

Power Finance & Risk

The weekly issue from Power Intelligence www.powerintelligence.com

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UniCredit is winding down its project finance origination business in the Americas.

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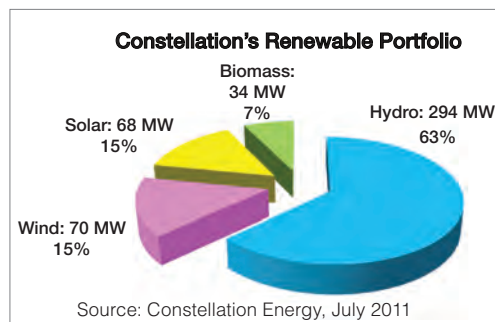
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Top Stories

Constellation Talks Calif. Biomass Sale

Constellation Energy Group is considering selling its stakes in three biomass facilities in California and has reached out to several prospective buyers. Officials at Constellation spoke with prospective buyers before the holidays and did not release any teasers, according to industry officials. The Baltimore-based company is running the sale itself, deal watchers say.

It owns 50% stakes in the 24 MW Rio



(continued on page 12)

Choppy Waters

U.S. PowerGen Floats Sale Of NYC Barges



Gowanus Barge 4

U.S. Power Generating is looking to sell two of its four floating power barges in Brooklyn's Gowanus Canal totaling 309 MW. The effort aims to raise cash that could be used to pay down debt at its 2.3 GW **Astoria Generating Co.** subsidiary while taking surplus generation out of the New York City market.

The sale, which includes up to three accompanying fuel storage barges, is being run by **Steven Walsh**,

(continued on page 11)

Peru Hydro Co. Feels Out Lenders

Compania Energética Veracruz, a Peruvian developer, has put out early feelers to lenders and attorneys in New York about its 730 MW hydro project. Financing supporting the project in the Marañón River basin in northeastern Peru could top \$1 billion.

A senior financier in New York describes the Veracruz effort as "early stage." A New York-based project finance attorney explains that the developer, which has the rights to the project, is negotiating with other companies to join the sponsor roster. The identity of potential sponsors, the status of negotiations and details regarding an offtake agreement couldn't be learned. Officials at Veracruz didn't reply to an interview request via e-mail.

Veracruz could be the third Peruvian hydro project financed in 2012, following efforts by **Odebrecht** (PI, 3/11) and **Inkia Energy** (PI, 6/17). Peru tends to be viewed favorably

(continued on page 12)

At Press Time

UniCredit To Wind Down U.S. PF

UniCredit has decided to wind down its project finance origination operations in New York. The Italian bank is still working on existing deals in the Americas, but it hasn't been seen seeking any new mandates, says a deal watcher. UniCredit will continue its project finance operations in Europe.

The bank's shares plunged more than 30% to EUR4.07 (\$5.17) on Thursday from Tuesday's closing price after it launched a EUR7.5B (\$9.5 billion) rights issue on Wednesday. Several European lenders have sidelined their project finance business or put their portfolios on the block as they look to improve capital reserves (PI, 9/23).

UniCredit has a six-person origination team in New York. Whether the bank plans to reassign them to other departments or to other bureaus couldn't be learned. **Gisela Kroess**, director of project and commodity finance in New York, couldn't be reached for comment.

The bank exited a financing supporting **Wind Capital Group's** 201 MW Post Rock wind project in Kansas last month (PI, 12/21). The identity of existing UniCredit mandates couldn't be learned.

Wind Capital Scores Kan. Funds

Wind Capital Group has landed a nearly \$300 million, one-year construction loan supporting its 201 MW Post Rock wind project in Kansas. **BayernLB**, **NordLB**, **Rabobank** and **Union Bank** participated in the deal that closed Dec. 30.

The loan is priced north of LIBOR plus 225 basis points, says a deal watcher. Lenders took roughly equal tickets. **GE Energy Financial Services** and **MetLife** are taking tax equity stakes in Post Rock (PI, 12/21). **Westar Energy** is the offtaker for the project, in Kansas' Ellsworth and Lincoln counties. The project will consist of **GE** 1.5MW turbines.

A Wind Capital spokeswoman in St. Louis, Mo., couldn't be reached for comment, while bank officials or spokespeople declined to comment or didn't return calls.



GE 1.5 MW Turbines

Pattern, Partner Circle Mandates For Chilean Wind

Bank of Tokyo-Mitsubishi UFJ and **Sumitomo Mitsui Bank** are close to finalizing their participation in a \$220 million financing backing **Pattern Energy** and development partner **AEI Energy's** 115 MW El Arrayan wind project north of Santiago, Chile.

Antofagasta Minerals, a subsidiary of Chilean mining company **Antofagasta**, has an option to buy a 30% stake in the project, according to Pattern's Web site. Details on that potential transaction couldn't be learned. **Minera Los Pelambres**, a mining company controlled by Antofagasta, has a 20-year offtake agreement for El Arrayan. Construction is slated to begin early this year, with operations expected in the second half of 2013. El Arrayan will use **Siemens** 2.3 MW turbines.

A Pattern spokesman in New York didn't make an official available for comment by press time, while a spokesman for Antofagasta in the U.K. didn't return a call. Efforts to reach officials at AEI in Houston were unsuccessful.

The pricing and tenor of the debt financing couldn't be learned. Bank officials declined to comment or didn't return calls.

