



BUREAU VAN DIJK

A Moody's Analytics Company

Cleantech M&A Review April 2019

The following report details mergers and acquisitions activity in the cleantech sector in April 2019 using data from the Zephyr database.

It focuses on global deals activity by target company within the cleantech sector.

Click [here](#) to access the raw data in an Excel spreadsheet.

PE, VC and DC volume and value down in April

Both the volume and value of private equity, venture capital and development capital (PE, VC and DC) activity targeting cleantech companies declined in April 2019 as 16 deals worth a combined USD 1,411 million were announced. In terms of volume, this represents a 52 per cent decline on March's 33 deals, while value slipped 12 per cent from USD 1,595 million over the same timeframe.

It was a similar story in a year-on-year comparison as volume and value were down from the 30 worth USD 4,673 million in April 2018.

A dearth of high value dealmaking held value back over the month under review as only one deal broke the USD 1,000 million-barrier while no other was worth more than USD 70 million.

Private equity, venture capital and development capital deals by volume and value

Announced date	No of deals	Total deal value (mil USD)
Apr-19	16	1,411
Mar-19	33	1,595
Feb-19	25	1,300
Jan-19	25	462
Dec-18	26	1,462
Nov-18	19	4,366
Oct-18	18	739
Sep-18	42	1,794
Aug-18	16	677
Jul-18	23	2,809
Jun-18	28	1,943
May-18	27	1,972
Apr-18	30	4,673



Welcome to the business of certainty.
We capture and treat private company and M&A information for better decision making and increased efficiency.
Bureau van Dijk is a Moody's Analytics company



