

# Stock Index

## Solar Energy

Q4 2015



### Solar Energy Highlights

From last quarter:

- Overall Index increased 25.9%
- Wafers / Ingots Index decreased 3.9%
- Cells / Modules Index increased 46.9%
- Vertically Integrated Index increased 31.9%
- EPC Integrators / Developers Index increased 15.7%

### 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 Q4 2015

Winners Circle		Sector
ReneSola Ltd.	75%	W
Gintech Energy	112%	C
Canadian Solar Inc.	74%	I
SolarCity Corporation	20%	D
Worst Performers		Sector
GCL-Poly Energy Holdings	(16%)	W
China Sunergy Co. Ltd.	(5%)	C
SolarWorld AG	(39%)	I
Real Goods Solar, Inc.	(47%)	D

*Based on quarter-over-quarter share price performance*

EBITDA Margins	
Wafers / Ingots	16%
Cells / Modules	13%
Vertically Integrated	11%
EPC Integrators / Developers	73%

3 Year Revenue CAGR	
Wafers / Ingots	5%
Cells / Modules	6%
Vertically Integrated	10%
EPC Integrators / Developers	19%

*Source: Capital IQ as of December 31, 2015 or latest available*

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

### Solar Energy Sector Guide

Wafers/Ingots Producers (W)

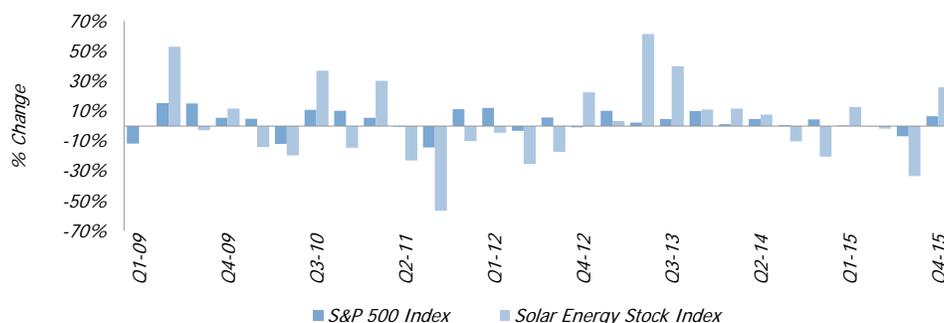
Cells/Modules Production (C)

Vertically Integrated Companies (I)

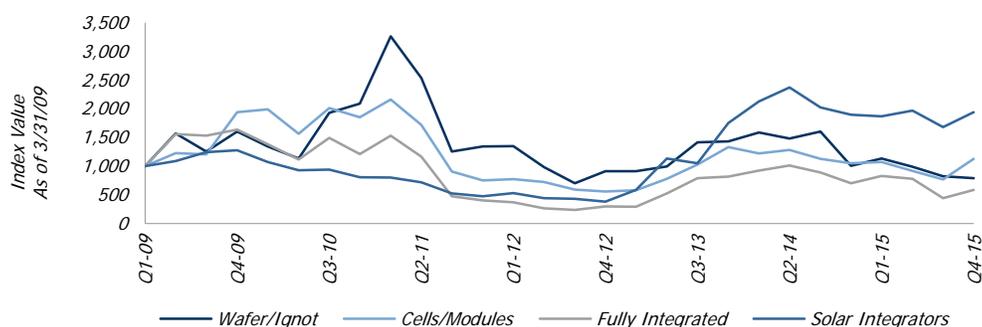
Engineering, Procurement and Construction ("EPC") Integrators / Developers (D)

