



## Exclusive Market Insights

The DealFlow newsletter is part of a suite of exclusive content created by kWh Analytics. Others in the series include the [Solar Lendscape](#), a listing of all active lenders and tax-equity providers in the solar market, and the [#Solar100](#), our interview series with luminaries and thought leaders on emerging topics in the solar finance ecosystem. Unsurprisingly, 4Q18 ended a strong quarter for financing activity, with 27 separate solar M&A transactions announced. This quarter's DealFlow newsletter tracks over 8 GW of solar financings and M&A transactions in the solar markets for the period.

For more of the inside scoop, check out kWh Analytics' feature in Norton Rose Fulbright's latest Currents episode. In 2018's [Ep 23](#), kWh Analytics CEO Richard Matsui introduced the Solar Revenue Put. In the recently released [Ep 46](#), NRF's first episode of 2019, Richard returned to discuss how the market has reacted to the Put, the number of deals that have used it, and the response to this new innovation.



## DealFlow



## M&amp;A Transactions

Date	Seller	Buyer	Size	Notes
8/23/18	Cypress Creek Renewables	John Laing Group plc	121 MW	John Laing acquired the 71 MW Brantley and the 50 MW Fox Creek solar farms for £27 million. Both assets closed construction and term debt financings in late 2017 with Nord/LB and Santander. Brantley was financed through a \$31.62 million construction-plus-six-year term loan, a \$13.62 million 1.4-year bridge loan and \$5 million in letters of credit. The debt package on Fox Creek comprised a \$25.62 million construction-plus-six-year term loan, a \$39.59 million 1.3-year bridge loan and \$4.7 million in letters of credit.
9/10/18	Undisclosed	Eolus North America, Inc	500 MW	Eolus North America, Inc, a subsidiary of Eolus Vind AB, has signed and closed an agreement to acquire a solar and storage project under development, located in the Western US. The project has an interconnection queue position to deliver power to California. It has 500MW solar and 250MW battery storage component, with expected COD in 2022.
9/11/18	ReneSola Ltd	Nautilus Solar Energy, LLC	13.3 MW	Nautilus acquired a second portfolio of MN community solar projects from ReneSola, which will be online 1Q19. Nautilus provided early-stage development capital and will be responsible for long-term asset management services and maintenance for the projects. The projects will be owned by an affiliate of the Virgo Investment Group, which is also a minority shareholder of Nautilus.
9/11/18	Ahana Renewables, LLC	CleanCapital Holdco 4, LLC	\$122mm	Ahana, a subsidiary of ATN, sold its DG assets in MA, CA and NJ to CleanCapital. Ahana owns and operates 28 commercial solar projects at 60 sites with an aggregate 46.9 MW of electricity generating capacity. The estimated total transaction value is \$122 million, inclusive of debt assumption and subject to certain estimated post-closing adjustments.
9/14/18	Cypress Creek Renewables	Sol Systems and Nationwide Insurance	135 MW	The Helio infrastructure JV between Sol Systems and Nationwide Insurance executed a framework agreement to purchase a 135MW portfolio of North Carolina solar projects from Cypress Creek.
9/19/18	US Light Energy	Standard Solar, Inc.	38 MW	Standard Solar acquired 38 MW of community solar projects from US Light Energy. Standard Solar will be constructing the six project, New York portfolio.
9/20/18	Sempra Solar Holdings, LLC	Con Edison Development, Inc.	981 MW	The acquisition includes 379 MW of projects that Sempra Renewables and Consolidated Edison Development jointly own, plus 602 MW of Sempra-only assets. Assets include solar, solar-plus-storage projects and one wind facility. Total price was \$1.5bn plus \$576mm in non-recourse debt.

**About:** kWh Analytics is the market leader in solar risk management. Founded in 2012, kWh Analytics has built the industry's largest repository of solar asset performance data, with hundreds of thousands of operating systems, representing 20% of the U.S. market. Customers such as U.S. Bank and PNC Bank rely on software and insurance solutions from kWh Analytics to enhance their investment returns.