The most comprehensive deal database

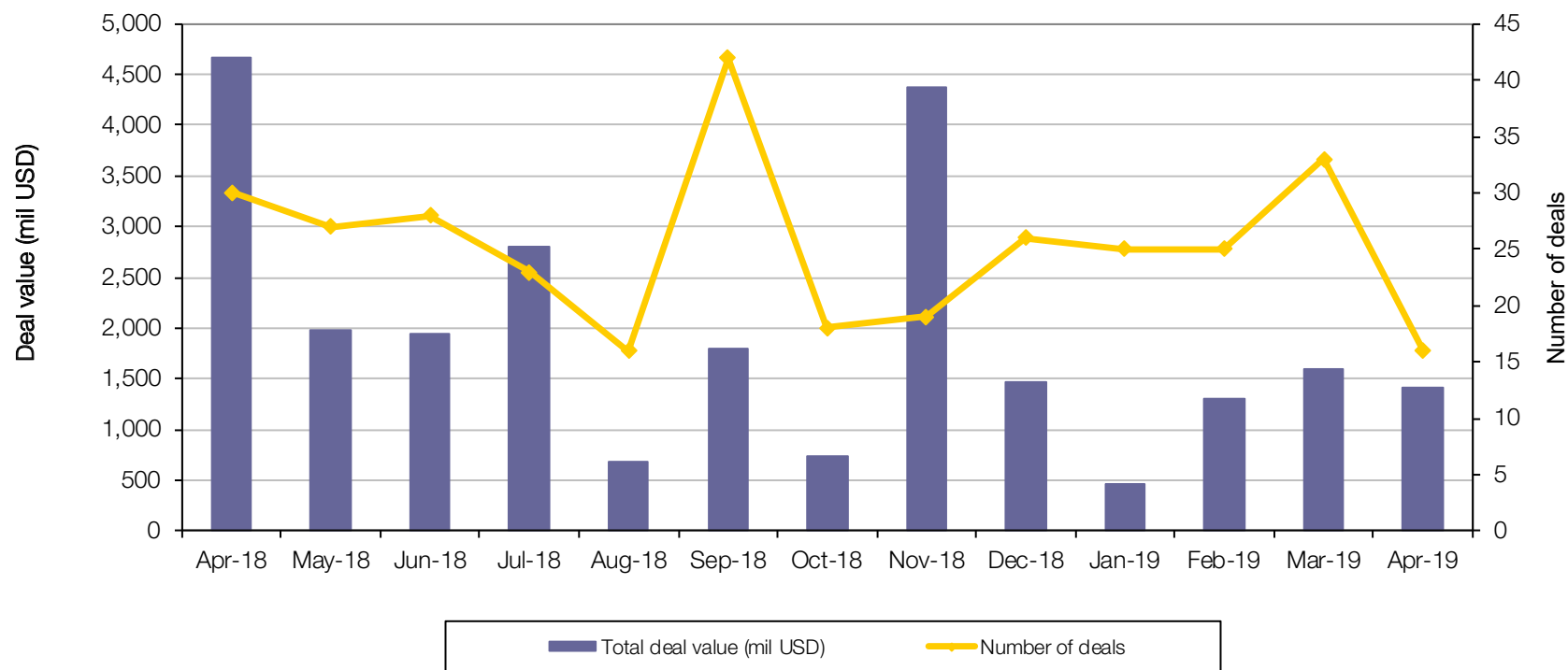


The world's most powerful comparable data resource on private companies



Combining deal and company data

Private equity, venture capital and development capital deals by volume and value



One PE, VC and DC deal worth over USD 1,000 million

A single transaction was worth in excess of USD 1,000 million in April as John Hancock Life Insurance bought 37 operating wind, solar and battery storage assets and 11 operating solar assets from Duke Energy Renewables for USD 1,250 million. This deal alone was worth 89 per cent of total value during the month under review and was considerably larger than the second-placed deal – a USD 65 million buyout of UK-headquartered Scottish Equity Partners' onshore wind farm portfolio by Pensions Infrastructure Platform.

Third place saw SK Securities Co agreeing to acquire South Korean water treatment services provider Changwon Enertech for USD 21 million, while a USD 21 million funding round by US electric vehicle player Optimus Ride placed fourth.

In all, US companies were targeted in six of the 16 PE, VC and DC deals announced in April, while the UK featured in three and China in two.

US tops country rankings by volume and value

In terms of PE, VC and DC investment in cleantech companies, the US topped the country rankings in April, having featured in six deals worth a combined USD 1,297 million. It is worth noting that the vast majority of the value was due to the USD 1,250 million Duke Energy Renewables deal and also accounted for most of total value in the month under review.

As such, it is unsurprising to see that second place was some way behind as the UK was targeted in deals worth USD 70 million.

The US and UK also topped the volume rankings with six and three, deals, respectively. China placed third with two, while Japan, Italy, India, South Korea and Netherlands all notched up one each.

Private equity, venture capital and development capital deals by value

	Deal value (mil USD)	Deal type	Target	Target business description	Target country	General Partner/Fund Manager	Deal status
1.	1,250	Minority stake 33% and 49%	Duke Energy Renewables LLC's 37 operating wind, solar and battery storage assets; Duke Energy Renewables LLC's 11 operating solar assets	Solar power production services, Wind farms operator; Solar power production services	US; US	John Hancock Life Insurance Company; John Hancock Life Insurance Company	Pending
2.	65	IBO 100%	Scottish Equity Partners LLP's onshore wind farm portfolio	Onshore wind farm portfolio	GB	Pensions Infrastructure Platform Ltd	Completed
3.	21	IBO 100%	Changwon Enertech Co., Ltd	Waste treatment services	KR	SK Securities Co., Ltd	Completed
4.	21	Minority stake	Optimus Ride Inc.	Electric vehicle services, Robots manufacturer	US		Completed
5.	20	Minority stake	ICON AIRCRAFT INC	Machinery, equipment, furniture, recycling	US		Completed
6.	16	IBO 100%	Shenzhen Lurun Energy Co., Ltd	Energy storage equipment wholesaler	CN	Shenzhen Yuanzhi Ruixin Equity Investment Management Co., Ltd	Pending
7.	7	IBO increased from 80% to 100%	Tolve Windfarms Holding Srl	Wind electric power generation service	IT	Ardian France SA	Announced
8.	5	Minority stake	Trash Butler LLC	Doorstep valet trash and recycling services	US	Florida Funders LLC	Completed
9.	4	Minority stake	Wondrwall Ltd	Energy efficiency system installation services, Energy efficiency system manufacturer	GB		Announced
10.	1	Minority stake	xF Technologies Inc.	Fuel, additives, petrochemical replacements and specialty chemicals producers, Renewable waste biomass recycling services	US		Completed

Private equity, venture capital and development capital deals by value (Cont'd)

