 MW Gas), Liberty (756 MW Gas)	Pennsylvania		The Carlyle Group completed its acquisition of the assets as of June 9 (see story, page 5).
EDP Renewables	Bright Stalk (205 MW Wind, 55%)	Illinois	Jefferies	Greencoat Capital has agreed to purchase the interests in a deal set to close in June (PFR, 4/19).
	Harvest Ridge (200 MW Wind, 55%)			
Enwave Energy	Enwave Energy	Canada	Bank of Montreal, Canadian Imperial Bank of Commerce	OTPP and IFM Investors bought the Canadian side of Enwave in a deal that closed on June 7 (PFR, 6/21).
Glidepath Power Solutions	Project Wolf (3.1 GW Storage)	US	Guggenheim Securities	Teasers were distributed during the week of April 19 (PFR, 5/3).
Global Infrastructure Partners	Frerport LNG export (Gas, 25%)	Texas	Rothschild & Co	The sponsor has mandated the bank to sell its minority stake in the project as of early June (PFR, 6/7).
Diamond Generating	Tenaska Gateway Generating Station (854 MW Gas, 67.8%)	Texas	Whitehall & Co	The bank distributed teasers in April (PFR, 5/17).
Macquarie Infrastructure Corp	MIC Hawaii	Hawaii	Lazard, Evercore	Argo Infrastructure Partners has agreed to buy the portfolio in a deal that will close during the first half of 2022 (PFR, 6/21).
Photosol	San Juan Solar I (299 MW Solar, 130 MW Battery)	New Mexico	BNP Paribas	Second round bids were due on March 19 (PFR, 3/29).
Prospect14	Project Anthracite (1.3 GW Solar, Storage)	Pennsylvania, Virginia	Jefferies	Marketing materials for the sale process circulated during the week of April 26 (PFR, 5/3).
Sappi North America	Portfolio (8 MW, Hydro)	Maine	Locke Lord	Dichotomy Power has emerged as the buyer of the portfolio as of June (see story, page 5).
Source Renewables	Community Solar Portfolio (23 MW)	New York		Sale launched in third week of March (PFR, 3/29).
Southern Power	Partin Solar (50 MW Solar)	North Carolina		The sponsor has recirculated teasers for the project as of the second week of March (PFR, 3/15).
Terra-Gen	TG Geothermal Portfolio (Geothermal, Transmission)	Nevada		Ormat agreed to purchase the portfolio as of May 24, with closing penciled for the second half of 2021 (PFR, 5/31).
United Renewable Energy	Monte Plata (33.4 MW Solar)	Dominican Republic		A consortium led by an MPC Capital subsidiary has agreed to buy the asset as of early June (PFR, 6/14).

● 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.

Live Deals: Americas

Sponsor	Project	Location	Lead(s)	Deal Type	Loan Amount	Tenor	Notes
APG, Celeo Redes	Colbún Transmision	Chile	JP Morgan	Bond	\$1bn		The bank is trying to syndicate the bridge loan to the bond, eyeing the closing of the bridge in two weeks (PFR, 5/10).
Castleton Commodities International	Riverview Power (1.4 GW Gas)	New York, Texas	Morgan Stanley	Term loan B	\$205m	7-yr	The deal, which will refinance the portfolio, was launched in mid-April (PFR, 5/3).
Celsia	Tesorito (198.7 MW Gas)	Colombia	SMBC, Santander		\$140m-\$150m		The sponsor has mandated the banks as of early May (PFR, 5/17).
Cox Energy America	Sol de Vallenar (308 MW (DC) Solar)	Chile					The sponsor is looking for debt for the asset as of February 12 (PFR, 2/22).
Daroga Power	Portfolio (33 MW Fuell cell)	US		Tax equity	\$205m		The sponsor is raising financing as of late March (PFR, 4/5).
Enfragen	Portfolio (175 MW Solar)	Chile	BNP Paribas, DNB, SMBC	Term loan	\$200m		The sponsor closed the financing, as announced in mid-June (see story, page 10).
Generadora Metropolitana	Portfolio (600 MW Solar, Gas)	Chile	Credit Agricole	Term loan	\$700m-\$1bn		The sponsor reached out to banks for the debt package as of April (PFR, 5/10).
Interchile	Cardones-Polpaico (Transmission)	Chile	JP Morgan, Goldman Sachs, Scotiabank	Bond refinancing	\$1bn		The sponsor has selected the banks for the refinancing of a transmission line (PFR, 5/24).
Intersect Power	Radian (420 MW (DC) Solar)	Texas	Bank of America				The sponsor is preparing to raise debt for its development-stage projects, as of early June (PFR, 6/14).
	Aramis (100 MW Solar, Storage)	California					
Invenergy	Samson Solar Energy Center (250 MW Solar)	Texas	Santander, SocGen, Caixabank	Construction loan			The sponsor has secured financing for the project, as of mid-June (see story, page 6).
I Squared Capital	Atlantic Power portfolio (1,160 MW Gas, Biomass, Coal)	US	RBC Capital Markets, MUFG	Term loan B	\$360m	6-yr	The banks met on March 18, with commitments due on April 1 (PFR, 3/22).
				Ancillary facilities	\$45m		
Key Capture Energy	Portfolio (250 MW Storage)	Texas					The sponsor is conducting pre-marketing for debt as of February (PFR, 2/15).
Latin America Power	Portfolio (231 MW Wind)	Chile	Goldman Sachs, Citigroup	Bond	\$403.9m	12-yr	A subsidiary of Latin America Power issued bonds to refinance two wind farms as of June (see story, page 18).
LS Power	Portfolio (Storage)	California	MUFG, SMBC, Mizuho, Bank of Montreal, East West Bank, ING Capital, BNP Paribas, Royal Bank of Canada	Construction loan	\$100m		The deal closed on June 11 (see story, page 1).
				Ancillary facilities	\$8m		
Macquarie Infrastructure and Real Assets	Wheelabrator Technologies, Tunnel Hill Partners	US	Credit Suisse	Term loan	\$1bn	7-yr	The sponsor is combining and refinancing the portfolio companies, with commitments due on March 19 (PFR, 3/15).
				Ancillary facilities	\$400m	5-yr	
Matrix Renewables	Portfolio (81.7 MW (DC) Solar)	Colombia	IDB Invest	Term loan	\$31m	18-yr	The sponsor is securing debt arranged by IDB Invest as of mid-May (PFR, 5/24).
	Portfolio (154 MW (DC) Solar)	Chile	BNP Paribas				The sponsor mandated the bank for a financing in February (PFR, 5/17).
NextEra Energy Resources	Sky River (77 MW Wind)	California					The sponsor is arranging financing for the asset as of the third week of May (PFR, 5/31).
Omega Geração	Chui (600.8 MW Wind)	Brazil	BTG Pactual	Debentures	\$183m		The sponsor is preparing to issue the debentures to refi the complex as of the second week of March (PFR, 3/15).
Pattern Energy Group, Samsung Energy Partners	Armow (180 MW Wind)	Ontario	AssociatedBank, Bayern LB, Credit Agricole, SocGen, Caixabank, SMBC, SMTB	Refinancing	C\$1.2b	18-yr	The deal is expected to close in July (PFR, 6/7).
SaveSolar	Portfolio (10.3 MW Community Solar)	Washington DC	Leyline Renewable Capital	Construction loan	\$10m		The deal closed as of mid-June (see story, page 6).
Savion	Westoria Solar (200 MW Solar)	Brazoria County, Texas	CIT Bank, ING Capital	Term loan	\$79m	C+5yr	The sponsor is working on the financing as of February (PFR, 2/22).
				Tax equity	\$95m		
				Ancillary facilities	\$38m		
Sol do Piaui Geracao de Energia	Unnamed (68 MW Solar)	Brazil	BNDES	Construction loan	\$37.74m		BNDES has approved the debt package for the project as of the first week of June (PFR, 6/14).
Synex International	Portfolio (11 MW Hydro)	Canada		Refinancing	\$15.7m		The sponsor has closed the refinancings, as announced in mid-June (see story, page 7).
Terra-Gen	Edwards Sandborn (1,118 MW/ 2,165 MWh Solar, Storage)	California		Construction loan	\$1bn		The developer approached banks for the financing as of early May (PFR, 5/10).
Undisclosed		New York, Rhode Island	Nelnet, Elkhorn Valley Bank & Trust, First State Bank, Security First Bank	Tax Equity	\$11.9m		A Nelnet-led bank club has invested tax equity in a community solar portfolio in the eastern US (see story, page 6).

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NORTH AMERICA MERGERS & ACQUISITIONS ●

Dichotomy Power to purchase Maine hydro assets

Dichotomy Power, an owner and operator of hydro projects in the Northeastern US that is backed by **Greenbacker Capital Management**, has agreed to buy a portfolio of hydro projects in Maine.

The portfolio, which is just under 8 MW in size, comprises five projects located on the Presumpscot River. The assets are being sold by **Sappi North America**, a Boston-based paper, packaging

products and pulp producer.

The deal is expected to close by the end of this year, subject to regulatory and other approvals.

Locke Lord is acting as legal counsel to Dichotomy on the acquisition.

The portfolio comprises:

- The 1.8MW Eel Weir project
- The 2.4MW Dundee project
- The 1.9MW Gambo project
- The 1.0MW Little Falls project

- The 0.8MW Mallison Falls project

An affiliated fund of **Greenbacker Capital Management** invested in Dichotomy Power at the end of last year, as previously reported ([PFR, 12/9](#)). Dichotomy is co-owned by Clark, the Greenbacker fund, and other investors through a fund managed by **Grand Avenue Advisors**. ■

Carlyle clinches purchase of former Panda pair

The Carlyle Group has completed its acquisition of the Patriot and Liberty combined-cycle gas-fired projects in Pennsylvania from its co-investor **EIG Global Energy Partners**.

