

# Solar Energy Stock Index Q3 2018

## Solar Energy Highlights

Overall Solar Index decreased 10.5% from last quarter

Wafers / Ingots Index decreased 31.3% from last quarter

Systems Components Index decreased 6.1% from last quarter

EPC Integrators / Developers Index increased 7.0% from last quarter



# About the Solar Energy Stock Index

Similar to the S&P 500 Index, the Solar Stock Index(1) is a market cap weighted composite index. The index is prepared by first selecting a base period, in this case, Q1 2009, and totaling the market caps of the companies in each sector in this period. This period and total market cap is set to a base index, in this

case, 1000. Next, for each sector, the current period's total market cap is calculated, divided by the base period's total market cap and then multiplied by the base index (1000). The result is the index value used for plotting in the graph on the following page.

## Solar Energy Index Underperforms S&P in Q3 2018

Winner's Circle		Sector
Sino-American Silicon Products Inc.	10%	W
SolarEdge Technologies AG	(9%)	S
SunPower Corporation	(4%)	I
TerraForm Power, Inc.	47%	D
Worst Performers		Sector
REC Silicon	(41%)	W
Motech Industries, Inc.	(34%)	S
First Solar, Inc.	(26%)	I
Capital Stage AG	(27%)	D

Note: Based on quarter-over-quarter share price performance

EBITDA Margins	
Wafers / Ingots	30%
Systems Components	8%
Vertically Integrated	8%
EPC Integrators / Developers	62%
3 Year Revenue CAGR	
Wafers / Ingots	14%
Systems Components	(5%)
Vertically Integrated	4%
EPC Integrators / Developers	30%

Source: Capital IQ as of September 30, 2018  
Note: Average for each sector; CAGR stands for compound annual growth rate

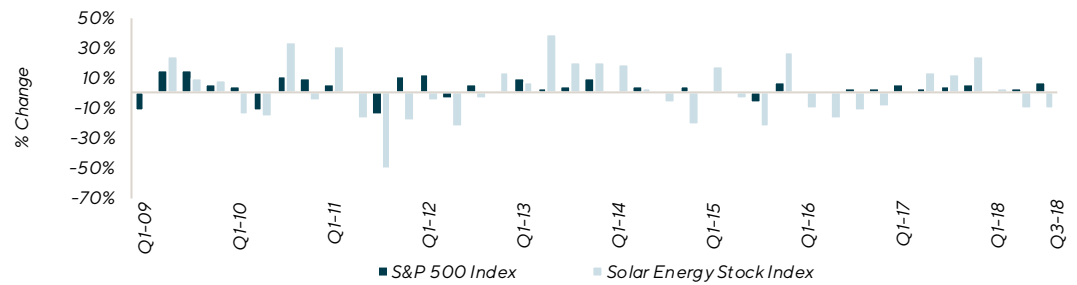
## Solar Energy Sector Guide

Wafers/Ingots Producers (W)	Systems Components (S)	Vertically Integrated Companies (I)	Engineering, Procurement and Construction ("EPC") Integrators / Developers (D)
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(1) As of Q4 2017, the Solar Stock Index was reevaluated to depict a more accurate representation of the contemporary solar energy environment.

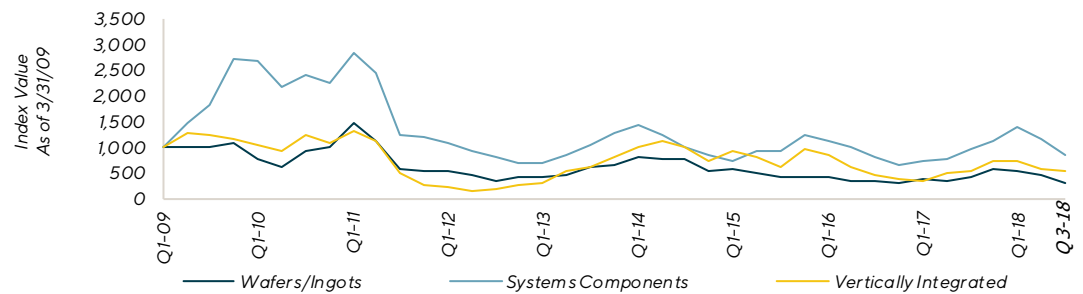
## S&P Index vs. Solar Energy Stock Index