	Deal value (mil USD)	Deal type	Target	Target business description	Target country	General Partner/Fund Manager	Deal status
11.	1	Minority stake	Riversimple Movement Ltd	Renewable hydrogen powered car manufacturer	GB		Announced
12.	n.a.	Minority stake	NExT-e Solutions Inc.	Electric vehicle research and development services, Next generation lithium-ion battery management system manufacturer	JP		Completed
13.	n.a.	IBO 100%	Emmen PV solar park	Solar park operator	NL	CEE Holding GmbH & Co KGaA	Completed
14.	n.a.	IBO 100%	Grupo T-Solar Global USA Inc's sponsor equity interests in the 25 MWDC El Centro Solar Project	Solar electric power generation services	US	Excelsior Renewable Energy Management Company LP	Completed
15.	n.a.	Minority stake	Pi Beam Labs Pvt Ltd	Manual, electric and solar-powered utility tricycles manufacturer	IN		Completed
16.	n.a.	Minority stake	Wuhan Grove Hydrogen Automotive Co., Ltd	Hydrogen car manufacturer	CN	Everbright Capital Investment Co., Ltd; Wuhan Donghu Guolong Equity Investment Fund Management Co., Ltd; CICC Capital Management Co., Ltd	Announced

Target countries by volume - private equity, venture capital and development capital deals

Target country	Apr-18	Mar-19	Apr-19
US	9	8	6
UK	3	3	3
China	5	3	2
Japan	1	2	1
Italy	0	1	1
India	0	1	1
South Korea	1	0	1
Netherlands	0	0	1

Target countries by value - private equity, venture capital and development capital deals

Target country	Apr-18 (mil USD)	Mar-19 (mil USD)	Apr-19 (mil USD)
US	223	1,029	1,297
UK	23	50	70
South Korea	93	0	21
China	60	6	16
Italy	0	3	7

Private equity, venture capital and development capital investors

	Company name	Number of deals	Number with consideration	Total deal value (mil USD)	Average deal value (mil USD)
1	John Hancock Life Insurance Company	1	1	1,250	1,250
2	Pensions Infrastructure Platform Ltd	1	1	65	65
3	Scottish Equity Partners LLP	1	1	65	65
4	SK Securities Co., Ltd	1	1	21	21
5	Shenzhen Yuanzhi Ruixin Equity Investment Management Co., Ltd	1	1	16	16
6	Ardian France SA	1	1	7	7
7	Florida Funders LLC	1	1	5	5
8	BlueHill Capital Pvt Ltd	1	0	n.a.	n.a.
9	CICC Capital Management Co., Ltd	1	0	n.a.	n.a.
10	CEE Holding GmbH & Co KGaA	1	0	n.a.	n.a.
11	Excelsior Renewable Energy Management Company LP	1	0	n.a.	n.a.
12	Everbright Capital Investment Co., Ltd	1	0	n.a.	n.a.
13	Eagle10 Ventures	1	0	n.a.	n.a.
14	Wuhan Donghu Guolong Equity Investment Fund Management Co., Ltd	1	0	n.a.	n.a.

Cleantech M&A value increases in April, despite decline in volume

The aggregate value of mergers and acquisitions (M&A) in the global cleantech sector actually increased month-on-month in April, despite the fact that volume declined over the same timeframe. In all, there were 183 deals worth a combined USD 14,547 million announced over the course of the month, compared to the USD 9,535 million injected across 307 deals in March.