Carlyle had agreed to buy EIG's stake in Hamilton Projects Acquiror, the 50:50 joint venture through which the two companies own the projects, in February ([PFR, 2/23](#)). The **US Federal Energy Regulatory Commission** granted approval for Carlyle to buy out EIG on April 20 and the acquisition closed on June 9, according to paperwork filed with the commission last week.

EIG and Carlyle had financed their acquisition of the 756 MW Liberty and the 765 MW Patriot projects from **Panda Power** with a \$900 million term loan B arranged by **Morgan Stanley** ([PFR, 1/15/20, 8/21](#)).

The Liberty project is located in Bradford County and is interconnected to the **Pennsylvania Electric Co** transmission system, while Patriot is located in Montgomery County and is interconnected to transmission system owned by **PPL Electric Utilities Corp**. ■

Virginia solar developer lands \$25m equity investment

Secure Futures Solar, a Staunton, Virginia-based commercial-scale solar developer, has bagged an up to \$25 million equity investment to fund a portfolio of projects spread across three US states.

The investor is **Alerion RE**, a subsidiary of privately-owned real estate developer **The Hartz Group**, which set up Alerion in 2014 to act as an investment vehicle for renewable energy projects developed on non-Hartz properties.

The proceeds will support a portfolio of solar assets located in Virginia, West Virginia and North Carolina, which SFS will develop, own and operate. The projects will be located on-site at public schools, colleges, uni-

versities, hospitals and local government facilities.

The financial advisers on the deal are:

- **GreenFront Energy Partners** – financial adviser to SFS
- **GreeneHurlocker** – legal to SFS

Until now, SFS has sought capital for each project individually, which it says has resulted in construction delays. It expects that the fresh funds from Alerion will help it shorten the development cycle from years to months.

"Coming in to projects with financing in advance at the favorable terms provided by Alerion will also allow Secure Futures to offer the most competitive rates on PPAs and service agreements

to our customers, providing the best value on solar power," said **Tony Smith**, founder and president of SFS.

Once SFS has exhausted the funds, Alerion will have the option of contributing further equity to support additional projects.

"We are pleased that Alerion has recognized the potential for commercial solar projects in sunny southeastern states that have recently removed legal barriers to making solar power affordable," added Smith.

The company plans to develop more than 50 MW of renewable energy projects over the next few years, as it expands into adjacent Southeastern and Mid-Atlantic states. ■

NORTH AMERICA PROJECT FINANCE ●

Sunnova clinches latest solar securitization

«FROM PAGE 1 interest rate benchmark to date for a TPO [third-party owned] solar and storage asset securitization, reflecting the high-quality assets in the pool," said **Robert Lane**, Sunnova's CFO.

The transaction is backed by over 20,981 leases and PPAs distributed across 18 US states, as well as Guam, Puerto Rico and the Northern Mariana Islands. The three largest geographic

concentrations are California, Puerto Rico and Connecticut, which collectively make up about 64.8% of the portfolio's solar rooftop systems.

The weighted average customer FICO score of the portfolio customers at the time of origination was 740.

Sunnova intends to use the proceeds to repay financing arrangements at its subsidiaries,

including the prepayment of its 2017 debut asset-backed securitization, called SNVA 2017-1 ([PFR, 4/14/17](#)). Credit Suisse was the sole bookrunner for that \$254.75 million offering, which was split between \$191.75 million senior A class notes with a coupon of 4.95%, \$18 million Class B notes priced to yield 6%, and C Class notes with a coupon of 8%.

"This is the solar sector's first

ever securitization re-financing collateral from a pre-existing securitization," added Lane.

"Finally, we have structured this transaction to align the debt service of the assets more closely with their cash flows, which in turn allows us to bring more cash to the corporate level and bring us closer to our goal of issuing a bullet-maturity green bond," he said. ■

● NORTH AMERICA PROJECT FINANCE

NextEra offers convertible bond to fund wind portfolio purchase

NextEra Energy Partners (NEP) has priced a \$500 million convertible bond offering which will partly fund the acquisition of a 391 MW wind portfolio in California and New Hampshire.

The three-year senior unsecured notes are being offered in 144a/Reg S format and are guaranteed by NEP's **NextEra Energy Operating Partners** subsidiary.

They are being issued with a \$1,000 par value and a coupon of 0%.

Their conversion strike price is \$90.50 a share, a premium of about 20% over NEP's closing price of \$75.42 a share on June 14. The calls are capped at \$113.13.

The offering is scheduled to close on June 17.

The sponsor is expecting to rake in proceeds of \$498.6 million from the convertible bond issuance, before accounting for offering expenses.

The funds will go toward a portion of the \$773 million purchase price of the wind portfolio that

NEP is acquiring (see details below) and to pay for capped call transactions.

NextEra Energy Operating Partners has a BB rating from **S&P Global Ratings** and a Ba1 rating from **Moody's Investors Service**.

WIND ACQUISITION

NextEra agreed to purchase the 391 MW unlevered portfolio from **Brookfield Infrastructure Partners** in April ([PFR, 4/19](#)).

The developer was planning to fund the acquisition with a mix-

ture of undrawn funds from its 2020 convertible equity portfolio financing and existing debt capacity.

The assets included in the deal are:

- The 150 MW Alta Wind VIII in Tehachapi, California
- The 120 MW Windstar project in Tehachapi, California
- The 99 MW Granite Reliable project in Coos County, New Hampshire
- The 22 MW Coram project in California ■

Nelnet-led bank club provides community solar TE

A club of six banks led by student loan servicer **Nelnet** has provided tax equity financing for a portfolio of community solar projects in the Northeastern US.

Nelnet Renewable Energy is the lead investor and fund manager on the \$11.9 million deal, with **Elkhorn Valley Bank & Trust**, **First**

State Bank and **Security First Bank** joining as co-investors.

The community solar portfolio is located in New York and Rhode Island and is expected to generate over 20,000 MWh of electricity per year.

The identities of the other three bank co-investors and the projects' sponsor were not disclosed.

"Nelnet has a strong culture of innovation, and we embrace our role as a leading tax equity investor and catalyst of change in building clean energy projects nationwide," said **Jon Miller**, director of tax equity capital markets at Nelnet.

Earlier this year, Nelnet provided a \$9.9 million tax equity investment for a portfolio of

community solar projects in New York ([PFR, 4/7](#)).

Nelnet Renewable Energy's parent company, Nelnet, began investing tax equity in US solar projects in 2018, with an emphasis on community solar. Last year, the company launched a subscriber management service for owners of community solar assets ([PFR, 6/11/20](#)). ■

CleanCapital, Stem ink battery storage MoU

CleanCapital and distributed battery storage company **Stem** have signed a memorandum of understanding (MoU) for a financing partnership through which they will fund mid-market energy storage projects.

Under the terms of the MoU, Stem will provide energy storage services to developers as CleanCapital's preferred storage provider, while CleanCapital will give Stem first right of refusal for any storage projects that the parties originate together.

CleanCapital will pursue investments in standalone energy storage, solar retrofits to add storage, and new-build solar-plus-storage projects under

the partnership with Stem.

Specifically, the companies will focus on commercial-scale and small utility front-of-meter projects up to 30 MW in size. Targeted offtakers will include commercial and industrial customers and electric cooperatives, and include assets that qualify for the **Solar Massachusetts Renewable Target** (SMART) program.

In April, CleanCapital secured a \$300 million corporate equity commitment from **Manulife Investment Management** to acquire 63 MW of solar assets and to deploy a solar and battery storage project pipeline ([PFR, 4/20](#)). ■

CenterPoint to replace retiring coal units with CCGTs

CenterPoint Energy has asked for approval from the **Indiana Utilities Regulatory Commission** (IURC) to construct two combined-cycle gas-fired projects to replace retiring coal-fired units in the state.

The \$323 million CCGTs will have a combined capacity of 460 MW and be located at the site of the coal-fired A.B. Brown plant in Posey County. They will replace the output of A.B. Brown's first and second units, which are slated to retire in late 2023.

"The retirement of our smaller, inefficient coal units and adding the natural gas combustion turbines will continue to reduce our

emissions and maintain our focus on the environment while providing our customers a cost-effective option for delivering safe and reliable energy," said **Steve Greenley**, CenterPoint's senior vice president of generation development.

Construction will begin once Centerpoint receives approval from the IURC, which is anticipated to be in the second half of 2022. The turbines are due online in 2024.

The proposal is part of CenterPoint's 2020 integrated resource plan, which also includes a target of building generation portfolio that is made up of nearly two-thirds renewable energy assets. ■

PPA PULSE ●

GREENGATE SECURES OFFTAKER FOR LARGE CANADIAN SOLAR PROJECT

Greengate Power Corp has started construction and secured a corporate offtaker for what it says will be the largest solar project in Canada.

Online retailer **Amazon** will purchase a 400 MW chunk of the 465 MW Travers solar project, which will be located in Vulcan County, Alberta.

The C\$700 million project was originally slated to sell power on a merchant basis, at the time **Copenhagen Infrastructure Partners** invested equity to support the construction of the asset, early last year ([PFR, 2/3/20](#)).

Construction started this month and the facility is pencilled in to come online in 2022. It will be fitted with bifacial solar modules provided by **Jinko Solar Canada**.

Most recently, Amazon agreed to purchase 375 MW (DC) of capacity from **Lightsource bp's** Birch Solar project located in Ohio ([PFR, 4/22](#)).

SANTEE COOPER DOLES OUT SOLAR PPAS

South Carolina's largest electric utility, **Santee Cooper**, has signed solar power purchase agreements totaling 425 MW with a quartet of developers.

The contracted projects are being developed by **Silicon Ranch**, **Johnson Development Associates**, **Ecoplexus** and **Dominion Energy** subsidiary **Birdseye Renewable Energy**.