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**Institutional Investor
Intelligence**

Generation Auction & Sale Calendar

Generation Sale ■ DATABASE

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

Seller Assets		Location	Advisor	Status/Comments
Abengoa Solar	45% Stake (250 MW Solana Solar CSP)	Gila Bend, Ariz.	TBA	Banco Santander is taking a 45% stake to fund construction and will look to sell slices (PI, 11/28).
• AES	Cayuga (306 MW Coal)	Lansing, N.Y.	Barclays Capital	Creditors are the \$300M stalking horse bid for Cayuga and Somerset in a bankruptcy process that will leave the other two plants shuttered (see story, page 7).
	Greenidge (105 MW Coal)	Dresden, N.Y.		
	Somerset (675 MW Coal)	Barker, N.Y.		
	Westover (83 MW Coal)	Binghamton, N.Y.		
AES Thames	Thames (208 MW Coal)	Montville, Conn.	Houlihan Lokey	A Texas refurbishment company has bid \$2.35M in cash (PI, 12/12).
AE Investor II	Astoria Energy II (4%, or 23.3 MW)	Queens, N.Y.	Whitehall & Co.	First round bids were scheduled for Sept. 16 (PI, 9/19).
ArcLight Capital Partners	Waterside (72 MW Peaker)	Stamford, Conn.	Citigroup, Barclays Capital	First Reserve is buying everything except Hamakua and Neptune (PI, 12/19).
	Crockett (162 MW Cogen)	Crockett, Calif.		
	Hobbs (604 MW CCGT)	Hobbs, N.M.		
	Hamakua (60 MW CCGT)	Honokae, Hawaii		
	Borger (230 MW Cogen)	Borger, Texas		
	Neptune (65-mile Transmission)	Sayreville, N.J., to Long Island, N.Y		
Black Hills Corp.	Stake (29 MW Wind)	Huerfano County, Colo.	No Advisor	Entities with tax appetite have bid for the 50% stake (PI, 11/14).
• Constellation Energy Group	Rio Bravo Fresno (24 MW Biomass)	Fresno, Calif.	No advisor	The company has reached out to prospective buyers as it considers selling its stakes (see story, page 1).
	Rio Bravo Rocklin (24 MW Biomass)	Lincoln, Calif.		
	Chinese Station (22 MW Biomass)	Jamestown, Calif.		
Conti Group, Grupo Arranz Acinas	Development pipeline (550 MW Wind)	Texas, Kansas, Minnesota	Alyra Renewable Energy Finance	Teasers went out in late July (PI, 8/1).
Coram Energy	Stake (102 MW Wind)	Tehachapi, Calif.	Marathon Capital	Coram is selling a 50% stake in a wind project co-owned by Brookfield Renewable Power (PI, 8/22).
Edison Mission Group	Stakes	Uinta County, Wyo.	TBA	Teachers Insurance & Annuity Association of America and Cook Inlet Region, Inc., are taking preferred equity stakes (PI, 12/19).
	Mountain Wind I (60 MW Wind)			
	Mountain Wind II (79.8 MW Wind)			
First Solar	Topaz (550 MW PV)	San Luis Obispo County, Calif.	No advisor	MidAmerican Energy has agreed to buy the project (PI, 12/12).
GDF Suez Energy North America	Hot Spring (746 MW CCGT)	Malvern, Ark.	UBS	Quantum Utility Generation has agreed to buy Choctaw while an Arkansas muni is circling Hot Spring (PI, 12/5).
	Choctaw (746 MW CCGT)	Ackerman, Miss.		
Macquarie Capital, Fomento Económico Mexicano	Stakes (396 MW Wind)	Oaxaca, Mexico	TBA	Bidders are in due diligence (PI, 10/10).
Perennial Power	Mid-Georgia (300 MW CoGen)	Kathleen, Ga.	Fieldstone	Teasers went out in mid-November (PI, 12/5).
Recurrent Energy	Ajo (5 MW Solar)	Pima County, Ariz.	Credit Suisse	Duke Energy Renewables completed the acquisition (PI, 12/19).
	Bagdad (15 MW Solar)	Yavapai County, Ariz.		
Ridgeline Energy	30% Stake (79.8 MW Wind)	American Falls, Idaho	TBA	Atlantic Power Corp. is taking the stake although Ridgeline has a repurchase option (PI, 12/12).
• RPM Access	Elk (41.25 MW Wind)	Edgewood, Iowa	No advisor	MidAmerican Energy bought the Vienna project last month and RPMA is holding onto Elk (see story, page 7).
	Vienna (150 MW Wind)	Iowa	No advisor	
• Signal Hill Power, CarVal Investors	Wichita Falls (77 MW CCGT)	Wichita Falls, Texas	Scotia Capital	Louis Dreyfus Highbridge Energy is buying the Rensselaer plant (PI, 12/26).
	Rensselaer (79 MW Peaker)	Rensselaer, N.Y.		
Tenaska	High Desert (800 MW CCGT)	Victorville, Calif.	Barclays, Citi	First round bids came in just before Thanksgiving (PI, 12/12).
	Rio Nogales (800 MW CCGT)	Seguin, Texas		
• Terra-Gen Power	Alta VIII (150 MW Wind)	Tehachapi, Calif.		Brookfield Americas Infrastructure Fund is buying the project (PI, 12/26).
• Third Planet Wind Power	Petersburg (40.5 MW Wind)	Petersburg, Neb.	Morgan Stanley	Gestamp is buying the project after EME deal unraveled (PI, 12/26).
Tuusso Energy, Akula Energy Ventures	TA High Desert (209 MW Solar)	Tehachapi, Calif.	Marathon Capital	Said to be close to a purchase sale agreement (PI, 10/17).
• U.S. Power Generating Co.	Gowanus Barges 1 (160 MW Oil)	Brooklyn, N.Y.	Tier One Capital Management	First round bids for the two barges are expected in February (see story, page 1).
	Gowanus Barges 4 (160 MW Oil)			
• New or updated listing				

• New or updated listing

The accuracy of the information, which is derived from many sources, is deemed reliable but cannot be guaranteed. To report new auctions or changes, contact Senior Reporter **Holly Fletcher** at (212) 224-3293 or e-mail hffletcher@powerintelligence.com.

