

# DealReader

## Solar Energy

Q2 2017



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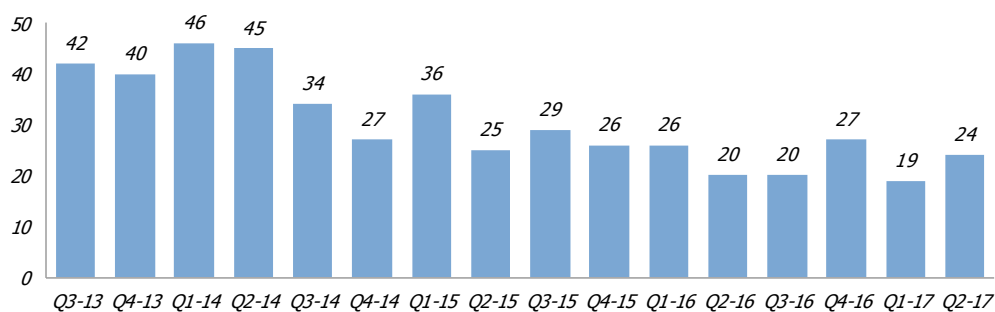
## Announcements

- Solarcentury has acquired a 400 MW PV pipeline in Latin America (April-17)
- Vortex Solar has acquired Terraform's 365 MW UK solar portfolio (May-17)
- BayWa r.e. has acquired OneShore Energy (May-17)
- NextEnergy Solar Fund has acquired a portfolio of solar plants and development projects in the UK (June-17)

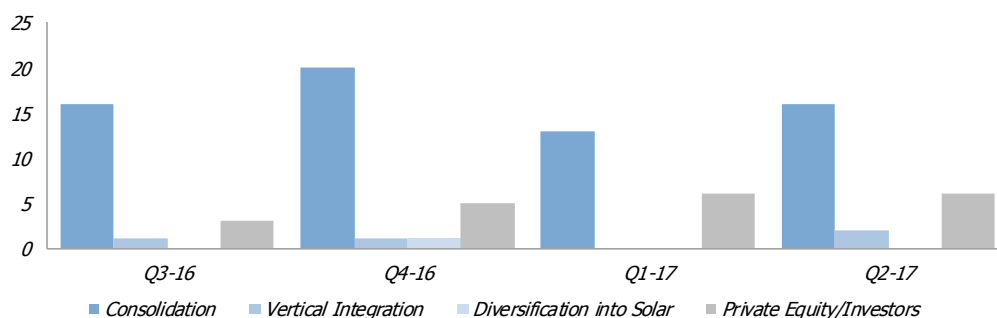
Sources: All information contained in this newsletter including the charts was obtained from company websites, Lincoln International's internal data and Capital IQ.

## Q2 2017 Deal Volume Comparison

### Completed Solar Energy Transaction Volume



### Quarterly Comparison – M&A by Category



There were 24 completed solar energy M&A transactions in Q2 2017, which represents an increase from the 19 transactions recorded in Q1 2017. On a comparative basis, this represents an increase from the 20 transactions reported in Q2 2016.

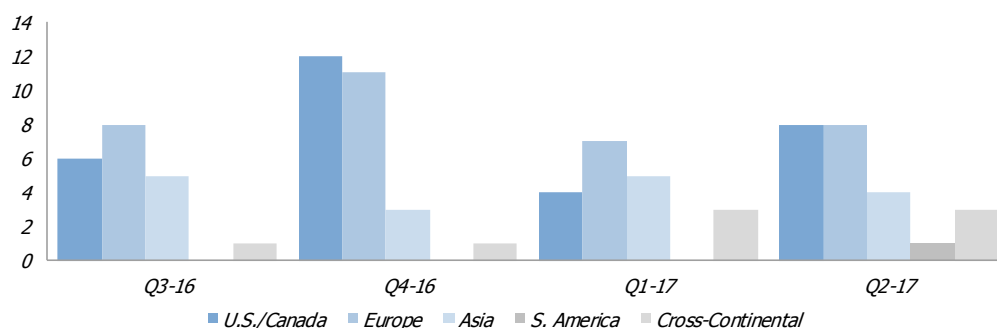
Within the solar M&A transactions, consolidation represented 67% of the volume, or 16 deals in Q2 2017. The next largest category was investment in the solar energy industry by private equity or private investors with 25% of transactions, or 6 deals this quarter. There were 2 transactions categorized as vertical integration and no transactions categorized as diversification into the solar energy industry.