Santee Cooper will purchase 27.5% of the projects' output and manage the assets, while its largest customer, **Central Electric Power Cooperative**, will purchase the remaining capacity separately.

The projects will be built in South Carolina and are scheduled to come online by the fourth quarter of 2023.

The solar assets are:

- Silicon Ranch's 200 MW Lambert I and Lambert II projects in Georgetown County
- Birdseye's 75 MW Chester White project in Aiken County
- Ecoplexus's 75 MW Hemingway project in Williamsburg County
- Johnson Development's 75 MW Watson Hill I facility near Summerville, in Dorchester County

The four sponsors were selected from a group of nearly 30 solar developers that Santee Cooper had issued a request for proposals to last year ([PFR, 7/8](#)). Proposals for 58 projects were submitted, totaling more than 3.6 GW of capacity.

The utility is planning two more RFPs, totaling 500 MW each, to be held in the late 2020s and early 2030s.

The publicly-owned utility came close to being privatized by **NextEra Energy** last year, but the deal was nixed at the end of April this year ([PFR, 4/24/20](#)).

LEEWARD SCORES COLORADO WIND PPA

Leeward Renewable Energy has inked a power purchase agreement for a 145 MW wind project in Colorado.

Located in Weld County, the Panorama wind farm will sell its output to local energy wholesaler **Guzman Energy**.

Construction on the project will begin in July with the view to bring it online in December. Leeward will own and operate the asset.

The Panorama project will be fitted with more than 60 **Vestas** wind turbines. It is one of three wind farms that Leeward owns in Weld County, totaling 617 MW and representing an aggregate investment of about \$850 million.

Leeward brought one of the wind farms online last year, namely the 171 MW Mountain Breeze project, after financing it with a \$163 million bridge loan in January 2020 ([PFR, 4/22/20](#)).

The developer's third project in Weld County, the 301 MW Cedar Creek facility, came online in 2007.

RECURRENT ENERGY SNAGS UTILITY SOLAR-PLUS-STORAGE PPA

Canadian Solar subsidiary **Recurrent Energy** has secured a utility offtaker for a solar-plus-storage project located in California.

Southern California Edison will purchase the full output of the 200 MW/800 MWh Crimson battery storage project, which will be located in the California desert, in Riverside County.

The PPA will kick in over the summer of 2022, which is when the project is due online.

The offtake agreement is one of several solar-plus-storage PPAs, retrofits as-a-service and stand-alone storage tolling agreements recently secured by SoCalEd for battery storage projects to be built in 2021 and 2022.

Recurrent is also expanding **Southern Power** and **AIP Management's** 200 MW Tranquillity solar project in Fresno County by 72 MW/288 MWh, as well as their 200 MW Garland solar project in Kern County by 88 MW/352 MWh.

Both projects were developed and built by Recurrent in 2016. Construction is already underway for their battery storage retrofits.

Recurrent is also constructing **Goldman Sachs Renewable Power's** 300 MW Slate solar project in Kings County, which comes with a 140.25 MW/561 MWh battery storage component, as well as a 75 MW/300 MWh battery storage retrofit for the 100 MW Mustang solar project, also in the same county ([PFR, 1/13](#)).

INNERGEX WIND PROJECT SHORTLISTED FOR PACIFICORP PPA

PacifiCorp has shortlisted an **Innergex Renewable Energy** wind

farm in Wyoming for a long-term power purchase agreement, as part of its 2020 all-source Request for Proposals (RFP).

The PPA for the 338.1 MW Boswell Springs project is expected to be structured as a 30-year "take-or-pay" contract. The project is due online by the fourth quarter of 2024.

PacifiCorp's all-source RFP was launched last year. The regulated utility submitted a shortlist of projects to state regulators in Oregon on June 15, 2021.

The 19 shortlisted projects are located in Wyoming, Idaho, Oregon and Utah and have a combined capacity of 3,245 MW. They include:

- 1,641 MW of wind capacity in Wyoming
- 151 MW of wind capacity in Idaho
- 210 MW of solar in Oregon (including 52.5 MW of battery storage projects)
- 1,243 MW of solar in Utah (including 682 MW of battery storage and a 200 MW stand-alone battery storage asset)

COLBÚN TO SUPPLY CHILEAN CONSTRUCTION FIRM

Independent power producer **Colbún** has agreed to supply renewable power to construction company **Mariathon-Tecnogreen** in Chile.

Colbún will supply 1,500 MWh of electricity per year to power the offtaker's operations in La Pintana, Santiago.

The power will come from the sponsor's local portfolio, which is expected to total 1.8 GW of renewables capacity by the end of the second quarter ([PFR, 3/5](#)).

Some of those assets include:

- The 607 MW Horizonte wind farm in Antofagasta
- The 230 MW Diego de Almagro Sur solar park in Atacama
- The 9 MW Machicura solar park in Maule ■

Power Finance & Risk



PFR Thermal Power Roundtable 2021

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EDITOR'S NOTE

*It's been a roller coaster year for project financiers and developers of thermal power plants, who have had to contend with not just a global viral outbreak, but also an unprecedented winter storm and power crisis in Texas, and the fallout of the unexpected **PJM Interconnection** capacity auction results for delivery year 2022/2023.*

*The most recent of these events was the PJM Base Residual Auction, which had been pencilled in for May 2019, but was ultimately held in May 2021, after two years of delays due to a back-and-forth between PJM and the US **Federal Energy Regulatory Commission** (FERC) over the Minimum Offer Price Rule (MOPR).*

However, the highly anticipated auction fell short of many market participants' expectations due to the resulting low clearing prices. The \$50/MW-day capacity price across most of PJM, compared to \$140/MW-day in the last auction, which was held in 2018, has since led to tough conversations around CCGT re-financings and new-builds in the RTO.

*Just a few months prior, winter storms walloped Texas, leaving around four million people to wait out rolling blackouts and sending power prices skyrocketing to **ERCOT**'s ceiling of \$9,000/MWh.*

As much as 46 GW of generation was forced offline, of which some 28 GW was thermal and 18 GW a mixture of wind and solar, according to ERCOT.

Unsurprisingly, the crisis has reignited the debate over ERCOT's somewhat insular, energy-only market structure, which lacks the capacity markets and penalties that are designed to ensure reliability in other markets, such as PJM.

Meanwhile, carbon capture, utilization and storage (CCUS) continues to be a hot topic, especially when it comes to retrofitting thermal power plants with such equipment, amid a growing ESG consciousness among investors.

*To delve deeper into these topics and more, **Power Finance & Risk** brought together an expert panel of finance, development and investment officials to share their perspectives and predictions. While the resulting debate may not immediately solve all of the challenges facing thermal generation assets, we hope that the nuanced viewpoints presented provide food for thought and inspires further conversation.*

Taryana Odayar
Editor

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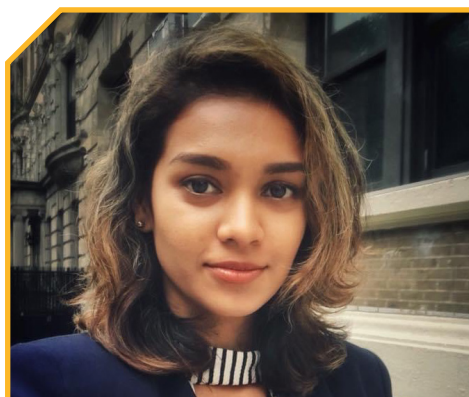
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Richard Roloff, Managing Director, Private Equity and Finance, LS Power



Daniel Englander, Chief Investment Officer, Panamint Capital



Taryana Odayar, Editor, Power Finance & Risk (Moderator)

Taryana Odayar, PFR: Lets start off the discussion with the PJM capacity auction for delivery year 2022/2023. It was a long awaited auction but many market participants were disappointed with the low clearing prices. Did the results come as a surprise?

Susan Flanagan, GE EFS: I'll jump in first. I was reminded of the 2012-2013 clearing prices by one of my colleagues, which were at about \$16.50. So maybe not quite a record on this one, but certainly lower than many had expected. From our side, I would say it was broadly within our expectations. Compared to the 2021 auction that cleared in 2018, some of the key parameters that really drove the

pricing were lowered demand forecasts, lower CONE parameters and higher new-builds from CCGTs – I think there was an incremental 3.5 GW of CCGTs that came in.

Further, this was effectively a spot auction. As a T1 auction, there was a lot of uncertainty around bidding strategies, especially for nuclear and coal, and that potentially drove prices down further.

Himanshu Saxena, Starwood: A number at \$50 for the RTO is definitely lower than where we expected the number to be. We also compared it to where the market thought that number would be, which was centered around \$80/MW-day. So this seems to be lower than where the broad expectations were,

but a lot of points that Susan has made are right. Some things, like the Dominion FRR [fixed resource requirement], are unprecedented, frankly, and I think that market participants hadn't incorporated that in their bid thinking.

The right metric would be what happens with the next auction. We are going to have to put this one in a box and put a wrap around it and see what the future brings, but we don't think this sets up a trend for low pricing going forward. We do see this as a one-time anomaly. What's more interesting is that the LDAs that were expected to break out, whether it's Eastern MAAC or ComEd, continue to break out.

So the thesis that we have had in the past

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to bet on constrained LDAs is playing out. Eastern MAAC and ComEd cleared lower than where market would have expected, but still they cleared at almost double the price of where the RTO is. So from an investment thesis standpoint, going forward there's got to be more emphasis on constrained zones rather than betting on the PJM RTO itself.

Richard Roloff, LS Power: Just to echo Himanshu's point, LS Power submitted a complaint to FERC ahead of the 2022/2023 capacity auction that unfortunately they didn't act on, but the Dominion FRR was certainly a contributing factor overall. We were obviously disappointed that PJM allowed that to be implemented so quickly and, in our view, without regard to how an FRR should be evaluated and approved.