Project Finance Deal Book

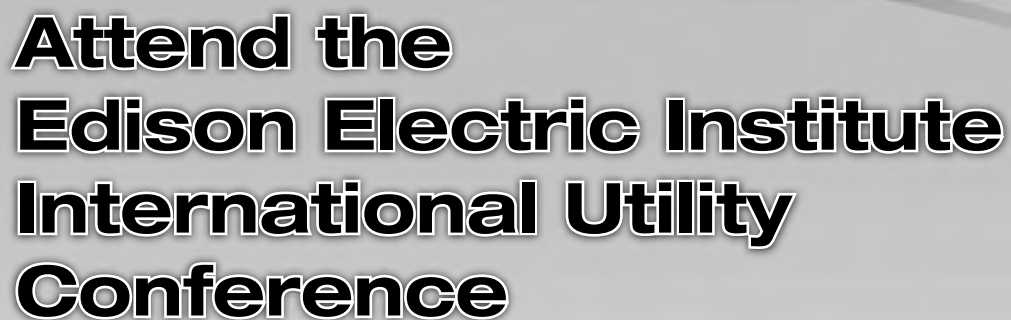
Deal Book is a matrix of energy project finance deals that *Power Intelligence* is tracking in the energy sector.

Live Deals

Sponsor	Project	Location	Lead(s)	Loan	Loan Amount	Tenor	Notes
Bloom Energy	Unidentified (Fuel Cell)	TBA	RBS	TBA	TBA	TBA	Deal priced at LIBOR plus 250 bps (PI, 12/5).
Boralex, Gaz Métro	Unidentified (69 MW Wind)	Seigneurie de Beupré, Quebec	TBA	TBA	TBA	TBA	Sponsors expect to finance phase two in 2012 (PI, 11/28).
Competitive Power Ventures	Ashley (200 MW Wind)	McIntosh County, N.D.	TBA	TBA	TBA	TBA	Sponsor initiates talks with lenders, tax equity providers (PI, 8/8).
	Cimarron (165 MW Wind)	Gray County, Kan.	TBA	TBA	TBA	TBA	Sponsor initiates talks with lenders, tax equity providers (PI, 8/8).
• Diamond Generating Corp.	Unidentified (200 MW Gas)	Alameda County, Calif.	TBA	TBA	\$150M	10+-yr	Sponsor to scout funds in March or April (see story, page 6).
Edison Mission Energy	Tapestry (Wind Portfolio)	U.S.	WestLB	TBA	\$242M	10-yr	Deal wraps (PI, 12/26).
Energy Answers International, Energy Investors Funds	Arecibo (80 MW Waste-to-Energy)	Arecibo, P.R.	BNP	TBA	TBA	TBA	Sponsors mandate lenders (PI, 11/28).
	Fairfield (140 MW Combined Heat and Power)	Baltimore, Md.	TBA	TBA	TBA	TBA	Financing expected to wrap by early 2012 (PI, 11/28).
• Enova Energy Group, NuPower	Plainfield (37.5 MW Biomass)	Plainfield, Conn.	Carlyle	TBA	\$170M	TBA	Deal wraps (see story, page 6).
• First Wind	Palouse (100 MW Wind)	Whitman County, Wash.	Key Bank	TBA	\$210M	10-yr	Deal wraps (see story, page 6).
GCL Solar	Various (77 MW PV)	Puerto Rico	Union Bank	TBA	TBA	TBA	Union Bank to participate in deal (PI, 12/19).
Gradient Resources	Patua (132 MW Geothermal)	Reno, Nev.	BNP, Dexia, Scotia	TBA	\$600M	TBA	Project to be financed in phases (PI, 10/17).
Green Energy Team, Standardkessel	Unidentified (6.7 MW Biomass)	Koloa, Hawaii	WestLB	TBA	TBA	TBA	WestLB tapped to lead deal backing \$70 million project (PI, 12/26).
Inkia Energy	Unidentified (400 MW Hydro)	Cerro del Aguila, Peru	BBVA, Crédit Agricole, HSBC, Scotia, SocGen, SMBC	TBA	\$525M	12-yr	Sponsor talks to three additional lenders, including Santander (PI, 12/5).
Invenergy	California Ridge (214 MW Wind)	Vermillion and Champaign, Ill.	TBA	TBA	TBA	TBA	Sponsor reaches out to lenders about deal (PI, 12/19).
Macquarie Mexican Infrastructure Fund, Macquarie Capital, Fomento Económico Mexicano	Oaxaca (396 MW Wind)	Oaxaca, Mexico	Banorte, BBVA, Crédit Agricole, HSBC, IDB	TBA	\$700M	16-yr	IDB plans to lend \$72M to project (PI, 12/5).
NextEra Energy Resources	Various (230.8 MW Wind)	California and Oklahoma	TBA	Refi	TBA	TBA	NextEra talks to BoTM, Lloyds, Mizuho and Siemens (PI, 12/26).
Northland Power	Manitoulin Island (60 MW Wind)	Manitoulin Island, Ontario	Manulife	TBA	TBA	TBA	Manulife expects to name a second lender (PI, 10/31).
Odebrecht	Chaglla (406 MW Hydro)	Peru	BNP	TBA	\$650M	TBA	Financial close targeted for February (PI, 11/21).
Pattern Energy	Ocotillo (315 MW Wind)	Imperial Valley, Calif.	TBA	TBA	TBA	TBA	Sponsor targets financial close in 2012 (PI, 10/24)
• Recurrent Energy	Various (Solar PV)	Northern California	TBA	TBA	\$100M+	TBA	Sponsor discusses deal with BoTM, Lloyds, Mizuho and UniCredit (see story, page 6).
Sempra Pipelines, Pemex	Various (Gas Pipeline)	Mexico	BBVA	Refi	\$400M	TBA	BBVA snags sole bookrunner mandate (PI, 12/12).
Tenaska Solar Ventures	Imperial Solar Energy Center South (130 MW Solar PV)	Imperial Valley, Calif.	BBVA, BoTM, Lloyds, MUFG, Morgan Stanley, RBS	TBA	\$600M	TBA	Sponsor mulls bond component to deal (PI, 10/31).
• Wind Capital Group	Post Rock (201 MW Wind)	Lincoln and Ellsworth, Kan.	BayernLB, NordLB, Rabo	Term/Construction	\$225M	TBA	Financing wraps (see story, page 2)
	Unidentified (150 MW Wind)	Osage County, Okla.	BayernLB, Rabo	TBA	TBA	TBA	Lawsuit delays financing until 2012 (PI, 11/28).