 M&A Transactions

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9/21/18	BlueWave Solar	Goldman Sachs Asset Management	24 MW-dc	A portfolio of six community solar farms in MA, which was developed and jointly owned by BlueWave and MS Solar Solutions Corp, a wholly-owned subsidiary of Morgan Stanley, was purchased by Goldman Sachs Asset Management. Development of the farms began in 2013 and the projects have been operational since 2016. BlueWave will maintain customer management services for community solar subscribers, and Amaresco will provide O&M.
9/24/18	York Capital	sPower	55 MW-dc	sPower acquired the operating Idaho Solar 1 project from York Capital. The project was developed by Origis Energy.
9/25/18	Summit Ridge Energy, LLC & SynerGen Solar	Nautilus Solar Energy, LLC	6.6 MW	Nautilus acquired a 4 project Maryland portfolio, which will be online 1Q19. The community solar projects consist of entirely residential offtakers. Nautilus will be responsible for long-term asset management services and maintenance for the projects.
9/26/18	8minutenergy Renewables, LLC	Capital Dynamics	121 MW-dc	8minutenergy sold the equity interests of the 121 MW-dc Springbok 3 Solar Farm to Capital Dynamics. The project will break ground later this year, and commercial operation is slated for June 2019. The Commonwealth Bank of Australia and Nomura were the lenders in a roughly \$240 million construction-only debt financing.
9/28/18	Enel Green Power S.p.A.	Caisse de dépôt et placement du Québec ("CDPQ") & CKD Infraestructura México S.A. de C.V. ("CKD IM")	1.1 GW	Enel sold 8 plants in operation and under development to CDPQ, a long-term institutional investor, and CKD IM, a Mexican pension fund investor. Specifically, the portfolio consists of about 1.1 GW from the solar plants Villanueva I (469 MW), Villanueva III (359 MW) and Don José (260 MW), with another 700 MW of wind assets. Enel maintains a 20% ownership interest and is the long-term operator. The investors paid \$1.4bn, \$1.2bn of which were in the form of interparty loans.
10/15/18	National Renewable Energy Corporation	X-ELIO	103 MW-dc	X-ELIO, a portfolio company of KKR, closed on the acquisition of the 103 MW (dc) Lily Solar project in South Carolina.
10/17/18	Lae American Energy	Copenhagen Infrastructure Partners	337 MW-dc	Copenhagen acquired the Misae solar project in the TX panhandle. The project signed a hedge with Goldman Sachs. The project is expected to start construction in October and enter commercial operation in the third quarter of 2019.
10/17/18	First Solar	D. E. Shaw Renewable Investments	100 MW-ac	DESRI acquired the 100 MW-ac Willow Springs Solar Project in Kern County, CA from First Solar. The project is under construction with an estimated COD at the end of 2018.
10/22/18	OCI Solar Power	D. E. Shaw Renewable Investments	66 MW-dc	DESRI acquired the 66 MW-dc Project Ivory solar project in Dawson County, TX. The project is expected to reach COD in Nov 2018.
10/22/18	Open Road Renewables, LLC & MAP Renewable Energy, LLC	Innergex Renewable Energy Inc	260 MW-dc	Innergex acquired the Hillcrest solar project in Brown County, OH. It is one of the first utility-scale projects to receive approval in the state. COD will be 2020-2021 and there is not yet a PPA in place.
10/24/18	First Solar, Inc.	Origis Energy USA	200 MW-ac	Origis acquired GA Solar 4 Project from First Solar. The project is located in Twiggs County, Georgia, and is expected to be the largest solar power plant in the southeastern United States when completed. Georgia Power is buying all power. The project will begin construction in November 2018.
10/25/18	Recurrent Energy, LLC	Pensionskassernes Administration ("PKA")	\$307mm	PKA, one of Denmark's largest pension service providers, acquired Recurrent's 49 percent passive equity stake in the Garland and Tranquillity solar facilities equivalent to 260 MW-dc. The remaining 51% stake is owned by Southern Company. This is PKA's first solar investment.
11/2/18	ET Capital Solar Partner Inc.	Greenbacker Renewable Energy Company LLC	13.9 MW-dc	Greenbacker acquired SunFarm V, LLC and Sun Farm VI, LLC. The two assets, 5 MW-ac each, are located in NC. The projects will be placed in service in the fourth quarter of 2018.
11/6/18	AES Corp. & Alberta Investment Management Corp. (AIMCo.)	Ullico Inc.	1.3 GW	A subsidiary of labor-owned insurance and financial services company Ullico Inc. has acquired a stake in sPower. AES and AIMCo agreed to each sell 24% of their 50% interest to Ullico, for a total interest of 24%.
11/6/18	Undisclosed	Altus Power America	11 MW-dc	Altus Power bought an 11 MW-dc rooftop and carport portfolio in New Jersey from an undisclosed seller.