I take some silver linings from this. We've seen in the last few weeks more accelerated announcements on retiring older, higher-fixed-cost assets that didn't clear. There are a couple of assets that had been slated to shut in the mid- to late 2020s and the owners have now accelerated that to next year. This shows that the market is working as it should to some extent.

The other silver lining here is that we've seen a significant run-up in energy futures in certain parts of PJM since the auction. Now, it's hard to say that there's total causality there. The markets move for a lot of different reasons other than just the forward view on power. It could be natural gas-related, but it is something to watch. The market could be taking a view here that there's going to be tightness going forward and it could be as a result of some of the outcomes that we just saw on the capacity side.

Flanagan, GE EFS: To add on Richard's point, at \$50, I would say most of the coal or nuclear plants without any subsidies would not be able to cover that fixed cost. So that could drive further pressure and further retirements as well.

Saxena, Starwood: I think it could separate the nuclear and coal further because this low print could put more pressure on state legislatures to provide subsidies to the nuclear plants. So they might end up being more than OK, but for the coal sector, this is yet another

death knell. There's nobody out there looking to subsidize coal. So clearly the coal retirement might get accelerated and the nuclear subsidies actually might get accelerated, too. So we might have two completely different effects from this.

Flanagan, GE EFS: Agreed.

Daniel Englander, Panamint Capital: We don't own any assets in PJM and so we don't pay particular attention to how this auction settled out or what the next auction looks like. One of the reasons why we haven't been active in PJM is that, from our standpoint, state-level policies or individual utility decarbonization plans are working at cross-purposes to the capacity market itself. These state-level policies or utility decarbonization plans are incentivizing certain types of generation that are agnostic to the outcome of the capacity market, but certainly that's where both the public policy and the regulatory push is happening.

From our perspective, it doesn't seem like that's going to stop. It's not like states or utilities are going to start pulling back on decarbonization targets. So the more that happens, the more it will continue to cannibalize activity in the capacity market.

We think the capacity market is broken and that these additional fixes, whether it's Dominion taking FRR or MOPR, are just administrative band-aids that aren't going to fix the fundamental issue of what's happening in PJM, which is that you have all these different policies working at cross-purposes.

Part of our approach is to wait and see where that all shakes out. Because as more renewables get added to the grid, and those renewables come under MOPR because they're part of some sort of subsidy program or some sort of incentive program, that's going to continue to draw capacity dollars away from merchant competitive gas assets that need higher prices in order for them to continue making their debt payments.

So I think it's more of a fundamental view than an outlook on supply and demand and pricing. Over time, we think that the capacity market is just going to continue to break down and become less effective at doing what it was built to do.

Odayar, PFR: What will be the impact of the auction on sponsors trying to finance new-build CCGTs in PJM? Will we see a lull in activity?

Flanagan, GE EFS: There are about 3.5 GW of new CCGTs that cleared the last auction and they had already achieved financial close. There's probably another 2.5 GW that will go into the December auction that have also reached financial close. Beyond that, it will be limited in terms of new-builds. We expect on average maybe one CCGT per year as we get into 2023/2024 – not the auction years but the actual calendar years – and there's certainly pressure on raising the capital for those projects.

There has been pressure on the equity side for a long time, and we've seen unique structures to get those projects financed with sponsors going to Asia, Japan and Korea specifically to raise capital. It'll still be challenged going forward and that was pre-ESG pressures, but ultimately with the limited number of new-builds, if you've got a strong sponsor, a well-structured project, we would expect those projects to still get done.

But I might add, Daniel's comments were quite interesting and I think that over time we're going to need to see a market redesign to enable dispatchable power that's required for reliability of the grid, to get paid in an economic manner in order to support those projects. And with renewables coming on with effectively zero marginal cost, how do those projects get supported? So it's an interesting challenge for the markets to have over the next many years. As renewables penetration increases, as Daniel spoke about, we're going to see this challenge.

Saxena, Starwood: I think folks have to, frankly, stop building new gas-fired power plants in PJM. There is really no market signal. If you look at the history of performance for the new-builds that have been built in PJM over the last three or four years – I won't name any developers, but you all know what I'm talking about – in a handful of projects, the equity has been completely wiped and the mezz lenders have taken the keys to those projects.

So how do you look at the performance of recent new-builds and still put more equity

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in building new assets is beyond my understanding of why people are making certain investment decisions. We do think that this print further reinforces the idea that unless you're building it in a rate base, just building pure merchant gas-fired power plants is something that people shouldn't be doing.

To both Daniel and Susan's point about redesign of the market, you don't have to go further than what's happening in Texas this week. There is a op-ed piece today [June 17] which talks about California and Texas and says how low payments to gas-fired power plants have resulted in an outcome where folks are not building new gas assets and are also unable to put the capital investments in maintenance or grid hardening or weatherization of these assets that would be needed in a rapidly changing climate.

So how does an owner of a gas-fired power plant justify owning it and maintaining it if 70% or 80% of the time, the power prices are below \$20/MW-hour? These assets are going to become insurance products at some point and you've got to figure out a way to pay for this insurance because free insurance doesn't last for very long and you have these catastrophic scenarios in California and Texas, where the lights just go out the moment the heat is at a certain point, or there is a winter storm. So if you want grid reliability, you have to figure out how to pay gas-fired power plants better, because right now the systems and the markets and the mechanism seem to be pretty broken.

Roloff, LS Power: To me, the lesson of this build cycle has been that the financiers and developers and sponsors are about as sophisticated as ever in terms of packaging new-builds and being able to market and attract capital from all over the world. Susan mentioned Korea and Japan, but we've also seen it from the Middle East and Europe as well.

So if you look at what has changed since a huge chunk of these billions of dollars has been committed and invested over the last few years, and maybe PJM is one example or the easiest example because that's where there's been the most growth, we're now at a spot where the capacity market was basically tolled out for a couple of years in terms of the next clear. You have two auctions in quick succession that don't really provide,

in my mind, enough chance for market participants to fully respond between one to the next to what market price signals are saying.

You have FERC which seems pretty intent on taking apart some of the protections and premises of the capacity market, not just in PJM but frankly in all the RTOs. Then you have a drop in most of the price levels that supported whatever hedge structure was allowing these projects to attract debt financing, whether it was revenue puts or heat-rate call options or gas netbacks.

We've now had a cycle where these projects have come online and we're able to see how these hedges actually perform and whether they match the capabilities of the units to the investors' and the lenders' expectations. There's been a lot of slippage and a lot of lessons learned.

To Himanshu's point, yes, there's been a number of projects where equity has been meaningfully impaired or, in some cases, fully wiped out of projects that are otherwise two or three years old. The assets will remain. They'll continue to provide critical service to the system, but I think equity investors are seeing that the cost of the capital and the risk that they're taking on probably needs to be repriced for anything new.

Then lastly, it's sort of inherent to the investment opportunity, but these projects take a long time and given how quickly things move across two of the topics that I just referenced there, particularly regulatory and capacity markets, what you are investing into could be much different than what you are getting out three years later when these projects come online. That gap has never been more risky, at least over the last decade, than it seems to be right now.

Englander, Panamint: I wanted to touch on a previous point, which is about willingness to pay for reliability. I think that's the big issue. Even in this auction, it has shown that the market isn't really willing to pay for reliability and on the retail side, rate payers have gotten used to paying a relatively little amount of money for their electricity without a proper understanding of where those rates are going to. It's going to be very hard for utilities or regulators to put back higher prices on to customers on the basis that they're charging them for enhanced reliability,

because that's what customers think they've been paying for all along.

The fundamental question, which is across all the markets that we participate in, is this lack of willingness to pay for reliability in juxtaposition to the serious need to actually pay for that reliability. Above everything else, that issue needs to be resolved first, across markets, before we can think about whether it makes sense to invest in new-build assets, which currently we don't think it does.

Odayar, PFR: I also wanted to bring up the fallout of the auction on refinancings of gas-fired assets. Rich, I know that Hummel is one of the newer gas-fired CCGTs in PJM, having come online in July 2018. What are your thoughts around this?

Roloff, LS Power: Yes, certainly. One of the impacts on the term loan B market was that it obviously reset pricing for almost every business with PJM exposure. The broader backdrop is that non-power term loan B levels are about as strong and thriving as ever. So clearly there's this dispersion between our little corner of the market and the rest of the market, which is driven by the challenges that PJM in particular has caused investors here.

Hummel is a great asset. It did have a troubled capital structure before we took it over, but I'm highly confident we're going to refinance whether it's in the term loan B or some other market. Any asset that has come into service in the last few years certainly is eminently financeable. It's just a question of whether investors, sponsors, owners have the right basis and entry points to accept what the market is willing to lend to you today.

Saxena, Starwood: I think the debt markets remain quite open still despite the PJM print. We are monitoring the debt markets closely. We have a couple of term loan Bs ourselves that are trading in the market. So what we saw is that there was a dip in pricing of term loan Bs, that these loans were trading close to par, especially the well performing assets, and they dipped down to 95 or 96 after the PJM auction was announced. Then over the next three or four days, it ramped straight back up to something in the 99s.

So the debt market seemed to have, for the

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most part, shaken off this PJM event from pricing the term loan Bs. So the good credit is still trading close to par. The credit that is challenged has not really recovered as well. So again, a separation between the good credit and the bad credit, or the not-so-good credit, let's say, is showing up in the pricing on the term loan Bs right now.

Odayar, PFR: I did want to also discuss the MOPR (Minimum Offer Price Rule) specifically. It was meant to help boost capacity auction prices but that was clearly not the case here. So what went wrong?

