

Stock Index

Solar Energy

Q3 2017



Solar Energy Highlights

- Overall Solar Index increased 10.4% from last quarter
- Wafers / Ingots Index increased 25.3% from last quarter
- Cells / Modules Index increased 9.3% from last quarter
- Vertically Integrated Index increased 6.8% from last quarter
- EPC Integrators / Developers Index increased 8.0% from last quarter

About the Solar Energy Stock Index

Similar to the S&P 500 Index, the Solar Stock Index 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 Outperforms S&P in Q3 2017

Winner's Circle		Sector
PV Crystalox Solar plc	36%	W
JA Solar Holdings Co., Ltd.	20%	C
JinkoSolar Holding Co., Ltd.	20%	I
Capital Stage AG	7%	D
Worst Performers		Sector
ReneSola Ltd.	(5%)	W
Motech Industries	(8%)	C
SolarWorld AG	(57%)	I
Real Goods Solar	(11%)	D

Based on quarter-over-quarter share price performance

EBITDA Margins	
Wafers / Ingots	18%
Cells / Modules	21%
Vertically Integrated	5%
EPC Integrators / Developers	71%

3 Year Revenue CAGR	
Wafers / Ingots	(18%)
Cells / Modules	4%
Vertically Integrated	2%
EPC Integrators / Developers	1%

Source: Capital IQ as of September 30, 2017

Note: Average for each sector; CAGR stands for compound annual growth rate

Solar Energy Sector Guide

Wafers/Ingots Producers (W)

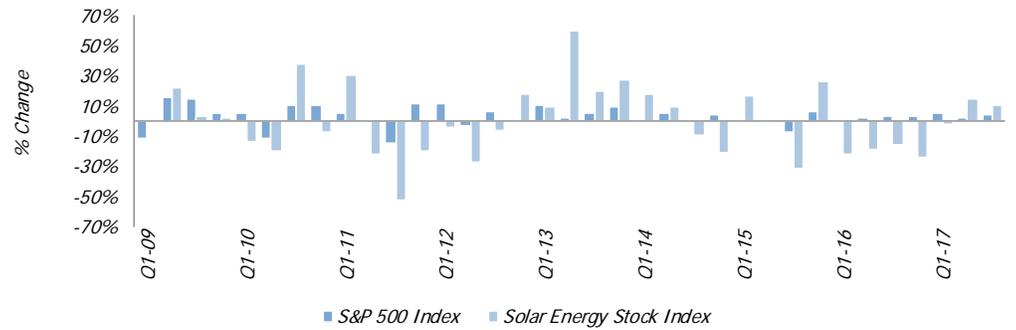
Cells/Modules Production (C)

Vertically Integrated Companies (I)

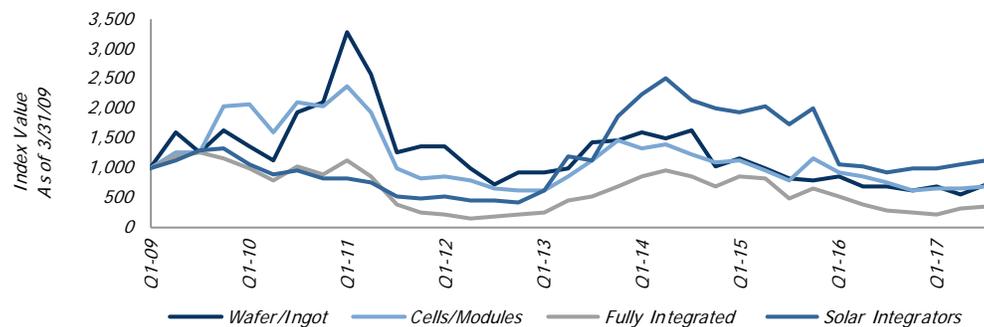
Engineering, Procurement and Construction ("EPC") Integrators / Developers (D)