In Q2 2017, 33% of the solar energy M&A volume, or 8 transactions, occurred within Europe. The U.S. and Canada also recorded 33% of the total volume, or 8 transactions, in the current quarter. Deals within Asia accounted for 4 transactions, or approximately 17% of the total for Q1 2017, representing a 6% increase in solar M&A market share for this geography. South America recorded one transaction, or 4% of the total, while cross-continental deals accounted for 3 transactions in Q2 2017.

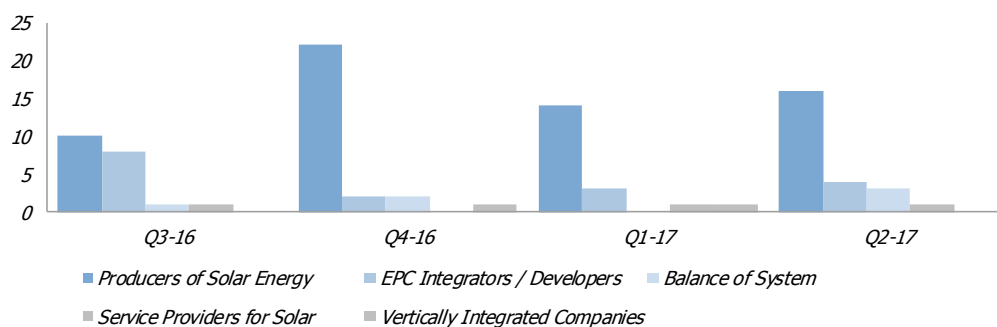
There were 16 acquisitions of companies categorized as producers of solar energy, representing the most common category of targets at 67% of the Q2 2017 total. This category primarily represents the acquisition of solar projects. EPC integrators/developers were the next most frequent acquisition targets, accounting for 4 transactions, or 17% of the total. Acquisitions of companies categorized as balance of system providers accounted for 3 transactions in Q2 2017, while acquisitions of companies categorized as service providers for solar accounted for one transaction. There were no acquisitions of vertically integrated solar companies in Q2 2017.

Consolidation for producers of solar power continued to be the primary source of deal activity in Q2 2017, in addition to continued volume from the private equity/investors category.

### Quarterly Comparison – M&A by Geography



### Quarterly Comparison – M&A by Sector of Target Company



## Margin Performance in the Solar Energy Industry

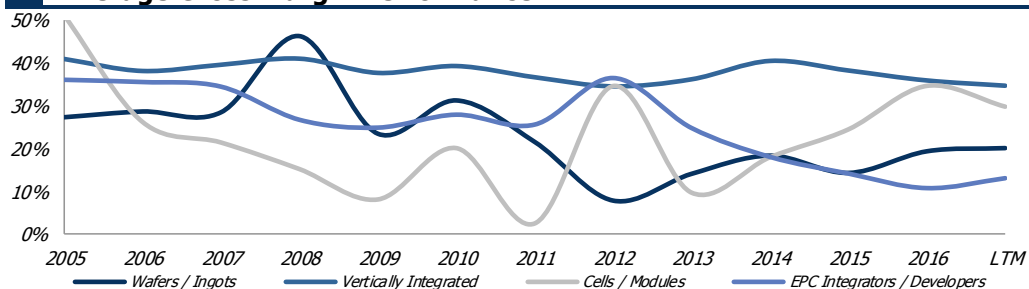
The majority of sectors within the solar energy industry are exhibiting flat to declining margins.