Flanagan, GE EFS: The first thing is that MOPR probably had a limited impact on the results of this auction. There was about 12 GW of nameplate wind and solar that cleared the auction, most with the unit-specific exemptions. What gets interesting if MOPR is still in place, will be when the offshore comes to market. PJM is making a filing in July to FERC, and they expect it to be resolved prior to the December auction, which seems quite aggressive. Clearly there is agreement now at PJM, and certainly FERC is pushing it, for reform and changes to the MOPR rules.

Roloff, LS Power: I think it's pretty clear that Commissioner **Glick** wants to do away with the MOPR in all its forms, whether it's CASPR, BSM, MOPR, whatever acronym is applicable. So it's just a question of when, and what does it look like after that? From what I understand, and by no means am I a specialist on the regulatory or policy side, it would be contentious to basically put it aside. But whether it sits there as an unapplied portion of the tariff or whether it's revoked and nothing put in its place in the immediate gap, it does seem like that's the direction that things are going.

Commissioner **Danly** has come out with a policy statement saying that you need to focus on the reliability signal and the reliability problem, which we've touched on briefly. It doesn't seem to be in vogue, certainly state-by-state, or with RTOs looking to appease FERC, to talk too much about the long-term impacts that these types of decisions will have on reliability. But look no further than California as an example of where they had to make very quick decisions to essentially

procure out-of-market resource adequacy through long-term contracting. It wasn't so much that the market was short from a macro supply-demand standpoint, but the type of resources that could respond to thousands of solar megawatts coming offline simultaneously at 5:30pm every day. The market wasn't designed for that.

As these state-preferred resources come into the market, inevitably you're going to see reserve margin planning requirements go way up. I know New York has said that 70% renewables by 2030 would force reserve margins to over 40% from the 18% or 19% that they use for planning now. So if MOPR goes away, and inevitably it seems to be going in that direction, there's going to be longer-term consequences, but nobody wants to pay for it or talk about it right now. Outside of the power specialists on this call and those that we work with every day, I don't think very many people are focused on how long it can take to fix that reliability problem once it's upon us.

"Absent a big move by FERC in the next couple of months, I don't think the auction prospects look any brighter than they were in the last go-around."

Flanagan, GE EFS: Rich, that's a great point on reserve margins and when people really dig into the data, there are some that think reserve margins go even higher depending on the mix of renewables that comes online and where we go, too, with storage. And the correlation of offshore wind with onshore wind could create further challenges. So I think that's a great point – it goes to market design, but just really the overall reliability of the grid, which is so critical. I understand Daniel's point that people think they're paying for that, but if you talk to regulated utilities that are in with their commissions, their regulators every day, they don't really have the flexibility to say, 'We'll just be offline for a day or two, we're not going to spend on reliability.'

Their need and their focus is, for every hour of every day of the year, to be able to supply power to their customers. We've had events, some here in Connecticut, where we've been out of power for a week at a time. **Eversource** is taking some heat on that. It's just not going to be acceptable and it's only going to get more challenged as we add more renewables to the grid.

Odayar, PFR: The next PJM auction has been scheduled six months from now, in December, as PJM tries to get back to its regular schedule of holding one auction a year. What are your forecasts for that auction?

Saxena, Starwood: We are still digesting the results of the last auction and doing our work on wrapping our arms around what the next auction might bring. So I'm not in a position to give you a number, but I can tell you that my hope is that it's more normalized compared to what we saw in the past.

Roloff, LS Power: My crystal ball is about as murky as Himanshu's. There's still time for additional retirements to play out. There's some IMM involvement that does not look terribly promising, but we'll see how it gets implemented in terms of the review of participants' Market Seller Offer Caps. So it's early to say. Hope springs eternal, but it's early and at the same time, for such a capital-intensive industry, some of these decisions that have to be made in the next five or six months, especially for some of these legacy assets, are going to stress some of the owners and constituents to come to terms with things that need to be changed very quickly on the supply side. So it's really tough to sit here today and take a view.

Flanagan, GE EFS: I'll go a little bit out on a limb here and say we would expect some recovery, but there are so many factors. Again, it's now a T-1.5, so the bidding strategies will be challenged. The status of MOPR could potentially be a factor as well, but I don't think we're going to get back to anything near robust pricing in this auction.

Englander, Panamint: We don't think there will be much significant change between this

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auction and the next auction. Retirements and potential retirements are largely priced in and the big change will be on the regulatory side. As Rich pointed out, it's a slow-moving industry from both the capital side as well as the regulatory side. So absent a big move by FERC in the next couple of months, I don't think the auction prospects look any brighter than they were in the last go-around.

Odayar, PFR: Let's turn the discussion to the Texas power crisis back in February. What has been the impact of winter storm Uri on financing hedged merchant assets there? There has also been renewed dialogue about ERCOT being structured as an energy-only market – is this likely to happen, and should it?

Roloff, LS Power: We don't have a lot of exposure on the table in ERCOT anymore, but

it's still a little early to tell. Some observations are that raising the price when the entire region, including imports, are all facing the same weather pattern did little to nothing to actually incentivize incremental supply.

As for the economists' dream of setting ERCOT up as a purely energy-driven market, I'm not sure it served its purpose at the top end when demand was so tight. We're actually seeing a very similar situation, albeit a different market design, out west in California and Arizona where there's so much inter-reliance on imports and transfers from other parts of the system. When everything is stressed at the same time, I'm not sure that the market design does a whole lot at that top end.

So there are questions in my mind: 'Who got burned? And how does it impact next steps? Ultimately, how does Texas solve the problems of the gas system and of having the right supply available?' It doesn't make sense

to build a flexible gas resource in Texas. Similarly, my understanding of the battery portfolios in Texas is that because prices stayed so high for so long, they got whipsawed just as badly as many of the traditional resources that underperformed. So until we have a very long-duration, 24- or 48-hour type of solution on storage, I'm not sure that does much to save the day there either.

Then just in terms of financing adjacencies, we've seen that hedging counterparties, banks, many of whom had a lot of exposure to fixed-price offtake agreements financially or physically, their risk committees and their approach to hedging has swung to the far side of conservative and it's just hard to do business there right now even for good assets. Obviously, this always goes in cycles. After you have a big blow-up, everybody pulls in their risk and then over time it'll get relaxed. So I think that'll heal, but I'm not sure that the



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lessons learned have really led to anything being applied in practice yet that's really going to fix the fundamental problems.

Saxena, Starwood: Rich has made some really good points. From a macro standpoint, Texas is the fastest growing market from a load standpoint in the country. Texas is expected to grow anywhere from 1.5% to 2% a year, which puts it at about 1,500 to 2,000 MW of new load that would be coming on the grid every year. Short of trying to put more wind and solar and batteries on the grid, how do you meet the growing demand in Texas while keeping the reliability the same? Adding more wind and solar is not really the answer to the problem that we are facing.

To Rich's points, even if batteries were there, given this was a five-day event and if you have a one-hour battery, which is what most of the Texas batteries seem to be, what good does a one-hour battery do for you? It's completely useless to be having these one-hour batteries in the system in a storm like Uri, especially if you are looking at a multi-day weather event, whether it's a heat wave or a winter storm. So we do think that the Texas market has to be redesigned.

I think the whole concept of an energy-only market effectively puts it somewhere close to being in a casino. You keep pressing the lever and one day, maybe it happens in five years, maybe it happens in ten years, you'll make a lot of money, but if it happens to be that you were sick that day and didn't go to the casino, you miss out on the big bounty.

So it's really hard to live on this degree of volatility in the cash flows. After February, there was a lot of discussion about the capacity market and then it slowly died down. I do think that in a rapidly growing market and interfacing that with climate change and unpredictable weather patterns, will require the system to start paying for reliability.

It comes back to the same point again that for Texas customers, for decades it used to be that these retailers were offering effectively free energy to their customers and customer bills were \$10 or \$15 a month. So these customers haven't paid into the system for the last 15 years and when folks complain about their bills going to \$10,000 or \$14,000 over that one-week period and people are suddenly up in arms, saying, 'Why am I paying

so much?', the point is, you are paying effectively for all that you haven't paid in the last ten years. At some point the music stops, and the music did stop and people had to pay up. That will happen more often.

So the choice is, do you pay once every ten years a lot of money or do you pay on a continuous basis so you avoid that unpredictability? That's a fundamental choice that ERCOT is going to have to make. We have made a proposal to Texas to build gas-fired power plants on a regulated rate base. There has been a similar proposal from **Berkshire Hathaway** and that's another way of solving the problem.

Or you can just make these assets regulated assets. That would be another solution, but the way the market is currently set up is not conducive to anybody building new gas plants. There hasn't been new-build gas-fired power plants in Texas for six years now and we see no price signal for folks to go out and build them. So the situation will continue to get worse as time passes because of the changing supply chain in Texas.

Flanagan, GE EFS: Maybe I could add a couple of different thoughts. First, just in the hedge market, especially on the renewables side, these instruments were seen as no-risk instruments and this is a reminder that there is risk, specially to fixed-profile hedges with wind projects. It has really cooled the new additions of renewables into ERCOT, which, as others have said, has been a strong market.

The other point I would add is that the criticality of the grid, with grid monetization being both physical and digital, is important and will be increasingly important as we add more renewables. But I agree with Himanshu that it's really a fundamental flaw to support dispatchable and reliable assets in an energy market. That is something that they need to address – reliability of that grid will only continue to get worse if they don't.

Roloff, LS Power: If I could build on something that Himanshu mentioned with respect to climate change making some of these planning decisions – which have often been based on historical system capabilities – almost obsolete going forward, I think we've done a lot of talking about large gas plants and the traditional model of a central-

ized power station, but a big part of where LS Power is investing, as an example, is to continue to look for generation opportunities like that but also to diversify into more distributed solutions and more energy services solutions. Because as the amount of capital needed for an incrementally built gas power plant is close to a billion dollars, it's a lot of risk to tie up.