S&P Index vs. Solar Energy Stock Index

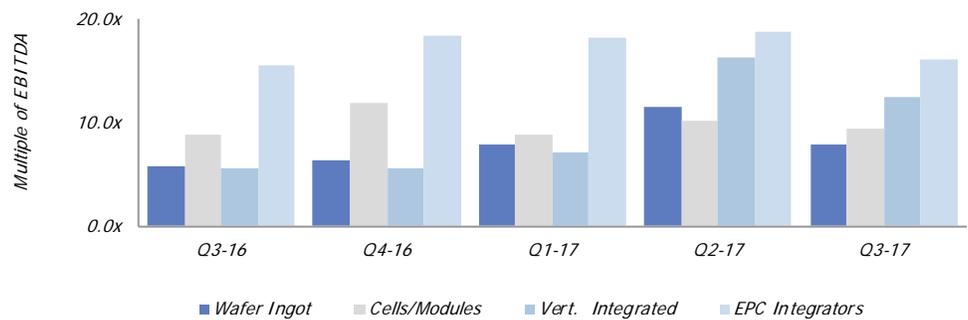
Quarter / Quarter Change



Solar Energy Stock Index by Sector



Enterprise Value⁽¹⁾ / EBITDA



(1) Enterprise Value is calculated as market cap on September 30, 2017 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)
Wafers / Ingots									
GCL-Poly Energy Holdings Ltd.	Hong Kong	\$0.14	\$3,098	\$0.01	0.8	8.0x	2.8x	\$2,546	\$5,633
PV Crystalox Solar plc	London	0.34	39	(0.06)	12.8	NM	0.5x	53	(32)
ReneSola Ltd.	New York	2.33	727	(5.00)	0.5	NM	1.0x	47	673
Average Wafers / Ingots			\$1,288		4.7	8.0x	1.4x	\$882	\$2,091
Cells / Modules									
E-Ton Solar Tech. Co. Ltd	Taiwan	\$0.32	\$114	(\$0.04)	2.1	NM	1.8x	\$251	(\$36)
Gintech Energy Corporation	Taiwan	0.57	524	(0.11)	2.5	NM	0.5x	297	(41)
Hanwha Q CELLS Co., Ltd.	New York	8.21	2,283	0.50	1.0	6.6x	0.6x	683	642
JA Solar Holdings Co., Ltd.	Nasdaq	7.62	2,625	1.59	1.1	3.3x	0.3x	362	434
Motech Industries, Inc.	Taiwan	0.75	696	(0.25)	1.3	NM	0.8x	407	113
Neo Solar Power Corporation	Taiwan	0.51	346	(0.24)	1.2	NM	2.5x	520	314
Solaria Energia y Medio Ambiente, S.A.	Madrid	1.48	23	0.08	3.2	18.7x	11.1x	160	178
Average Cells / Modules			\$944		1.8	9.5x	3.1x	\$383	\$229
Vertically Integrated									
Canadian Solar Inc.	Nasdaq	\$16.84	\$2,695	\$0.42	0.9	19.8x	1.1x	\$977	\$2,009
First Solar, Inc.	Nasdaq	45.88	2,574	(4.63)	6.8	6.4x	1.2x	4,791	(1,796)
JinkoSolar Holding Co., Ltd.	New York	24.95	3,563	6.21	1.0	11.5x	0.6x	801	1,465
REC Silicon ASA	Oslo	0.13	250	(0.07)	1.4	NM	1.8x	324	112
SolarWorld AG	Frankfurt	0.64	856	(6.52)	1.9	NM	0.4x	10	304
SunPower Corporation	New York	7.29	2,491	(3.92)	1.4	NM	1.2x	1,017	1,760
Trina Solar Ltd.	New York	0.11	13	(0.02)	2.5	NM	0.7x	12	(3)
Yingli Green Energy Holding Co. Ltd.	New York	2.27	1,167	(22.16)	0.5	NM	1.5x	41	1,598
Average Vertically Integrated			\$1,701		2.1	12.6x	1.1x	\$997	\$596
EPC Integrators / Developers									
Capital Stage AG	Frankfurt	\$7.49	\$218	\$0.32	1.6	16.2x	11.9x	\$960	\$1,536
Real Goods Solar, Inc.	Nasdaq	0.87	14	(8.27)	4.6	NM	(0.2x)	7	(10)
Average EPC Integrators / Developers			\$116		3.1	16.2x	5.8x	\$483	\$763
Average Solar Energy Index			\$1,216		2.5	11.3x	2.3x	\$713	\$743

Note: Data in table above is sourced from Capital IQ as of September 30, 2017 or latest available data. Stock price adjusted for dividends and splits.

Global Industry Groups

Aerospace & Defense
Automotive & Truck
Building & Infrastructure
Business Services
Chemicals
Consumer Distribution
Electronics
Energy & Power
Financial Institutions
Food & Beverage
Healthcare
Industrials
Packaging
Technology, Media & Telecom

Global Locations

Amsterdam
Beijing
Chicago
Dallas
Frankfurt
London
Los Angeles
Madrid
Milan
Moscow
Mumbai
Munich
New York
Paris
San Francisco
São Paulo
Tokyo
Vienna
Zurich

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Mergers & Acquisitions
Debt Advisory
Special Situations
JV & Partnering
Valuations & Opinions

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Lincoln's Energy & Power Group

Lincoln International's Energy & Power Group is led by a former CEO of a public company. The firm's Energy & Power team provides transactional, financial and strategic advisory services to renewable energy companies and private equity groups. For more information, please contact:

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