The three graphs on the following page provide an overview of gross margin, operating income margin, and EBITDA margin performance from 2005 through today. Each graph shows the margin performance by sector within the solar energy industry. In terms of margin performance by sector, wafers/ingots companies saw little movement in gross, operating and EBITDA margins in

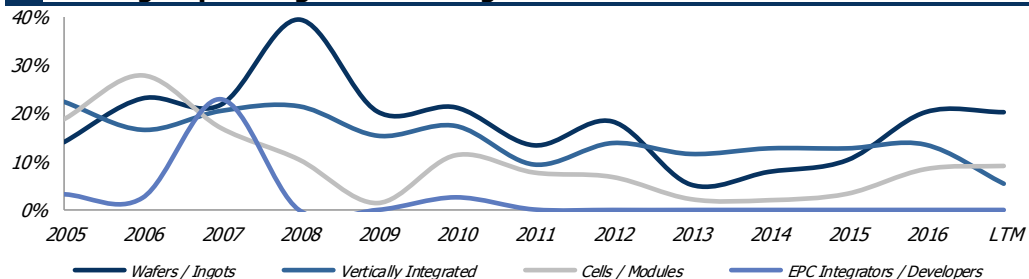
LTM Q2 2017. Vertically integrated companies saw declining gross, operating and EBITDA margins. The cells/modules companies saw declining gross margins and flat operating and EBITDA margins during the LTM Q2 2017 period.

Overall, solar companies categorized as wafer/ingot producers experienced the strongest margin performance over the last year, while each sector generally exhibited flat or declining margins.

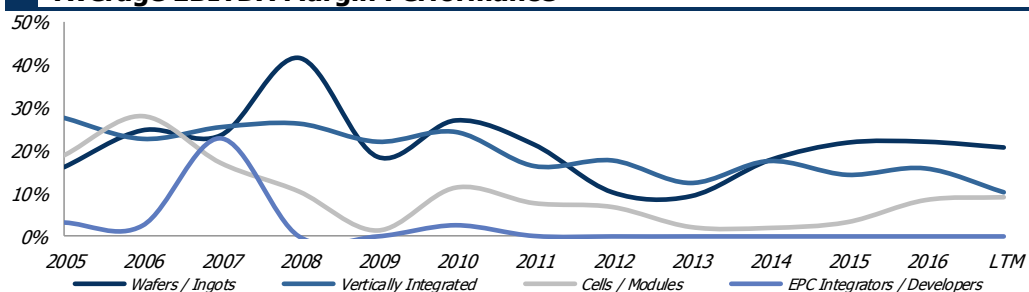
## Average Gross Margin Performance



## Average Operating Income Margin Performance



## Average EBITDA Margin Performance



## Solar Energy Margins by Sector

(LTM)	Gross Margin	Operating Margin	EBITDA Margin
GCL-Poly Energy Holdings Ltd.	32.0%	20.2%	36.2%
PV Crystalox Solar plc	-	-	-
ReneSola Ltd.	8.1%	-	5.0%
<b>Average Wafers / Ingots</b>	<b>20.0%</b>	<b>20.2%</b>	<b>20.6%</b>
E-Ton Solar Tech. Co., Ltd.	-	-	-
Gintech Energy Corporation	-	-	-
Hanwha Q CELLS Co., Ltd.	17.3%	7.7%	11.7%
JA Solar Holdings Co., Ltd.	13.5%	3.8%	9.6%
Motech Industries, Inc.	-	-	0.0%
Neo Solar Power Corporation	-	-	-
Solaria Energía y Medio Ambiente, S.A.	57.9%	15.9%	33.7%
<b>Average Cells / Modules</b>	<b>29.6%</b>	<b>9.1%</b>	<b>13.7%</b>
Canadian Solar Inc.	14.2%	0.6%	4.0%
First Solar, Inc.	18.0%	4.7%	11.5%
JinkoSolar Holding Co., Ltd.	15.7%	4.6%	8.4%
Renewable Energy Corporation ASA	80.1%	-	-
SolarWorld AG	32.3%	-	-
SunPower Corporation	6.0%	-	-
Trina Solar Limited	98.8%	12.2%	16.6%
Yingli Green Energy Holding Co. Ltd.	10.2%	-	-
<b>Average Vertically Integrated</b>	<b>34.4%</b>	<b>5.5%</b>	<b>10.1%</b>
Capital Stage AG	96.4%	-	-
Real Goods Solar, Inc.	13.1%	-	-
<b>Average EPC Integrators / Developers<sup>1</sup></b>	<b>13.1%</b>	<b>-</b>	<b>-</b>

Note: (1) Averages exclude Capital Stage AG

## 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

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