As more states put decarbonization goals on the table and there's a federal push to reduce fossil fuel intensity, the question of stranded costs becomes even more of a concern. We've been investing in demand response, microgrid development, electric vehicle charging networks, RNG companies. These are all things that are a necessary part of the energy transformation, but it's also an area where there's such great opportunity to deploy capital and there are now real market signals that investors can earn a fair return for doing so.

So it's an exciting time. I wouldn't say it's a full pivot away from the very efficient natural gas facilities that provide a very meaningful reliability service for the grid and will continue to do so, but the times definitely are changing. Solar and wind will continue to increase penetration and it's incumbent upon all of us to figure out ways to facilitate that growth.

Flanagan, GE EFS: We think at GE that gas is a force multiplier to allow more renewables penetration. If we think about the evolution in the US, to get from where we are today to 2035 and the decarbonization that's required, there has to be a buildup of all types of renewable resources. We will need gas power generation to support that; it's going to be absolutely necessary for reliability. To Rich's point on stranded assets, there are a lot of things that are being worked on at GE and the DOE and the US government are also supporting demonstration projects to even decarbonize some gas projects.

Carbon capture and hydrogen are a couple of the pre-combustion and post-combustion technologies that can help further decarbonize. What is so critical in the next 10 years to reach the targets of 2035 is, number one, to ensure that you get all the coal off the grid. It's twice as polluting as gas. So that should be a priority whether in PJM or just the Unit-

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ed States and indeed globally. It gives you the opportunity to develop the other technologies that will get you to that last 20% of decarbonization by 2050.

Englander, Panamint: It's important to point out that different customers value reliability differently. So maybe the solution in Texas isn't a complete redesign of the market, but instead finding individual customers who desire a higher degree of reliability through microgrids or on-site generation so that they can pay for that themselves as opposed to socializing it across the market.

Our impression, and maybe it's controversial, is that the market worked in Texas exactly how it was meant to work. As you say, customer bills are \$10 to \$15 a month and the economic rationale is that those customers are perfectly willing to accept a couple of days of blackouts or outages because they're paying so little for their electricity. If they really valued having utility-type reliability, then they'd be willing to pay more. It seems like they're not and so it implies to me that they would be OK with outages like we've seen in Texas in February.

I tend to think that capacity markets are an inefficient solution to encouraging long-term reliability and I think it'll purely come down to, in Texas, customer choice. Provided the customers can have the choice to pay more for reliability on an individual basis, maybe that's a quicker, more efficient solution to managing reliability on a customer-by-customer basis as opposed to doing it market-wide.

Flanagan, GE EFS: I think if you talk to an individual in Texas that has special-needs children, lost power, lost water for almost a week, I'm not sure that they would have anything to say around less reliability. I struggle with that. I suppose the point that Rich made around microgrids certainly has some specific applications and will continue, but to accept the event there as being OK and how a system should work is just, for me, quite challenging.

Saxena, Starwood: I'm not sure I agree, Daniel, with your assessment either. Your argument is very much a capitalist argument. Sink or swim, eyes wide open, buyer beware. That's

what you're saying, which makes sense if there are sophisticated counterparties around the table, but if you are a single family, you don't know how the power markets work and you will happily pay the \$10 electric bill, but suddenly when a \$14,000 bill shows up, you are like 'I never signed up for it.'

So for a market to work the way you describe, everybody has to be highly educated and has to be highly aware of the risk that they are taking. I don't think 90% of the population would understand that that's how this is working, which is why when this happened, the entire political establishment was up in arms around, 'Hey, what is going on here?' They changed their retail business model, they shut down some of the retailers. There is going to be a limit to free markets and to letting people ride with it because most people don't know what they are signing up for.

Englander, Panamint: Sure, but this is public policy in Texas and it has been for a number of years. The people of Texas have consistently voted to turn out elected officials who support these policies. I guess you could say the same thing about any other complicated public policy in that most of the electorate isn't well informed or is voting based on sentiment, but in this case, people have campaigned on these issues and they've won on having basically free or cheap electricity and this is what the voters have responded with. So to say that the voters are uninformed or don't fully understand it is one thing, but on the other hand, these are the people they've elected to put these policies in place.

Roloff, LS Power: I think there's a limit to it. I don't know that folks are uninformed, but I think most folks only think about the electricity when it doesn't work. When they go to the switch and turn it on, the lights come on. Frankly, people have very busy, complicated lives. Why would they be steeped in power market policy and the like? So it's really incumbent on the regulators to have these protective guardrails. It's one thing for elected officials to have their rhetoric, but there was just an abdication of responsibility on the part of the regulators there. To Susan's point, it's horrifying to think about the human needs fallouts of any time that you lose power, whether it's only for a few hours or several days, God forbid.

So again, I don't think it's fair to think that consumers should be sophisticated about the power markets. I just think that it seems reasonable to think that there should be a regulatory construct which is looking out for the greater interest and put a stop or a limitation to some of these programs that effectively just pass through the wholesale prices to customers who really didn't understand what they were signing up for.

Saxena, Starwood: I think at some point you start setting up a system where it becomes like 2008, with the big financial banks. When everything is about to collapse, the system has to then step in and fix things anyway. So you structure a system where socialization becomes the final stop, even if you started with a very competitive market. If this keeps happening, there will be a point in time like what you saw in California with wildfires, where this will become a social cost even if it was never intended to be. So you are getting back to socializing the cost even if you started with a complete, pure competitive market.

Englander, Panamint: But is the solution to build a lot of new assets that are going to be obsolete from a climate perspective in 10 years? Doesn't that get back to the stranded asset issue? If Texas needs 10 GW of new gas-fired generation to manage what may end up being maybe a short-term need, what are those assets going to look like in 10 years? And are they going to be consistent with either federal or state public policy at the time?

Flanagan, GE EFS: Any discussion around obsolete or stranded assets is probably another hour-long conversation, but what I would say is, you need enough of the dispatchable resources and to fix and weatherize the gas systems so you can get gas to the projects, but you need enough to make the system reliable and stable. Of course, you want to make it as affordable as possible, but I think that is going to allow further penetration of renewables even in a Texas market. So unless you want to continue to have these events, which would be destabilizing ultimately, you need to go back to, I hate to say it, some old-fashioned utility planning within the ERCOT system.

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Roloff, LS Power: The outcome here was not an accident. It was a design. It was a function of the way the system works in Texas. It's an intrastate gas pipeline system. It's very thinly regulated and concentrated. The parties who control the distribution of gas there had a lot of capabilities within their contracts and otherwise to act as 100% economic animals when this event happened to redirect or to shut in gas. Coupled with the fact that gas producers and distributors are not incentivized in a state like Texas to make the necessary investments in weatherization of their system, nor are owners of power facilities. So changes have to happen, but it's hard to see the events of February other than a natural conclusion of the way that the multi-system operability in that market has been designed.

Englander, Panamint: Well, I guess that's my point. The market worked how it was meant to work in the sense that people are economic actors in Texas and the design and structure of the market provided acceptance for loss of load reliability for a period of days, because that's how the market is designed to work. If the players in that market haven't accepted that, then they should because that's just the design and structure of the market that has been broadly supported in Texas for two decades.

My question is, in building all this new gas, how much is that going to put up customer bills on a monthly basis? What is the economic impact to rate payers of subsidizing new gas-fired generation in Texas? Is it another \$10 a month, effectively doubling customer bills? Is it \$100 a month? Do you have a sense of what those costs are going to be and, in addition to that, whether customers are going to be willing to pay for that?

Saxena, Starwood: Our numbers would suggest that that is nowhere close to \$100 a month. It's closer to \$10 a month than it is to \$100 a month. At the end of the day, customers paid \$14,000 for a one-week bill. Do you want to do that or do you want to pay \$10, \$20, \$30 a month on a regular basis? That's a choice. That's a basic choice that customers are going to have to make. One separate point on the obsolescence, which has been interesting to watch, is that a lot of gas-fired power plants that are being proposed now are

being proposed with carbon capture systems with it.

So there has been a fundamental shift in that people want these assets to not become obsolete. There are assets that are being developed in places like the Midwest that are close to the carbon network and have carbon sequestration hubs nearby, whether it's depleted fields or otherwise, but there's just been a lot more discussions.

These are still very expensive. We've seen some numbers in the \$3,000-\$4,000/kW range for a brand-new gas-fired plant with CCS attached to it, but we are starting to see customers that are saying, 'I want to buy clean energy.' So there are folks that would buy 100 MW of wind, but we might see substantial new demand for power from clean gas. That might at least reduce part of the risk that these assets will become obsolete.

"We've seen some numbers in the \$3,000-\$4,000/kW range for a brand-new gas-fired plant with CCS attached to it."

Flanagan, GE EFS: With some of the new credits that will apply to carbon capture, it could at least cover part of those incremental costs, as well as the efficiency hit that the CCGT will take. We're involved in a number of projects demonstrating carbon capture and it is an avenue. It's not going to keep every project on the grid forever, but it is an opportunity to address the amount of gas or dispatchable power that you're going to need, at least as we sit today without a technology that could step in for that.

Englander, Panamint: That's not a real broad-based solution, though. At \$3,000-\$4,000/kW, it's going to put up customer bills by a lot more than \$10 a month. Plus there's never been a successful large-scale carbon capture project. If they're financeable at a commercial level, that may take eight years or 10 years to materialize even with the tax credits that are potentially available for it. So

there's still a solution that has to pop up in the near term to resolve some of these reliability issues that also manage to decarbonization and ESG targets.

Flanagan, GE EFS: There's a lot of efforts at the DOE, for instance, to support some of these projects and the research to address the overall cost of adding carbon capture. So I think this will evolve. It's not a solution today, because of the economics, but certainly the technology is there to capture 85% or 90% of the carbon. Certainly, we have the technology for sequestration as long as it's in the right location or has access to CO₂ pipes; there's some way to go for it to be economic in the scheme of providing a reliable grid.