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11/8/18	ATN International, Inc. (Ahana Renewables)	CleanCapital and BlackRock Real Assets	46.9 MW	CleanCapital, in a new partnership with BlackRock, closed on a 46.9 MW portfolio of solar assets from ATN International, Inc. subsidiary, Ahana Renewables. The portfolio consists of 60 operating solar projects located in California, Massachusetts and New Jersey. The acquisition is CleanCapital's largest to date.
11/8/16	Recurrent Energy, LLC	Entergy Mississippi	100 MW-ac	Recurrent signed a build-transfer agreement for a base purchase price of approximately \$138.4 million with Entergy Mississippi on the 100 MW-ac Sunflower solar project. The project will COD in mid-2022.
11/14/18	Cypress Creek Renewables	John Laing Group plc	75 MW-dc	John Laing agreed to purchase the 75 MW-dc Buckleberry solar project from Cypress Creek. The project is in NC and is expected to COD this year. Churchill State-side is the contemplated tax equity investor. Nord/LB and Santander provided a \$34.78 million construction-plus-six-year term loan and a \$44.38 million 1.3-year bridge loan for Buckleberry solar in a deal that closed in November 2017.
11/26/18	SunEnergy1 LLC	Greenbacker Renewable Energy Company LLC	21.8 MW	Greenbacker acquired the rights to SE Solar Portfolio, a three project portfolio in NC.
11/27/18	Power52 Energy Solutions	Nautilus Solar Energy, LLC	9 MW	Nautilus acquired 9 MW of community solar projects in Maryland. This portfolio is comprised of four separate projects located outside of Baltimore. Nautilus will be responsible for long-term asset management services and maintenance for the projects. The projects will be owned by an affiliate of the Virgo Investment Group, which is also a minority shareholder of Nautilus.
12/11/18	Dhamma Power	ENGIE North America	130 MW-dc	The solar project, located in the Mexican state of Sonora, is set to hit COD at the end of 2019. Dhamma Energy will provide assistance throughout the construction phase and commissioning of the solar park by ENGIE. The project has a PPA with steel producer Gerdau.
12/18/18	Recurrent Energy, LLC	Solar Frontier Americas	210 MW-dc	Solar Frontier bought the 150 MWac/210 MWp Mustang Two project. In this partnership, Recurrent Energy will continue to manage the development of the project, readying it for construction; Solar Frontier Americas will finance and manage the construction of the project, which is slated to achieve commercial operation in 2020. Two-thirds of the electricity will be sold to Peninsula Clean Energy and one-third to the Modesto Irrigation District.

## Exclusive Insights on Solar Assets

Winter 2019

## Asset and Corporate Financings

Date	Developer	Financier	Size	Notes
9/13/18	SunShare	ANB Bank	\$11mm	Community solar company SunShare has secured \$11 million in construction/term project financing from ANB Bank for the construction of 8.2 MW of community solar gardens in Minnesota.
9/19/18	sPower	Undisclosed	\$498.7mm	sPower closed a \$498.7mm, investment grade, private placement financing. The financed portfolio represents approximately half of sPower's 1.3 GW of operating portfolio. The bond was back-leverage on tax equity partnerships and replaced bank mini-perm financings with a fully amortizing 23.5 year facility. Citigroup served as Ratings Advisor, Structuring Agent, and Lead Placement Agent. CIBC, Credit Agricole, KeyBanc, Rabobank, Societe Generale, and Wells Fargo served as Co-Placement Agents. Cohn Reznick advised.
9/20/18	Sybac Solar	East West Bank	\$36mm	East West Bank was sole lead arranger for a \$36mm construction-to-term facility backing the 19.6 MW-dc Middle Island solar project, located in Long Island, N.Y. and developd by Sybac Solar. The project will hit COD next year.
9/24/18	EnterSolar	EDF Renewables North America	Undisclosed	EDF Renewables acquired a 50% stake in Entersolar, a leading provider of distributed generation solar solutions to C&I customers. As part of the agreement, EDF Renewables is providing growth capital as well as additional project financing capabilities to EnterSolar.
9/24/18	Origis Energy	Global Atlantic Financial Group	Undisclosed	Origis Energy and Global Atlantic Financial Group entered into a series of agreements whereby Global Atlantic will take a minority equity position in Origis USA, LLC, the Miami, FL based holding company for Origis Energy. The transaction will also involve the acquisition of a series of projects developed by Origis.
9/28/18	Greenbacker Renewable Energy Co	PNC Bank & KeyBank	20 MW-ac	PNC provided tax equity and KeyBank provided back-leverage for the Midway III solar project. The project was acquired in Dec 2017 from Solar Frontier Americas Holdings.
10/10/18	Spear Point Energy LLC	Constellation Energy	100 MW	Constellation, an Exelon subsidiary, has acquired PFMG Solar LLC from Spear Point. PFMG Solar develops solar power systems for school districts, government agencies and other public-sector customers.
10/11/18	Amp Energy	ZOMA Capital	Undisclosed	Amp Energy raised C\$200mm in a round led by ZOMA Capital.
10/19/18	Pine Gate Renewables	Undisclosed	57 MW-dc	A syndicate of banks provided back-leverage for the Peony Solar project located in Peony, SC.
10/31/18	Southern Current	Soltage LLC	100 MW	Soltage closed a first round of investment in a 38 project, 100 MW portfolio located in five states across the East Coast and the Southeast. The portfolio includes a large asset acquisition from Southern Current, alongside other Soltage-developed projects. It is a follow-on investment under a partnership between Soltage and Basalt Infrastructure Partners. The projects will COD 2018 and 2019.
11/1/18	Community Energy, Inc.	Key Equipment Finance	\$9.7mm	Key Equipment Finance provided a \$7.8 million tax lease and a \$1.9 million term loan for community solar projects in Massachusetts totaling 3.75 MW-dc.
11/5/18	SunPower Corporation	Hannon Armstrong	\$42mm	SunPower and Hannon Armstrong have created a joint venture, SunStrong Capital, funded with \$10 million from Hannon for 49% ownership of the fund, which will own DG solar assets. SunStrong also entered into a sub-agreement under which SunPower has access to a \$32 million mezzanine loan, from which they have drawn \$24.6 million worth. The loan has a 25 year payback term with an 11.75% interest rate.
11/8/18	Enel Green Power	IDB Invest	\$86.6mm	IDB Invest, the private sector institution of the Inter-American Development Bank Group, provided financing for the construction and maintenance of three solar plans in Mexico totalling 1,088 MW, including Villanueva I and III. The financing has a tenor of 18 years.