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

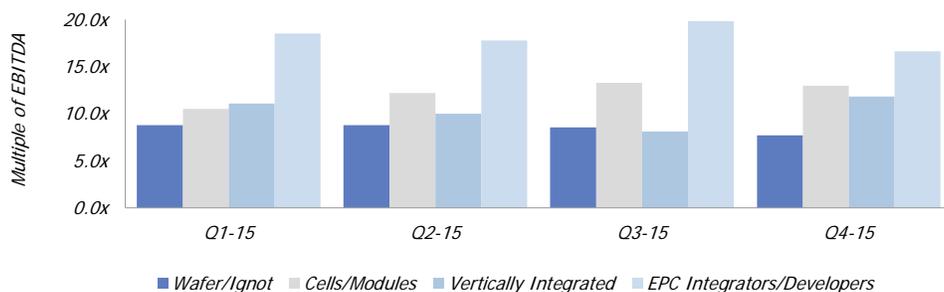
Quarter / Quarter Change



### Solar Energy Stock Index by Sector



### Enterprise Value<sup>(1)</sup> / EBITDA



(1) Enterprise Value is calculated as Market Cap on December 31, 2015 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>									
GCL-Poly Energy Holdings Ltd.	Hong Kong	\$0.15	\$4,895	\$0.02	0.8	8.3x	1.9x	\$2,782	\$5,941
PV Crystalox Solar plc	London	0.13	61	(0.05)	4.8	NM	NM	21	(18)
ReneSola Ltd.	New York	1.70	1,373	(0.20)	0.6	7.2x	0.6x	174	664
Average Wafers / Ingots			\$2,110		2.1	7.7x	1.2x	\$992	\$2,195
<b>Cells / Modules</b>									
China Sunergy Co. Ltd.	Nasdaq	\$1.10	\$369	(\$3.96)	0.9	NM	1.5x	\$16	\$543
E-Ton Solar Tech. Co. Ltd	Taiwan	0.37	121	(0.04)	2.9	NM	2.3x	292	(11)
Gintech Energy Corporation	Taiwan	0.97	463	(0.05)	1.7	13.6x	1.0x	435	45
Hanwha Q CELLS Co., Ltd.	New York	21.94	1,277	0.24	1.0	20.3x	2.1x	1,828	826
JA Solar Holdings Co., Ltd.	Nasdaq	9.70	1,914	1.49	1.5	3.9x	0.5x	490	459
Motech Industries, Inc.	Taiwan	1.36	642	(0.10)	1.5	35.4x	1.2x	664	116
Neo Solar Power Corporation	Taiwan	0.73	671	(0.07)	1.6	NM	1.1x	629	115
Solaria Energia y Medio Ambiente, S.A.	Madrid	0.76	23	0.06	0.4	14.1x	7.4x	82	87
Average Cells / Modules			\$685		1.4	17.5x	2.2x	\$554	\$273
<b>Vertically Integrated</b>									
Canadian Solar Inc.	Nasdaq	\$28.96	\$3,304	\$3.16	0.9	8.8x	0.9x	\$1,619	\$1,381
First Solar, Inc.	Nasdaq	65.99	3,645	5.67	3.6	6.1x	1.4x	6,660	(1,501)
JinkoSolar Holding Co., Ltd.	New York	27.67	1,985	1.76	1.0	10.2x	1.3x	863	1,436
Renewable Energy Corporation ASA	Oslo	0.20	381	0.07	2.8	11.9x	1.6x	510	90
SolarWorld AG	Frankfurt	9.85	784	(4.63)	2.0	NM	0.6x	147	277
SunEdison, Inc.	New York	5.09	2,497	(4.03)	1.1	NM	5.7x	1,612	9,343
SunPower Corporation	Nasdaq	30.01	2,366	0.55	1.8	18.4x	2.1x	4,099	636
Trina Solar Ltd.	New York	11.02	2,779	0.54	0.8	8.3x	0.8x	1,016	1,182
Yingli Green Energy Holding Co. Ltd.	New York	4.53	1,730	(39.66)	0.6	19.1x	1.6x	823	1,740
Average Vertically Integrated			\$2,164		1.6	11.8x	1.8x	\$1,928	\$1,621
<b>EPC Integrators / Developers</b>									
Capital Stage AG	Frankfurt	\$8.53	\$121	\$0.50	2.0	16.6x	12.1x	\$644	\$803
Real Goods Solar, Inc.	Nasdaq	0.63	54	(3.98)	1.0	NM	0.2x	8	1
SolarCity Corporation	Nasdaq	51.02	356	(0.69)	1.0	NM	22.0x	4,979	2,032
Average EPC Integrators / Developers			\$177		1.3	16.6x	11.4x	\$1,877	\$946
Average Solar Energy Index			\$1,383		1.6	13.5x	3.2x	\$1,321	\$1,139

Note: Data in table above is sourced from Capital IQ as of December 31, 2015 or latest available data.

Stock price adjusted for dividends and splits.

Stock Index does not include polysilicon producers and diversified multi-divisional electronics firms such as Bosch, Kyocera, Mitsubishi Electric, Sanyo and Sharp.

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