Saxena, Starwood: All you have to do is go back to the nuclear subsidies and do the math on what those subsidies are on a dollar-per-ton basis of CO₂. Ignoring the property tax base and the employment issues, if you were just to look at this as carbon-free power, the price on some of these subsidies is well north of \$100 per ton of carbon. If you were to be able to get that same value for a CCUS, some of those numbers actually might work.

The problem is, if the carbon is at \$10 per ton, then the CCUS wouldn't work, but at \$100 per ton, it might. So we see a lot more discussion about CCUS projects in Canada where the price of carbon is significantly higher than the price in the US. So it comes down to a price on carbon. How should we do it? You have to pay in the \$100 per ton range as the numbers sit today.

Englander, Panamint: Himanshu, how do you handicap the state of Texas ever putting a price on carbon?

Saxena, Starwood: Not in my lifetime! If anything happens, it will be at the federal level. I think it's really a question of saying, 'Do you care about decarbonization? Do you care about reliability?' It's a very complex, multidimensional equation. Everybody will come at it differently. Different states will come at it differently, but interestingly, Texas is the market where the renewable penetration is the highest. There's 20,000 MW that is currently planned. So the problem is coming to them even if they are not ready. ■

● LATIN AMERICA PROJECT FINANCE

LAP refinances wind duo in Chile

Chilean renewables power company **Inversiones Latin America Power**, a subsidiary of **Lat-in America Power** (LAP), has issued bonds to refinance a pair of wind farms in Chile totaling 239.2 MW.

Goldman Sachs and **Citigroup Global Markets** are the bookrunners and initial purchasers of the \$403.9 million 12-year senior notes. The bonds, which mature in 2033, are listed on the **Singapore Exchange**.

The notes, which carry a coupon of 5.125%, were issued in the 144a/Reg S format. **Moody's Investors Service** assigned the notes a Ba1 rating on June 3, prior to the issuance, while **Fitch Ratings** assigned a BB+ rating on June 17.

The proceeds of the bonds will be used to refinance the debt associated with two wind projects in Coquimbo. The assets are the 185 MW San Juan facility, also known as Norvind, which came online in March 2017, and the 46 MW Totoral wind unit, which was brought online in January 2010.

Greenberg Traurig advised the sponsor on the issuance.

The plants' output is mainly contracted through long-term power purchase agreements with local distribution companies (*discos*), which run until 2033. The sponsor has also inked a four-year contract with mining company **Compañía Minera Cerro Negro** for the projects' output. The PPA was signed in

May of this year ([PFR, 5/17](#)).

The debt replaces a \$412 million private placement put in place in 2017 to finance the projects. The debt package had an interest rate of 5.35% and was meant to mature in 2033. At the time, **Bank of New York Mellon** represented the bondholders, with **Banco de Chile** acting as local guarantor agent.

LAP owns two other assets in Chile, namely the 19.8 MW Carilafquén and 9.2 MW Malalcahuello hydro plants in Araucanía.

BTG Pactual's Brazil Infrastructure Fund II and **Patria Investments** hold a 45.85% stake in LAP each, with **GMR Holding** owning the remaining 8.3% interest. ■

NFE arranges sale-leaseback for Jamaican CHP plant

New Fortress Energy (NFE) is structuring a sale-leaseback deal for a combined-heat-and-power plant in Jamaica.

Financial services conglomerate **Sagcor Group Jamaica** has been engaged to structure the \$285 million deal for the 100 MW Jamalco plant in Clarendon.

The group will invest \$100 million and also act as lead arranger on the remaining \$185 million portion, which will come from other investors.

The deal will close via NFE's subsidiary **NFE South Power Holdings**, subject to regulatory approval.

The Jamalco facility came online during the first quarter of 2020. **Grupo TSK** was in charge of the plant's commissioning.

The project injects its output into the Jamaican grid and also supplies steam to the Jamalco bauxite facility.

"Sagcor Investments is pleased to be able to offer local investors another opportunity to participate in this systemic entity and benefit from the evolution of the energy industry in our country through this transaction," said **Sean Newman**, Sagcor Group's chief investment officer, in a statement on June 17.

NFE owns other assets in Jamaica, namely two liquefied natural gas terminals in St James and St Catherine. ■

Details emerge on Galapagos solar bid

Further details have emerged on the only economic offer that Ecuador has received to develop a 14.8 MW (DC) solar-plus-storage project on the country's Galapagos Islands.

The lone bidder, **Gransolar-Total Eren**, presented an offer for \$458.88 per MWh for the Conopholus asset, as revealed by the **Ministry of Energy and Non-Renewable Natural Resources** on June 21.

The sponsor is a consortium composed of Spanish solar developer **Gransolar Group** and Total Eren, the renewables subsidiary of France's **Total**.

The winning bidder will operate the project for 25 years before transferring it to Ecuador at the end of the concession, as previously reported ([PFR, 3/8](#)). The project, named after a species of iguana found on the islands, is expected to require a total investment of \$45 mil-



"The microgrid project would also reduce diesel consumption, replace thermal generation in the archipelago, and prevent the emission of roughly 16,400 annual tons of CO2."

Juan Carlos Bermeo

lion. The asset comes with a 40.9 MWh lithium-ion battery storage system and will be located on Santa Cruz Island.

The deal is part of the Ecuadorian government's efforts to boost private investment in the country's renewable energy market ([PFR, 3/11](#)). According to the country's energy minister, **Juan Carlos Bermeo**, the microgrid project would also "reduce diesel consumption, replace thermal generation in the archipelago, and prevent the emission of roughly 16,400 annual tons of CO2."

Bermeo assumed his position recently, having been appointed to the role by President **Guillermo Lasso**, who won the country's elections in April ([PFR, 6/9](#)).

With the Conopholus project, the Energy ministry expects 70% of Santa Cruz's power to come from renewable sources of power by 2023. ■

LATIN AMERICA PROJECT FINANCE ●

Eletrobras privatization clears final hurdle

◀FROM PAGE 1 vately-owned for the first time.

The bill now heads to President **Jair Bolsonaro** – a vocal advocate of the legislation – for presidential approval.

The journey to privatization was complicated by a back-and-forth between the two houses over amendments to the bill, creating uncertainty over what the final outcome would look like ([PFR, 6/21](#)).

With the bill's congressional journey now complete, this uncertainty is resolved. In addition to the share offer, the final bill requires the government to:

- create 15-year contracts for 8 MW of gas-fired power plants in the North, Northeast, Central-West and Southeast regions, principally in areas without existing natural gas

infrastructure – although opponents claim that the cost of this new infrastructure will raise energy prices

- establish a market reserve for small hydro assets in generation auctions until 2026
- extend PPAs agreed under the Proinfra programme for 20 years
- authorise construction of the Linhão do Tucuruí transmission line, linking the state of Roraima to the national electricity system
- create a new state-owned company to oversee Eletro-nuclear and the Itaipu dam, which are not included in the privatization

The new shares are scheduled for offer in the third quarter of 2022. Shareholders will be limited to a 10% stake and the govern-

ment will retain a veto in votes over the status of the company.

DOWN TO THE WIRE

The Brazilian senate narrowly approved the bill to reduce the state's stake in Eletrobras from 61% to 45% on June 17, with 42 votes in favor and 37 against.

As the version of the bill passed by the senate differed from the original version, it had to return to the lower house for the high-stakes final vote that took place on June 21.

The legislation has had a turbulent journey through congress, being hamstrung by 'jabutis' – spurious amendments designed to appeal to a particular political base. Some of these were removed by the Senate, while others were modified or left intact.

The most controversial of

these, added to the bill by the lower house in May, requires the government to create new contracts for gas-fired generation and small hydro power plants before the company can be privatized. Critics of the amendments claim that they would artificially raise the price of electricity, and several industry groups – including **ABRACE** and **Abraceel** – withdrew their backing for the bill in protest.

Despite intense backroom lobbying, these measures survived the senate, and will now become law.

The privatization process was initiated through a provisional law in March. The law required congressional approval within 120 days, setting a June deadline for the privatization to be approved ([PFR, 6/8](#)). ■

LATIN AMERICA MERGERS & ACQUISITIONS ●

Sponsor pair to develop LatAm solar pipeline

Malaysian independent power producer **Yinson Renewables** and Chile-based **Verano Capital** have agreed to jointly develop an 800 MW pipeline of solar projects in Chile, Colombia and Peru.

The developers are preparing to build 330 MW of utility-scale solar assets over the next six to 12 months while securing power purchase

agreements with local offtakers. The sponsors will start construction on a portion of those assets, totaling 100 MW, by December.

The development of the projects depends on Yinson reaching final investment decision on the portfolio, said the firms in a statement.

"This collaboration with Vera-

no represents a unique opportunity to drive our expansion in renewable energy and take part in the continent's vast growth in the green energy space," said **David Brunt**, Yinson Renewables' CEO.

Yinson is a subsidiary of Kuala Lumpur-headquartered energy and infrastructure firm **Yinson Holdings Berhad**.

Verano, which specializes in developing assets and providing initial investments, recently sold a 154 MW (DC) solar PMGD (*Pequeños Medios de Generación Distribuida*) portfolio to **Matrix Renewables** in Chile ([PFR, 1/26](#)). The sponsor owns a 1.35 GW portfolio in Chile, Colombia, Peru and Argentina. ■

PEOPLE & FIRMS ●

US Bank recruits former CoBank PF head

Bill Gallagher, the former head of project finance at **CoBank**, is preparing to start in a new role at **US Bank**.

Gallagher is set to join US Bank as a senior credit officer, renew-

able energy investments, on June 21. He will review and approve renewables tax equity transactions and support the origination and execution of project finance debt deals.