Quarter / Quarter Change



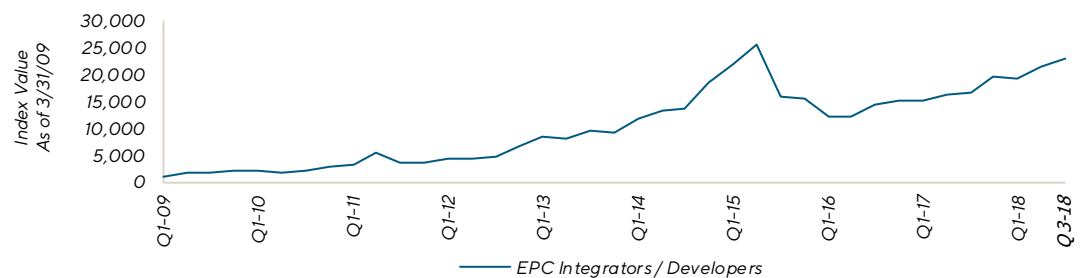
## Solar Energy Stock Index by Sector

Wafers / Ingots, Systems Components and Vertically Integrated



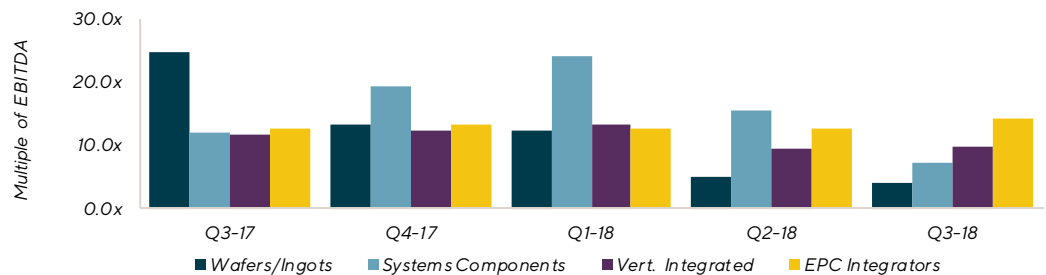
## Solar Energy Stock Index by Sector<sup>(1)</sup>

EPC Integrators / Developers



(1) EPC Integrator / Developers sector performance shown separately due to rapidly changing dynamics within this sector

## Enterprise Value<sup>(2)</sup> / EBITDA



(2) Enterprise Value is calculated as market cap as of the end of each quarter plus debt, preferred equity and minority interest less cash



## Solar Energy Stock Index Data

Company	Exchange	Stock Price	LTM Sales (\$ in millions)	Diluted EPS	Current Ratio	EV / EBITDA	EV / Sales	Market Cap (\$ in millions)	Net Debt (\$ in millions)
<b>Wafers / Ingots</b>									
Daqo New Energy Corp.	New York	\$26.11	\$363	\$8.51	1.2	2.1x	1.0x	\$336	\$35
GCL-Poly Energy Holdings Ltd.	Hong Kong	0.07	3,539	0.01	0.7	7.8x	2.8x	1,288	8,038
REC Silicon	Oslo	0.08	282	(0.24)	1.5	3.1x	1.0x	197	92
Sino-American Silicon Products Inc.	Taiwan	3.93	2,167	0.17	1.6	2.9x	0.8x	1,508	(457)
<b>Average Wafers / Ingots</b>			<b>1,588</b>		<b>1.2</b>	<b>4.0x</b>	<b>1.4x</b>	<b>832</b>	<b>1,927</b>
<b>Systems Components</b>									
Gintech Energy Corporation	Taiwan	\$0.41	\$397	\$(0.08)	2.3	NM	0.6x	\$214	\$33
Motech Industries, Inc.	Taiwan	0.33	718	(0.27)	1.4	NM	0.4x	180	122
Neo Solar Power Corporation	Taiwan	0.34	369	(0.11)	0.8	NM	2.3x	351	472
SMA Solar Technology AG	Frankfurt	23.45	1,055	1.10	2.8	5.6x	0.3x	814	(454)
SolarEdge Technologies, Inc.	New York	37.65	793	2.48	4.0	9.1x	1.7x	1,713	(349)
<b>Average Systems Components</b>			<b>666</b>		<b>2.3</b>	<b>7.3x</b>	<b>1.1x</b>	<b>654</b>	<b>(35)</b>
<b>Vertically Integrated</b>									
Canadian Solar Inc.	New York	\$14.50	\$4,096	\$2.24	0.9	6.8x	0.7x	\$849	\$1,896
First Solar, Inc.	New York	48.42	2,303	(1.84)	4.9	8.2x	1.0x	5,075	(2,671)
JinkoSolar Holding Co., Ltd.	New York	10.77	3,535	0.58	1.0	13.9x	0.6x	421	1,803
SunPower Corporation	New York	7.30	2,056	(7.89)	1.8	NM	1.3x	1,029	1,583
<b>Average Vertically Integrated</b>			<b>2,997</b>		<b>2.1</b>	<b>9.7x</b>	<b>0.9x</b>	<b>1,844</b>	<b>653</b>
<b>EPC Integrators / Developers</b>									
Azure Power Global Limited	New York	\$16.18	\$120	\$(0.55)	3.8	12.4x	9.7x	\$421	\$734
BCPG Public Company Limited	Bangkok	0.70	100	0.03	1.7	19.3x	19.1x	1,403	484
Capital Stage AG	Frankfurt	6.94	270	0.19	1.6	13.6x	9.5x	898	1,666
China Singyes Solar Technologies	Hong Kong	0.35	875	0.05	1.4	7.4x	1.2x	289	719
Scatec Solar ASA	Oslo	7.40	138	0.51	2.1	14.4x	10.9x	839	602
SPCG Public Company Limited	Bangkok	0.66	198	0.08	1.3	7.5x	4.8x	639	257
Sunrun Inc.	New York	12.44	609	1.18	1.5	NM	5.5x	1,380	1,556
TerraForm Power, Inc.	New York	11.55	596	(0.62)	0.9	24.3x	14.9x	2,415	5,714
<b>Average EPC Integrators / Developers</b>			<b>363</b>		<b>1.8</b>	<b>14.1x</b>	<b>9.5x</b>	<b>1,035</b>	<b>1,467</b>
<b>Average Solar Energy Index</b>			<b>1,404</b>		<b>1.9</b>	<b>8.8x</b>	<b>3.2x</b>	<b>873</b>	<b>1,003</b>

Note: Data in table above is sourced from Capital IQ as of September 30, 2018 or latest available data. Stock price adjusted for dividends and splits.

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