• New or updated listing

To report updates or provide additional information on the status of financings, please call Senior Reporter **Brian Eckhouse** at (212) 224-3624 or e-mail beckhouse@powerintelligence.com.



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Project Finance

Carlyle Wraps Conn. Biomass Deal

The **Carlyle Group** has closed a roughly \$125 million financing backing **Enova Energy Group's** 37.5 MW biomass project in Plainfield, Conn. The deal closed Dec. 29. Enova has also snagged \$100 million in equity for the project from **SAIC**, the McLean, Va.-based energy, national security and health giant, says **Zachary Steele**, ceo in Orlando.

► FAST FACT

Carlyle joined as lead lender after **Société Générale** exited the deal in the second half of 2011.

The Carlyle financing, which comes from its \$750 million energy mezzanine fund, is a construction loan that will

become a term loan. It is scheduled to mature in 2016. Steele declined to reveal the pricing; a Carlyle official in New York declined to comment.

Carlyle joined as lead lender after **Société Générale** exited the deal in the second half of 2011 (PI, 10/26). SocGen has sought to scale back its corporate and investment banking business in the wake of declining Greek and Italian sovereign debt.

The privately held Enova bought an 80% stake in **Plainfield Renewable Energy LLC** from **Decker Energy** of Winter Park, Fla. (PI, 7/15). **NuPower** of Norwalk, Conn., owns the remaining 20%.

Connecticut Light & Power and **United Illuminating** have 15-year offtake agreements to buy 80% and 20% of the project's generation, respectively. Construction of the project began in August; Steele expects it to be operational in the first quarter of 2014.

Mitsubishi Sub Plots Calif. Gas Deal

Mitsubishi Corp. subsidiary **Diamond Generating** is planning to reach out to lenders in March or April about a \$150 million financing for its 200 MW peaker in Alameda County, Calif. Financial close is targeted for July 1, when the peaker is expected to start operating.

Paula Zagrecki, director of finance in Los Angeles, anticipates that Diamond will secure pricing below LIBOR plus 250 basis points. He points to the absence of construction risk, widely considered the largest risk in project financing, and the few banks needed for the relatively small deal.

"With \$150 million, we're really not concerned with the European market," Zagrecki says. "You can go to three to four banks and get it done." Several European banks are sidelined given self-funding costs (PI, 9/23).

Diamond has relationships with roughly 30 banks, including Japanese lenders **Bank of Tokyo-Mitsubishi UFJ**, **Mizuho Corporate Bank** and **Sumitomo Mitsui Banking Corp.** Those three wrapped a \$175 million financing supporting Diamond and **Ridgeline Energy's** 80 MW Rockland wind project in Power County, Idaho, last year (PI, 4/4). The Mitsubishi unit also owns a

► FAST FACT

Diamond has relationships with roughly 30 banks.

50% stake in the 800 MW Sentinel peaker **Competitive Power Ventures** is developing near Palm Springs, Calif. (PI, 5/31). CPV and Diamond closed a roughly \$800 million financing supporting Sentinel in May, with around 25 banks participating.

Pacific Gas & Electric has a 10-year offtake agreement for the Alameda peaker. Diamond is targeting a tenor longer than the PPA. Bank officials didn't return calls seeking comment.

First Wind Lands Wash. Wind Funds



Vestas V100 Turbine

First Wind has wrapped a \$210 million financing backing its 105 MW Palouse wind project in Whitman County, Wash. **Key Bank**, **NordLB**, **CoBank** and **Banco Santander** were joint lead arrangers; Key Bank was also the administrative agent on the deal. The financing wrapped last month.

The financing comprises a \$170 million construction and term loan and \$40 million in letters of credit. The 10-year mini-perm is priced at 250-275 basis points over LIBOR. Ticket

sizes were in the range of \$50-70 million. A First Wind spokesman in Boston couldn't be reached by press time, while bank officials declined to comment or didn't return calls.

Avista Corp. has a 30-year offtake agreement for Palouse (PI, 12/7). The project will use **Vestas V100** turbines. Construction began in October. Operation is expected by year-end.

Recurrent Scouts More Calif. PV Funds

Recurrent Energy is talking with relationship lenders **Bank of Tokyo-Mitsubishi UFJ**, **Lloyds TSB**, **Mizuho Corporate Bank** and **UniCredit** about a more than \$100 million financing supporting a portfolio of photovoltaic projects in Northern California.

Those banks wrapped a \$130 million deal in August backing 40 MW of PV projects near Galt and Elk Grove, Calif. (PI, 8/31). The **Sacramento Municipal Utility District** has 20-year power purchase agreements for at least 88 MW of Recurrent's PV projects, under its feed-in tariff program.