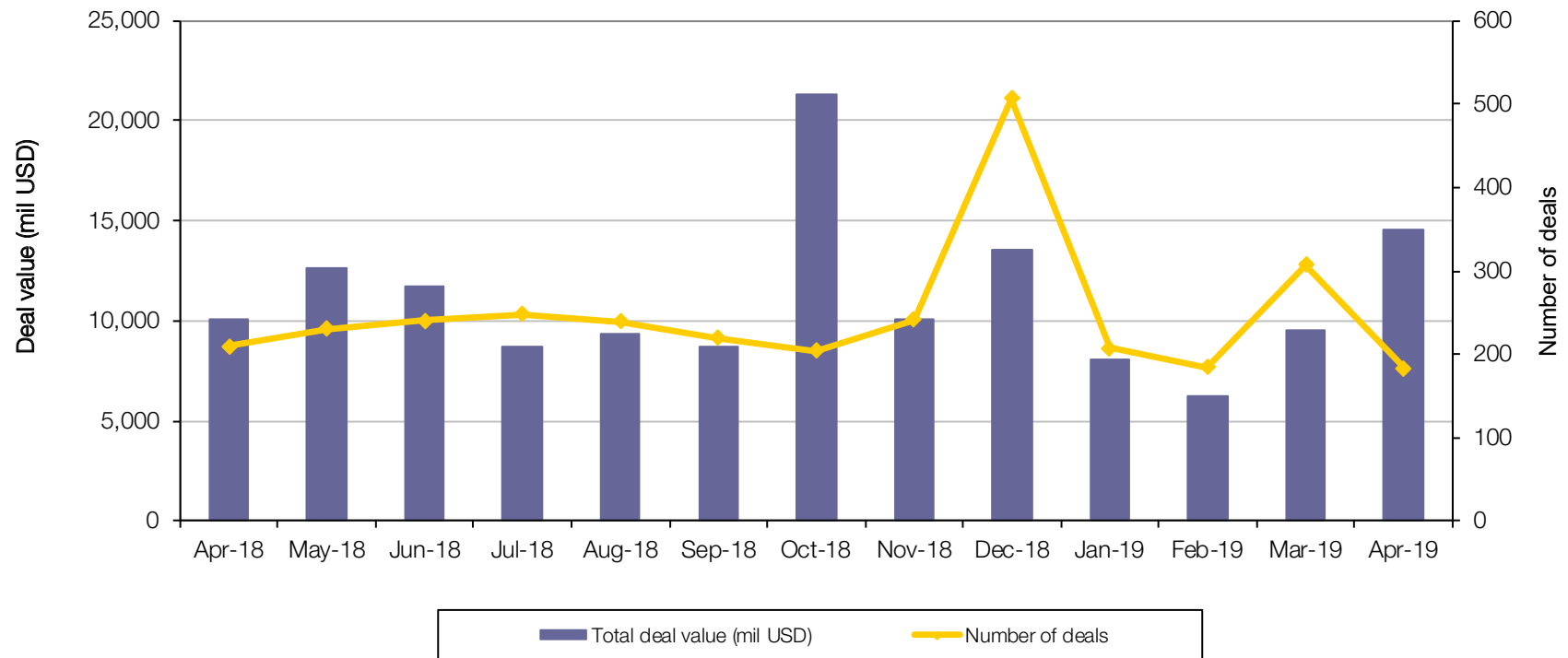
The same trend was evident in a year-on-year comparison as volume decreased while value climbed from the 210 deals worth USD 10,072 million announced in April 2018. In fact, April 2019's value is the second-highest of the last 12 months, surpassed only by October 2018 (USD 21,344 million).

The largest cleantech M&A deal of April 2019 was worth USD 4,900 million and involved Waste Management agreeing to acquire US-headquartered Advanced Disposal Services. This was followed by undisclosed institutional investors taking over EDP Renovaveis' operating onshore wind portfolio assets in Europe for USD 1,802 million.

Deals by volume and value

Announced date	No of deals	Total deal value (mil USD)
Apr-19	183	14,547
Mar-19	307	9,535
Feb-19	184	6,225
Jan-19	207	8,117
Dec-18	507	13,584
Nov-18	241	10,062
Oct-18	204	21,344
Sep-18	220	8,713
Aug-18	239	9,390
Jul-18	248	8,728
Jun-18	240	11,738
May-18	231	12,681
Apr-18	210	10,072