Gallagher left his position as head of project finance at CoBank on June 2, after taking up the position on April 16, as previously reported by PFR ([PFR, 6/3](#)). His predecessor at CoBank, **Brian**

Goldstein, has since taken up a senior consultant role at the US **Department of Energy's Loan Programs Office** ([PFR, 5/18](#)).

Gallagher has spent more than a decade at CoBank, having previously worked at **CIT Bank** and before that at Detroit-headquartered bank holding company **Ally Financial**. ■

● PEOPLE & FIRMS

Beecher Carlson energy group decamps to CAC Specialty

A 14-member team has left **Beecher Carlson's** global energy group to join insurance brokerage firm **CAC Specialty**, which has been building out its Natural Resources division over the last few months.

The recruits include **Andrea Ash**, the former chief operating officer at Beecher Carlson's global energy practice, as well as the group's executive managing director **Geraldine Kerrigan** and MDs **Michael Newman** and **Susan Garrard**.

Kerrigan, Newman and Garrard had each spent about 15 years at Beecher Carlson before joining CAC, while Ash had spent five years at the company.

Ash's new role at CAC is executive vice president and head of operations of the firm's Natural Resources division, while Kerrigan is executive VP and head of service for power and renewables. Newman and Garrard are executive VPs for power and renewables.

CAC also recently hired **Erin Lynch** as president of the Natural Resources division and co-leader of its power, utility and renewables vertical, alongside **Sara Eisenstat Kane** as the other co-leader of the vertical, as previously reported ([PFR, 5/3](#)).

"The addition of these highly experienced individuals un-

derscores our commitment to clients that we will continue to build CAC Specialty with best-in-class talent," said **Gary King**, executive chairman of the Natural Resources division. "The breadth and depth of the talent within this team means that we will deliver creative, market-leading solutions to domestic and international clients across our Natural Resources platform."

The other Beecher Carlson staffers joining CAC's Natural Resources division are:

- **Marc Toy** – executive VP for power & renewables
- **Jeff Rhoades** – senior VP for power & renewables
- **Bob Carleton** – senior VP,

senior account executive for power & renewables

- **Amanda Lania** – senior VP, senior account executive for power & renewables
- **Cody Thompson** – VP, account executive for power & renewables
- **Courtney Cassidy** – VP, senior account manager for power & renewables
- **Justin McMahon** – senior account manager for power & renewables
- **Max Boggini** – account manager for power & renewables
- **Lauren Carroll-Allan** – product development associate
- **Sue Danz** – director of administration. ■

PPL picks president for Rhode Island utility target

Pennsylvania-based **PPL Corp** has announced its pick for a president to lead Rhode Island-based utility **Narragansett Electric Co**, which it is seeking to acquire from the UK's **National Grid**.

The company has selected **David Bonenberger**, PPL's vice president of operations and integration, to become president of Narragansett, pending regulatory approval of the transaction between PPL and National Grid ([PFR, 5/6](#)).

Bonenberger has worked at PPL for more than 37 years, including as vice president of transmission and substations and as VP of op-

erations integration.

He will be joined by a team of National Grid employees who will report to him once PPL acquires Narragansett. The new appointees include:

- **Michele Leone** as vice president of gas operations
- **Alan LaBarre** as senior director of electric operations
- **Kristin DeSousa** as senior director of customer services
- **Brian Schuster** as director of regulatory and government affairs
- **Kate Hearn** as director of finance ■

EIP hires partner from Alphabet-backed infra firm

Energy Impact Partners (EIP) has hired an operating partner from an **Alphabet**-backed infrastructure firm.

Caroline McGeough, a partner and founding team member at **Sidewalk Infrastructure Partners** (SIP), announced that she would be joining EIP on June 16.

"I will be focused on working with the founders and CEOs of the forward-looking energy and industrial companies within EIP's portfolio to drive growth through innovative asset financ-

ing models," said McGeough in a LinkedIn post.

SIP is also backed by **Ontario Teachers' Pension Plan** and **Sidewalk Labs** ([PFR, 6/1/19](#)).

McGeough joined SIP in 2019 from **Stonepeak Infrastructure Partners**, where she had been a principal. Before that, she worked as a vice president at **Energy Capital Partners** for nearly four years, having started her career in the power and utilities investment banking team at **JP Morgan**. ■

Clean Line's Skelly launches new transmission biz

«FROM PAGE 1 velopment and transmission analysis at **Invenegy**, has also joined the team as chief development officer. Other senior hires joining Grid United are:

- **Kristen Golden**, who last worked as senior legal coun-

sel at **Shell Oil Co**

- **William Harrop**, who joins from **Swiss Re Corporate Solutions**, where he was assistant vice president, business development manager
- **Allison Wahrenberger**, who

last worked as senior project manager, offshore at **Avan-grid Renewables**

Skelly previously led the growth of **Horizon Wind Energy** ([PFR, 12/07/07](#)) and worked at **Energiya Global** and **New**

World Power before that.

He went on to found Clean Line Energy Partners in 2009 and left in 2018 to join **Lazard** as a senior adviser, focusing on energy, sustainability and infrastructure ([PFR, 8/10/18](#)). ■

● PEOPLE & FIRMS

Bankers depart HSBC

HSBC is in the midst of restructuring its US operations, resulting in the departures of four senior bankers in New York.

The bankers that have exited are:

- **Duncan Caird** – co-head of real assets and structured finance Americas
- **Robert Gelnaw** – head of debt capital markets for North America
- **Lex Malas** – head of advisory and investment
- **Jim Kelly** – head of corporate banking in North America

Caird had been with HSBC for more than 15 years and played a pivotal role in shaping the bank's renewable financing and advisory business in the US. He took on the role of co-head in July 2019.

Gelnaw was with HSBC for over 18 years and Malas for 11 years. Kelly was with the business for 16 years.

Meanwhile, two senior managing directors have also left the bank, namely:

- **Robert Devir** – senior MD in the coverage team in New York
- **David Wagstaff** – senior MD in the coverage team (Technology, Media and Telecommunications) in San Francisco

HSBC has already appointed successors for the bankers who have parted ways with the business.

They are:

- **Patrice Altongy** who will join from **Citigroup** in September as head of debt capital markets
- **Sarah Salih** who is head of the financial institutions group at HSBC and will now also head regional coverage
- **Alfred Traboulsi**, MD and head of equity capital markets and strategic equity and financing, Americas at HSBC who will also look after capital financing and investment banking
- **Mike Banchik**, an MD at HSBC who is now head of real assets and structured finance, Americas
- **James Edmonds**, director of real assets and structured finance at HSBC who has been appointed head of real assets finance, Americas, reporting to Banchik

It is understood that HSBC is restructuring in order to better serve its clients in Asia and those interested in investing in that region. ■

AEP coordinates latest leadership reshuffle

American Electric Power has appointed a new executive vice president of energy delivery, replacing **Mark McCullough** who is retiring, and has also named new presidents and chief operating officers for its **Indiana Michigan Power** and **AEP Ohio** subsidiaries.

McCullough, who has worked at AEP for 40 years, will be succeeded by **Toby Thomas**, president and chief operating officer of Indiana Michigan Power. Stepping into Thomas's position is **Steve Baker**, who is VP of distribution region operations for AEP's **Public Service Company of Oklahoma** (PSCO).

Jennifer Leber, who is PSCO's director of grid reliability and grid modernization, will succeed Baker.

Meanwhile, **Raja Sundararajan**, president and chief operating officer of AEP

Ohio, has been appointed to the newly created position of senior vice president of regulatory and customer solutions at AEP.

Sundararajan will be replaced by **Marc Reitter**, vice president of regulatory and finance at **AEP Ohio**. **Lisa Kelso**, director of regulatory services at AEP Ohio, will succeed Reitter.

All the changes are effective as of July 31. "Leadership development and succession planning are critically important for the ongoing success of our culture and company," said **Nicholas Akins**, AEP's chairman, president and CEO. "This is critical as we continue our transformation to clean energy resources and investing in smarter, more efficient infrastructure to enhance service for our customers." ■

● NEWS IN BRIEF

● PEOPLE & FIRMS

RENEWABLES ENGINEERING SHOP EXPANDS NORTH AMERICA BIZ

UK-based renewable energy technical advisory firm **Natural Power** is expanding its North American business with a series of new hires, including principal engineer **Lynn Appollis-Laurent**.

ARGENTINA'S GENNEIA APPOINTS CFO

Argentinian developer **Genneia** has appointed **Carlos Palazón** as its CFO, replacing **Bernardo Andrews**, who was promoted to CEO in March. Palazón has been with the company since April 2019, when he joined Genneia's board of directors.

● LATIN AMERICA

GERMAN SPONSOR LINES UP PMGD SOLAR ASSET

Solarnet has begun the permitting process for a 9 MW solar project in Chile's La Araucania region. The Traiguén solar park will require an investment of \$10 million, according to filings with Chile's **Environmental Evaluation Service**.

SONNEDIX, COX START CONSTRUCTION ON CHILEAN SOLAR

Independent power producer **Sonnedit** and **Cox Energy América**, the Latin America subsidiary of **Cox Energy**, have begun construction on a 160 MW (DC) solar park in the Chilean region of Valparaíso. The Sonnedix Meseta de los Andes asset will be the second largest facility owned by the IPP in the country.

BAHIA LNG TERMINAL BIDDER REVEALED

Petrobras has revealed the identity of the sole bidder for leasing rights to its LNG Regasification Terminal in the Brazilian state of Bahia, namely Texas-based **Excelerate Energy**.

STATKRAFT PLOTS 671 MW SOLAR ASSET IN CHILE

Norwegian state-owned **Statkraft** has begun the permitting process for the 671 MW (DC) Pauna Solar project in the Chilean region of Antofagasta. Located in the municipality of Maria Elena, the facility will require an investment of \$496 million, according to Chile's Environmental Evaluation Service.

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