The size of the latest Recurrent portfolio being financed and



the identity of the projects couldn't be learned. Desired pricing and tenor also couldn't be learned. **Arno Harris**, Recurrent ceo in San Francisco, couldn't be reached for comment. Bank officials declined to comment or didn't return calls.

Google and **SunTap Energy**, a solar investment shop backed by **Kohlberg Kravis Roberts & Co.**, bought stakes last month in the 88 MW of Recurrent projects under SMUD's FIT program (PI, 12/22).

Abengoa, GE Eye \$600M Tabasco Refi

Affiliates of **Abengoa** and **GE Capital** are scoping a \$600 million refinancing of their 300 MW Tabasco plant in Tabasco, Mexico. **Credit Suisse** is reportedly leading the 144A private placement of 20-year notes. **Standard & Poor's** assigned a BBB- rating to the notes.

The bulk of the proceeds would refinance a \$460 million debt package sealed in 2010 that had pricing in the range of 400 basis points over LIBOR. "They got better terms and conditions on the bonds," says a deal watcher, adding that

the initial six and a half-year financing occurred when pricing surged following the financial crisis. **Banco Nacional de Obras y Servicios Publicos**, Mexico's state-owned development bank, underwrote 50% of the original deal. **Banco Santander** advised and was also a bookrunner. **HSBC**, **Banco Espirito Santo** and **Crédit Agricole** were the other bookrunners and **Scotia Capital**, **La Caixa** and **Export Development Capital** were lead arrangers.

The plant is held by special purpose vehicle Abengoa Cogeneración Tabasco. Abengoa Mexico and **Abener Energia**, another affiliate of Abengoa, each own 30% stakes in the project. A subsidiary of **GE Capital Company** holds the remaining stake. **Nuevo Pemex** has a 20-year offtake contract for power and steam from the project.

Officials at Credit Suisse declined to comment or did not return calls. An official at Abengoa Mexico in Mexico City did not respond to e-mail and a spokeswoman at Abengoa in Seville, Spain, declined to make an official available for questions. A spokesman at GE Capital in Stamford, Conn., did not return a call. The timeline for the private placement and whether other banks are participating

Mergers & Acquisitions

Iowa Wind Co. Trades Project To MidAmerican

RPM Access, a wind developer based in West Des Moines, Iowa, has sold a 150 MW project in Iowa to **MidAmerican Energy Co.**

The two reached the agreement regarding the Vienna project on Dec. 13, says **Stephen Dryden**, principal at RPMA in West Des Moines, Iowa. Vienna is expected to be online by year-end. Dryden declined to comment on the purchase price.

The developer had discussed selling another project—the 41.25 MW Elk to MidAmerican—even filing with the U.S. **Federal Energy Regulatory Commission** in December, but ultimately



Nordex Turbine

decided to hang on to the project when it received approval for a U.S.

Department of Treasury cash grant (PI, 12/2). Elk came online last month.

The company has now kicked off discussions with potential lenders to fund a pair of projects totaling 86 MW and \$150 million,

says Dryden. The two projects have scheduled Oct. 1 operating dates. RPMA is talking to a variety of banks including **Rabobank** and **Commerzbank**, he says. RPMA expects to mandate leads in mid- to late- February, Dryden says, with an eye toward a close by the time the first batch of **Nordex** turbines arrive in May.

Dryden expects to take advantage of the production tax credit

for Hawkeye and Rippey, he says, pointing out that the projects will need tax equity investors. Both projects, the 36 MW Hawkeye and the 50 MW Rippey, have power purchase agreements with **Central Iowa Electric Cooperative**.

Rabo and Commerz financed the Elk project and the company put in its own equity. A MidAmerican spokeswoman in Des Moines declined to comment.

AES Unit Hits Bankruptcy; Creditors Circle Plants

AES Eastern Energy has filed for Chapter 11 bankruptcy and reached an agreement to sell two of the plants to creditors.

The **AES Corp.** unit, which owns four coal-fired facilities in New York, filed Dec. 30 in the U.S. **Bankruptcy Court District of Delaware**. AES Eastern has about \$550 million in debt, including about \$431 million outstanding on 30-year pass through certificates with 9.67% coupons due in 2029.

An offer from the creditors, consisting of the pass-through certificate holders, is the stalking horse bid for the 306 MW Cayuga in Lansing and the 675 MW Somerset in Barker in a court-run auction on March 15. The sale is expected to close by the end of the first quarter.

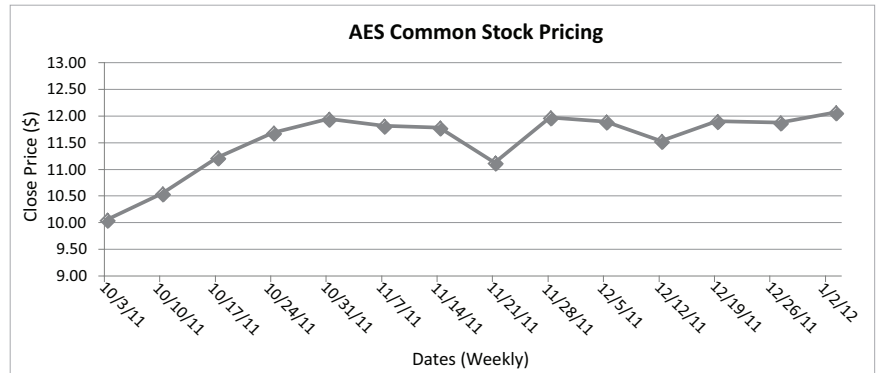
Affiliates of **JPMorgan**, **Prudential Life Insurance Co.**, **John Hancock**, **Mackay Shields**, which is an affiliate of **New York Life Investment Management Holdings**, **Allstate Insurance** and investment management shop **Standard General** are among the roughly two dozen holders of the pass-through certificates. They are working with Paramus, N.J.-based advisor **Rock Point**

Associates. The ownership list could change if some pass-through certificate holders opt to sell down their stakes, deal watchers say. They will have a \$300 million unsecured claim. Somerset has a sale leaseback in place until November 2027, while Cayuga has a leveraged lease until February 2033.