Deals by volume and value



Top 20 deals by value

	Deal value (mil USD)	Deal type	Target	Target business description	Target country	Acquiror	Deal status
1.	4,900	Acquisition 100%	Advanced Disposal Services Inc.	Hazardous and non-hazardous waste disposal services, Sewage treatment services, Waste collection and treatment services	US	Waste Management Inc.	Pending
2.	1,802	Acquisition 100%	EDP Renovaveis SA's operating onshore wind portfolio assets in Europe	Wind power electricity production services, Wind power electricity plant construction services		Institutional Investors	Announced
3.	1,250	Minority stake 33% and 49%	Duke Energy Renewables LLC's 37 operating wind, solar and battery storage assets; Duke Energy Renewables LLC's 11 operating solar assets	Solar power production services, Wind farms operator; Solar power production services	US; US	John Hancock Life Insurance Company; John Hancock Infrastructure Fund	Pending
4.	894	Capital Increase	Kyushu Electric Power Co., Inc.	Biomass energy generator, Coal-fired energy generator, Electric distributor, Geothermal power generator, Hydroelectric power generator, Nuclear energy generator, Optical fibre facilities leasing services, Other electricity power generator, Solar energy generator, Wind energy generator	JP	Development Bank of Japan Inc.; Mizuho Bank Ltd; MUFG Bank Ltd	Pending
5.	535	Acquisition increased from 100% to 100%	Longi Lerri Solar Technology Co., Ltd	Monocrystalline solar products manufacturer, Solar cells and related electronic products manufacturer	CN	Longi Green Energy Technology Co., Ltd	Announced
6.	387	Acquisition 100%	Amplus Energy Solutions Pvt Ltd	Solar power generation projects installation services	IN	Petroliam Nasional Bhd	Completed
7.	377	Acquisition increased from 100% to 100%	Ningxia Longji Leye Technology Co., Ltd	Solar energy generation services	CN	Longi Lerri Solar Technology Co., Ltd	Announced
8.	265	Acquisition 100%	Ningbo Jiangbei Yize New Energy Technology Co., Ltd	Solar cell manufacturer	CN	Jiangsu Akcome Science & Technology Co., Ltd	Pending
9.	260	Minority stake 1%	Tenaga Nasional Bhd	Electricity distribution service holding company, Electricity transmission service holding company, Fossil fuel electric generation services holding company, Hydroelectric power generation services holding company, Solar electric power generation services holding company, Wind electric power generation services holding company	MY	Investors	Completed
10.	256	Acquisition 100%	NARI Technology Development Co., Ltd's parent company's water conservancy and hydropower related assets and liabilities	Hydropower generation services	CN	Nanjing Nanduan Water Resources and Hydropower Technology Co., Ltd	Announced

Top 20 deals by value (cont'd)

	Deal value (mil USD)	Deal type	Target	Target business description	Target country	Acquiror	Deal status
11.	250	Capital Increase	Shenzhen Lonian Electrics Co., Ltd	Clean energy charging terminals manufacturer, Copper foil conductors manufacturer, Electricity energy meter manufacturer, Metering management system developer	CN	SK Networks Co., Ltd	Completed
12.	207	Acquisition increased from 100% to 100%	Stockyard Hill Wind Farm Pty Ltd	Wind energy services	AU	Stockyard Hill Wind Farm (Holding) Pty Ltd	Announced
13.	188	Minority stake 13%	Befesa SA	Steel dust, salt slags and aluminium residues recycling services holding company	LU		Completed
14.	157	Acquisition increased from 100% to 100%	Chuzhou Longji Leye Photovoltaic Technology Co., Ltd	Photovoltaic power generation services	CN	Longi Lerri Solar Technology Co., Ltd	Announced
15.	153	Minority stake 30%	Kangda International Environmental Co., Ltd	Waste water treatment holding company	KY	Sharp Profit Investments Ltd	Completed
16.	149	Capital Increase 17%	Jiangsu Akcome Science & Technology Co., Ltd	Aluminum ground support manufacturer, Photovoltaic power plants construction services, Photovoltaic power plants operation services, Solar cell used aluminum frame manufacturer	CN	Investors	Pending
17.	125	Minority stake increased from 3% to 5%	Pirelli & C SpA	Green fuel development services holding company, Hi-tech clothing manufacturer holding company, Renewable energy production services holding company, Tyres manufacturer holding company	IT	Sova Capital Ltd	Completed
18.	119	Capital Increase 13%	Poten Environment Group Co., Ltd	Sewage treatment services, Water protection engineering consulting services	CN		Pending
19.	108	Acquisition increased from 100% to 100%	Zhangjiakou Bode Shenlong Wind Energy Development Co., Ltd	Solar electric power generation services, Wind electric power generation services	CN	Zhangjiakou Bode Yulong Electric Power Development Co., Ltd	Pending
20.	107	Acquisition 100%	Water-Right Inc.	Residential and commercial water treatment products and systems manufacturer	US	AO Smith Corporation	Completed