 Asset and Corporate Financings

Date	Seller	Buyer	Size	Notes
11/15/18	Novel Energy Solutions	Wunder Capital	1.4 MW	Wunder Capital financed the 1.4 MW Lester Prairie community solar project.
11/19/18	Spruce Finance	HPS Investment Partners	Undisclosed	Spruce Finance was acquired by HPS Investment Partners. HPS is a former investor in Spruce.
11/19/18	ENGIE North America	Goldman Sachs' Alternative Energy Investing Group	75 MW	ENGIE's Distributed Solar team (formerly Socore Energy) is receiving investment from Goldman Sachs. Goldman is providing capital that acts as tax equity, debt, and sponsor equity in a hybrid structure. ENGIE will retain an ownership interest in the portfolio, and will construct, manage, and operate the assets.
11/19/18	Undisclosed	Cemex	\$320mm	Cemex will invest \$320mm into a 378MW solar farm in Zacatecas, Mexico.
11/26/18	Tenaska	Capital Dynamics	2 GW	CapDyn's Clean Energy Infrastructure group signed an agreement with Tenaska to develop a portfolio of greenfield solar projects in the Midwest. The transaction includes 14 projects in MISO.
11/30/18	SunPower Corporation & Hannon Armstrong	Undisclosed	\$400mm	SunStrong Capital Holdings, owned by SunPower and Hannon Armstrong, issued a securitization against their residential lease portfolio of 37,500 residential PV systems. The \$400mm in notes were rated A by KBRA and priced at 5.68% and a 68.3% advance rate. The proceeds will be used to refinance debt held by SunStrong.
12/11/18	8minutenergy Renewables, LLC	J.P. Morgan Asset Management & Upper Bay Infrastructure Partners	\$200mm	The three entities entered into a joint venture to provide equity capital to support 8minutenergy's 10.7 GW pipeline of utility solar + storage projects.
12/14/18	Canadian Solar Inc.	Banco Nacional de Comercio Exterior, S.N.C. ("Bancomext") and Banco Sabadell	67.8 MW-dc	Canadian Solar achieved financial close on a US\$69mm non-recourse facility for its Aguascalientes solar project in Mexico. The financing package consists of a US\$53.2 million long-term loan, a US\$5.6 million letter of credit facility, and a US\$10.2 million Value Added Tax (VAT) short-term loan. Proceeds from the long-term loan will be used to repay a US\$45 million construction loan that was previously provided by Natixis.
12/20/18	SunRun	Undisclosed	\$322mm	SunRun closed a \$322 ABS offering at L+265 bps (5.55% yield), which was used to refinance existing bank debt. It had a 2.3% advance rate. The financing structure was for a 30 year period.