Barclays Capital is advising AES Eastern on its bankruptcy proceedings. AES Eastern is working with law firms **Weil, Gotshal & Manges** and **Richards, Layton & Finger**, out of Wilmington, Del. Officials and spokesmen for the companies, advisors and law firms either declined to comment or didn't return calls.

AES put the coal-fired subsidiary that owns 1.17 GW on the market early last year (PI, 3/4). The other two AES Eastern facilities—105 MW Greenidge and the 83 MW Westover—are currently offline and will be retired along with two other affiliated New York coal-fired facilities as part of the bankruptcy process.

AES Eastern had a \$30 million working capital facility from **Calyon** that was under a forbearance agreement this fall (PI, 8/20). An extension of the agreement ended in December. The company was scheduled to make a \$33 million interest payment early this month on the pass-through certificates.



Industry Current

Why Solar Thermal Energy With Storage Should Receive Payments Competitive With Non-Renewable Resources

*This week's Industry Current is written by **Benjamin L. Israel**, principle at **Benjamin L. Israel, Esq.** in Washington, D.C., and **Felicia L. Bellows**, senior v.p. of development at **Torresol Energy** in San Francisco.*

Introduction



Benjamin L. Israel

Cutting-edge technology is allowing solar thermal technologies to generate power even when the sun has set.

The 100 MW Andasol 1 project, built by a consortium of the **ACS/Cobra Group** and **SENER Ingeniería e Sistemas** and now owned and operated by **Solar Millennium**, generates power by using concentrated solar power trough

technology and stores that power for up to seven hours after the sun has set using molten salt thermal storage technology. The project in Spain has been in operation since 2008. The 20 MW Gemasolar project is another facility in Spain that generates power for **Torresol Energy** (owned, in part, by SENER) using CSP tower technology. It was recently featured in **Forbes** magazine and on **CNN** for its ability to store energy using molten salt technology and thereby generate power 24 hours per day. The project went into commercial operation in April 2011. There are nine other 50 MW CSP molten salt storage projects in Spain that are integrated with molten salt storage technology—bringing the total number of such projects to 11.

There are currently no CSP projects with thermal storage operating in the U.S. Only two such projects are in the advanced

stages of development in the U.S.—the 280 MW Solana solar thermal project, being developed by **Abengoa Solar** near Gila Bend, Ariz., and the 110 MW Crescent Dune Project being developed by **Solar Reserve** in Tonopah, Nev. Both projects have long-term power purchase agreements with investor-owned utilities, but their revenue stream is believed to be limited to energy-only



Felicia L. Bellows

payments for their electric output.

That is, despite their being available to generate power similar to many fossil-fueled generation projects, they are not eligible or otherwise able to receive capacity payments associated with their availability or supplemental payments for their ancillary services provided to the grid. In November 2011, **BrightSource Energy** announced the addition of thermal energy storage capability to three of its PPAs with **Southern California Edison**, noting the addition of firm capacity and dispatchable energy to the grid. However, these PPAs compensate BrightSource with energy-only payments and that payment structure is not believed to have been changed with the addition of energy storage.

Thermal energy storage technology has, therefore, not yet taken

Industry Current is a feature written by industry professionals that highlights and clarifies key issues in the power sector. **Power Finance & Risk** runs the feature periodically and is now accepting submissions from industry professionals for the **Industry Current** section. For details and guidelines on writing an **Industry Current**, please call Sara Rosner at (212) 224-3165 or email srosner@iinews.com.

off in the U.S. Why? One answer: because the laws and regulatory structure that have enabled growth of the renewable sector have not kept pace with the technology. Policymakers, regulators, independent system operators, and wholesale purchasers such as electric utilities need to adopt a more flexible regulatory and market framework for compensating renewable projects so that generation facilities that operate like baseload or dispatchable facilities are able to receive full market value for their capacity and ancillary services.

Fossil-Fueled Project Payments Reflect Market Value

Electric utility-owned generation facilities that burn fossil fuel, such as coal or natural gas, have historically benefitted from a two-tiered system for payments. They receive a fixed payment stream from their ratepayers reflecting the capital costs associated with the particular facility, including debt service and a fixed return on that investment. They also receive a variable payment reflecting the variable fuel supply and transportation costs, and the operation and maintenance costs, associated with the actual operation of the facility. Electric

“Cutting-edge technology is allowing solar thermal technologies to generate power even when the sun has set.”

utilities are able to place their capital costs into their rate base and get a guaranteed rate of return on their investment—subject to prudence reviews by their state utility commission—and separately pass on their variable fuel and O&M costs to their customers. This stripped-down variable energy cost determines how often the particular project is dispatched to generate more or less power relative to other available resources, including renewable projects.