Target countries by volume

Target country	Apr-18	Mar-19	Apr-19
China	73	68	70
US	14	80	13
Japan	5	9	12
India	5	10	10
Australia	11	7	9
South Korea	12	9	9
UK	12	8	8
Germany	15	11	8
Vietnam	3	10	6
Italy	5	6	4
Thailand	0	10	4
Finland	0	10	4
Russia	1	0	3
Taiwan	2	3	3
Sweden	9	6	2
Canada	7	5	2
Malaysia	0	3	2
Netherlands	2	2	2
Luxembourg	0	1	1
Singapore	3	5	1
Indonesia	0	0	1

Target countries by value

Target country	Apr-18 (mil USD)	Mar-19 (mil USD)	Apr-19 (mil USD)
US	798	2,954	6,328
China	1,983	1,865	3,199
Japan	433	5	930
India	1,541	190	470
Australia	158	20	337
Malaysia	0	4	260
Luxembourg	0	45	188
UK	164	96	183
Finland	0	189	172
Italy	4	16	153
Cayman Islands	22	341	153
Canada	3,978	1,283	97
South Korea	210	446	84
Israel	0	2	62
Taiwan	18	18	46
Germany	198	14	20
Brazil	0	427	13
Norway	31	12	12
Lao	0	0	9
Vietnam	39	113	7
Thailand	0	260	6

IPOs by volume and value

Announced date	No of deals	Total deal value (mil USD)
Apr-19	9	1,162
Mar-19	3	3
Feb-19	2	4
Jan-19	4	0
Dec-18	10	553
Nov-18	6	121
Oct-18	8	732
Sep-18	13	198
Aug-18	4	349
Jul-18	10	44
Jun-18	5	880
May-18	7	1,032
Apr-18	9	47

April IPOs

	Deal value (mil USD)	Deal type	Target	Target business description	Target country	Announced date	Deal status
1.	651	Planned IPO on Bombay Stock Exchange and National Stock Exchange of India	Sterling and Wilson Solar Ltd	Solar power projects construction services, Solar power projects engineering services	IN	15/04/2019	Announced
2.	150	Planned IPO 25% on Shanghai Stock Exchange Sci-Tech Innovation Board	Jiangxi JDL Environmental Protection Co., Ltd	Heavy metal wastewater processor manufacturer, Membrane bioreactor reactor manufacturer, Wastewater treatment services	CN	15/04/2019	Pending
3.	109	Planned IPO 25% on Shanghai Stock Exchange Sci-Tech Innovation Board	Longyan Zhuoyue New Energy Co., Ltd	Biodiesel manufacturer	CN	24/04/2019	Pending
4.	80	Planned IPO 25% on Shanghai Stock Exchange Sci-Tech Innovation Board	Nanjing Wondux Environmental Protection Technology Co., Ltd	Environmental remediation services, Garbage leachate treatment services, Sewage treatment services	CN	18/04/2019	Pending
5.	67	Planned IPO 25% on Shanghai Stock Exchange Sci-Tech Innovation Board	Guangdong Huate Gas Co., Ltd	Hazardous goods overland transportation services, Industrial gases manufacturer, Photovoltaic cells manufacturer	CN	12/04/2019	Pending
6.	61	Planned IPO 25% on Shanghai Stock Exchange.	Tibet Yungao Renewable Energy Co., Ltd	Solar power generation services	CN	26/04/2019	Pending
7.	43	Planned IPO on Jamaica Stock Exchange	Wigton Windfarm Ltd	Wind farm operator	JM	08/04/2019	Announced
8.	n.a.	Planned IPO on National Equities Exchange and Quotations	Dongying Zhitong New Energy Technology Co., Ltd	Photovoltaic panels installation services, Photovoltaic panels manufacturer	CN	19/04/2019	Announced
9.	n.a.	Planned IPO 28% on KOSDAQ	Willings Co., Ltd	Inverter manufacturer, Solar cell manufacturer	KR	12/04/2019	Announced

Notes to editors

The search criteria uses a key word system based on the targets' business description