Independent power producers that own and operate fossil-fueled power plants generally sell their output to wholesale purchasers under a longer-term PPA using a similar two-tier payment structure. Under a typical PPA for power from such facilities, the IPP receives a fixed capacity payment tied to the generating facility meeting negotiated availability thresholds. That is, the IPP is paid a fixed monthly payment for being available to generate electricity. The IPP is expected to cover its capital costs and debt service through this capacity payment. The IPP also is paid an energy payment, typically tied to an applicable fuel supply and transportation price index with a smaller component tied to a wage or other consumer price index to approximate variable O&M costs. The energy payment is paid for each kilowatt-hour generated by the facility when the power is requested. This energy payment is compared with the variable costs associated with other competing generation resources on

the system (both electric utility and IPP facilities) to determine the least-cost resource to be dispatched to come on-line or increase its output, or the next-most costly resource to be taken off-line or to decrease its output. The risk to the IPP is related to the efficiency of its facility's fuel consumption (i.e. its heat rate measured in Btu/kWh).

Utility and IPP fossil-fueled projects also provide certain ancillary services that support the reliable operation of the transmission system as it moves electricity from generating sources to retail customers. There are various types of ancillary services. They can include a synchronized reserve service for energy supply if the grid has an unexpected need for more power on short notice, regulation service that corrects for short-term changes in electricity use that might affect the stability of the power system, and black start service that supplies electricity for system restoration in the unlikely event that the entire grid loses power. Eligibility for payment for ancillary services is dependent upon the particular facility's generation characteristics. For instance, not every power plant has black start capabilities. The key to understanding these ancillary services is that the generator needs to be available to deliver—and in some cases cease delivering—in response to a real-time dispatch order. The cost treatment for ancillary services varies from region-to-region, and some long-term PPAs allocate ancillary service benefits to the wholesale purchaser under the PPA.

Of course, fossil-fueled generating facilities can operate as baseload, dispatchable, or peaking projects, and each offers its own benefits to the grid and has its associated costs. Power plants are designated baseload due to their low cost generation on a \$/kWh basis, efficiency and safety at rated output power levels. Baseload power plants, such as those that burn coal or run on nuclear power, do not change production to match power consumption demands since it is more economical to operate them at constant production levels. Natural gas-fired, combined-cycle plants or simple-cycle combustion turbines, which have a higher cost on a \$/kWh basis, are used as intermediate load resources and can be cycled up and down to match more rapid fluctuations in electricity consumption. Peaking power plants, which may burn natural gas or even fuel oil, have the highest cost on a \$/kWh basis, and therefore are only dispatched on-line when necessary to meet peak demands. Because peaking units run only during peak demand periods they do not provide any support to the grid, and IPP-owned peakers typically do not receive capacity payments. Rather, peaking projects typically get paid a premium energy rate for their peak load deliveries. Their bet is that the demand and price for peak energy covers their capital investment and variable costs.

Next week, the second installment of this Industry Current will examine the typical compensation of renewable projects and how new technology gives solar thermal projects with energy storage is similar to baseload, or dispatchable, generation.

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News In Brief

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- **Sempra U.S. Gas & Power** has announced plans to purchase Mississippi utility **Willmut Gas & Oil Co.** Pricing of the deal was not disclosed and the transaction must be reviewed by the Mississippi **Public Service Commission** before finalization (*The San Diego Business Journal*, 1/5).
- The Maryland **Board of Public Works** has approved a license for a proposed nuclear reactor to be built on wetlands in Lusby, Md. by **Unistar Operating Services**. It would be the third reactor to be built at the Calvert Cliffs nuclear plant (*The Washington Post*, 1/4).
- New York Governor **Andrew Cuomo** has announced plans to upgrade the state's transmission system, making it easier for power generated by upstate facilities to be transmitted down to the New York City area. The state will develop a plan for \$2 billion of transmission, as well as plans for environmental retrofits for existing power plants (*Times Union*, 1/4).
- The Connecticut **Public Utilities Regulatory Authority** will review a proposed merger between **NStar** and **Northeast Utilities**. A merger between the utilities would create a \$17.5 billion company (*The Boston Globe*, 1/4).
- Solar technology manufacturer **Westinghouse Solar** has announced that it has received an equity investment from Australian company, **CBD Energy Limited**. Westinghouse will use the additional capital from the investment to grow its U.S. business (*MarketWatch*, 1/4).
- The Nevada **Public Utility Commission** has approved an offtake agreement for **U.S. Geothermal Inc.**'s 19.9 MW San Emidio project in Washoe County, Nev. **Sierra Pacific Power Company** will purchase the power over 25 years (*MarketWatch*, 1/3).
- **Deerfield Wind**, a subsidiary of **Iberdrola Renewables**, has received federal approval for the construction of a proposed wind project in Searsburg, Vt. The U.S. **Forest Service** approved the project, which will consist of 15 turbines and generate 30 MW (*Yahoo! Finance*, 1/3).
- The U.S. **Department of the Interior** has given its approval for a 104 MW wind farm on Steen's Mountain in Harney County, Ore. The Echanis project is being developed by Washington-based **Columbia Energy Partners** and will include a 44-mile transmission line to deliver power to the grid (*Sustainable Business Oregon*, 1/3).

U.S. PowerGen (Continued from page 1)

managing director at **Tier One Capital Management** in Washington, D.C. Walsh was not reached for comment.

U.S. PowerGen is also working with boutique **Perella Weinberg Partners** on restructuring some \$500 million in debt. "We have been working aggressively in the marketplace to ensure long-term viability of the company," **John Reese**, senior v.p. of U.S. PowerGen, told *PI* in an interview. The use of proceeds from a potential sale of the barges would be determined by the company's financial situation at close, Reese says.

The company was hit with lower than expected capacity pricing from the NY-ISO, cutting its revenue by 50% over the summer—and pricing continues to remain lower than anticipated. U.S. PowerGen tripped a second lien debt covenant in the third quarter. It cured the breach, along with an expected breach in the fourth quarter, with an equity injection from the parent, according to analyst reports. Reese declined to comment on future payments or possible bankruptcy filing plans.

Indicative bids for the barges are expected in early February. Interested parties range from governments with economies that are booming to governments of countries that are in need of additional

capacity, sovereign wealth funds and third party entities. "We have come to find there is a global market for products that are plug and play," Reese says of the interest in the barges.

One option for the barges is finding a home with a company that provides generation in times of crises or forced outages, such as following a natural disaster, other industry officials say. The barges would be loaded onto a container ship for the voyage as a long trip across the open sea would be punishing to the equipment and structure.

The company filed with the New York **Public Service Commission** on Dec. 14 to retire the facilities as a precursor to shipping them out of the area as well as to mothball the 180 MW Unit 20 gas-fired steam plant in Astoria, New York. The 58-year-old terra firma facility, which is part of Astoria Generating's 1.28 GW compound, is being shuttered because its operating costs are not covered under current power pricing. A sale could be complete by the time the barges are off the New York grid in mid-June.

Barges 1 and 4 represent a third of the company's barge fleet and they are the last remaining oil-fired barges in the fleet. The company is already permitted to build a new gas-fired facility at the location if demand ever rebounds. The two floating oil-fired facilities could be converted to burn natural gas.

Changes in the capacity pricing eliminated the profit at Astoria Generating and it is expected to file for bankruptcy if the NY-ISO pricing is not shifted, according to a summer filing with the U.S.

Federal Energy Regulatory Commission (PI, 8/5). FERC has yet to rule on the complaint against the NY-ISO pricing.

Astoria Generating consists of the 1.28 GW Astoria Generating fuel oil and gas-fired facility in Queens; the 542 MW Gowanus fuel, oil and gas-fired facilities floating on the Gowanus Canal in Brooklyn; and the 276 MW Narrows fuel oil and gas-fired floating facilities in Brooklyn. —**Holly Fletcher**

Constellation Talks (Continued from page 1)

Bravo Fresno waste wood-fired plant in Fresno and the 24 MW Rio Bravo Rocklin waste wood-fired plant near Lincoln and a 45% stake in the 22 MW Chinese Station wood-fired plant in Jamestown, according to its 2010 annual report.

Covanta co-owns Chinese Station while **North American Power Group** co-owns Rio Bravo Fresno and Rio Bravo Rocklin. NAPG tried to sell its stakes in the two facilities in 2010 (PI, 6/25/10). Whether any of the co-owners have the right of first refusal on the assets could not be learned.

Rio Bravo Rocklin has a power purchase agreement with **Pacific Gas & Electric** until 2019; whether the other two plants have PPAs could not be learned. The company is likely to restart conversations in the next few weeks, says one deal watcher, adding that teasers are anticipated.

Constellation is working with **Chromatin**, a Chicago-based feedstock supplier, on a test of sorghum in the fuel mix at Rio Bravo Fresno (PI, 9/23). A Constellation spokesman declined to comment on whether the plants are for sale, citing company policy. —**H.F.**

Peru Hydro (Continued from page 1)

by project financiers. The country's long-term debt is stable—**Standard & Poor's** rates the nation's local long-term debt BBB+—and lenders have some experience financing projects in the country. French banks have traditionally been among the biggest players in Peruvian project finance, notes a syndicator in New York. But, he is skeptical that the backers of the Veracruz project could hook a **BNP Paribas** or **Société Générale** right now, given the lenders' high self-funding costs (PI, 9/23).

BNP is the financial adviser to Odebrecht (PI, 9/30). **BBVA**, **Crédit Agricole**, **HSBC**, **Scotia Capital**, SocGen and SMBC are expected to participate in the Inkia deal (PI, 11/30). Other potential lenders to Veracruz include **Banco Santander**, **BBVA**, **Scotia Capital** and **Sumitomo Mitsui Banking Corp.**, which also are prominent project finance lenders in Latin America, and **WestLB**, financiers say. Bank officials or spokespeople declined to comment or didn't return calls.

Veracruz deal terms, including pricing and tenor, and the financing timeline also couldn't be learned.

—**Brian Eckhouse**

ALTERNATING CURRENT

Catch A Wave

Seaweed's Sway Inspires Generation

Inspired by the "gentle swaying of kelp forests", Sydney-based developer **BioPower Systems** has unveiled a generation system intended to harness ocean swells to generate power.

The bioWAVE system is a series of rounded blades on the sea floor that move with ocean swells. As they move, the blades power a hydraulic generator. Because the blades are fixed on



Kelp Forest

a pivoting hinge, they can harness the energy of ocean currents regardless of their direction. Power is transmitted ashore by an undersea cable.

The prototype unit can generate 250 kW about 100 feet below the surface of the water. If testing goes well, the company will offer a 1 MW design capable of operating 148 feet down. An array of bioWAVE blades is scheduled to be installed in the waters off of Port Fairy, Victoria in Australia in a four-year pilot program that will cost \$14 million. An official in Sydney did not return a call by press time.



Quote Of The Week

"With \$150 million [in debt], we're really not concerned with the European market. You can go to three to four banks and get it done."—**Paula Zagrecki**, **Diamond Generating** director of finance in Los Angeles, on the developer's expectation of aggressive terms in a financing backing its 200 MW peaker in Alameda County, Calif. (see story, page 6).

One Year Ago In Power Finance & Risk

Calpine Corp. sought roughly \$1.1 billion in debt supporting the construction of the Russell City combined cycle project and the retrofit of the 188 MW Los Esteros peaker, both in Northern California. [Calpine and development partner **GE Energy Financial Services** scored an \$844.5 million financing backing the 619 MW Russell City project (PI, 6/27). The Houston-based company also landed \$373 million in non-recourse debt to retrofit Los Esteros into a 300 MW combined cycle project (PI, 8/26).]