The key words and phrases are: "alternative energy" OR "alternative power" OR "biomass" OR "bioenergy" OR "bio energy" OR "bio-energy" OR "biofuel" OR "fuel cell" OR "hydrogen" OR "photovoltaic" OR "renewable energy" OR "reusable energy" OR "re-usable energy" OR "solar" OR "waste to energy" OR "wind power" OR "wind farm" OR "wave power" OR "geothermal" OR "geothermal" OR "hydropower" OR "hydro-power" OR "bio-diesel" OR "biodiesel" OR "energy resource management" OR "electric vehicle" OR "water purification" OR "intelligent power" OR "air quality" OR "energy efficiency" OR "thin film energy" OR "thin-film energy" OR "energy efficiency software" OR "energy storage" OR "battery power" OR "water treatment" OR "waste management" OR "biogas" OR "anaerobic digestion" OR "wastewater" OR "green construction" OR "green buildings" OR "smart meter" OR "smart grid" OR "energy monitoring" OR "marine energy" OR "solar thermal" OR "algae" OR "green energy" OR "cleantech" OR "clean tech" OR "environmental technology" OR "greentech" OR "charging station" OR "green infrastructure" OR "clean energy" OR "tidal power" OR "tidal energy" OR "biodegradable" OR "alternative fuel" OR "landfill" OR "wind electric power generation" OR "wind power generation" OR "wind turbine" OR "desalination" OR "membrane bioreactor" OR "energy storage" OR "energy saving" OR "water resources surveying" OR "water resources mapping" OR "photovoltaic power" OR "hydroelectric power" OR "waste electric power generation" OR "sewage treatment" OR "green industry" OR "electric vehicle maintenance" OR "water treatment" OR "environmental protection technology" OR "waste treatment" OR "solar power project construction" OR "solar power" OR "solar electric power" OR "Water quality analyser" OR "Water quality analyzer" OR "Air pollution control equipment" OR "Air pollution control technology" OR "solar energy generation" OR "waste to energy" OR "waste-to-energy" OR "recycling" OR "hydro electric power" OR "hydro-electric power" OR "wind energy" OR "solar photovoltaic energy generation" OR "wind park"

Activity is based on the activity of the target company

Deal status is announced, completed, pending or unconditional

© 2019 Moody's Corporation, Moody's Investors Service, Inc., Moody's Analytics, Inc. and/or their licensors and affiliates including the Bureau van Dijk entities (collectively, "MOODY'S"). All rights reserved.

All information contained herein is obtained by MOODY'S from sources believed by it to be accurate and reliable. Because of the possibility of human or mechanical error as well as other factors, however, all information contained herein is provided "AS IS" without warranty of any kind. MOODY'S adopts all necessary measures so that the information it uses in assigning a credit rating is of sufficient quality and from sources MOODY'S considers to be reliable including, when appropriate, independent third-party sources. However, MOODY'S is not an auditor and cannot in every instance independently verify or validate information received in the rating process or in preparing the Moody's publications.

To the extent permitted by law, MOODY'S and its directors, officers, employees, agents, representatives, licensors and suppliers disclaim liability to any person or entity for any indirect, special, consequential, or incidental losses or damages whatsoever arising from or in connection with the information contained herein or the use of or inability to use any such information, even if MOODY'S or any of its directors, officers, employees, agents, representatives, licensors or suppliers is advised in advance of the possibility of such losses or damages, including but not limited to: (a) any loss of present or prospective profits or (b) any loss or damage arising where the relevant financial instrument is not the subject of a particular credit rating assigned by MOODY'S.

To the extent permitted by law, MOODY'S and its directors, officers, employees, agents, representatives, licensors and suppliers disclaim liability for any direct or compensatory losses or damages caused to any person or entity, including but not limited to by any negligence (but excluding fraud, willful misconduct or any other type of liability that, for the avoidance of doubt, by law cannot be excluded) on the part of, or any contingency within or beyond the control of, MOODY'S or any of its directors, officers, employees, agents, representatives, licensors or suppliers, arising from or in connection with the information contained herein or the use of or inability to use any such information.

NO WARRANTY, EXPRESS OR IMPLIED, AS TO THE ACCURACY, TIMELINESS, COMPLETENESS, MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE OF ANY SUCH RATING OR OTHER OPINION OR INFORMATION IS GIVEN OR MADE BY MOODY'S IN ANY FORM OR MANNER WHATSOEVER.