



## Q3 2015: Solar Renaissance

Welcome to the latest issue of the Energy Group Deal Reader, a newsletter offering insights on trends, news and M&A transactions of interest to industry executives, business owners, and investment professionals. We are pleased to provide commentary regarding relevant topics and keep you informed about developments at our firm and in the market.

### Key topics covered in this issue include:

- Solar PV market continues to send mixed signals despite global markets expected to grow to 50 MW, a more than 15% increase
- European utilities have invested markedly into solar business models
- Current valuation levels of select European energy component and services players

### Solar Renaissance—is it viable

As the “Energiewende” continues to win traction and utilities wake up to the challenge by looking into redesigning their business model it is eye catching that a number of them have recently invested into Solar PV businesses. Why do they invest into a sector which over the last years has primarily produced bad news: spectacular insolvencies, massive restructurings, unfair competition and the complaint about over-generous subsidies which initially triggered the boom

*“I have no hesitation to predict that in years to come solar will be the dominant backbone of our energy system, certainly of the electricity system”*

*(Ben van Beurden,  
CEO, Royal Dutch Shell)*

### Recent developments along the solar value chain

Given this background we want to take stock of where the sector stands along the value chain and how European players have fared recently

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**Solar Equipment:** This sub-sector easily raises most emotions amongst German commentators. Seen at the same time as the last bulwarks which can retain technology leadership in Solar PV in Europe and the devils who helped the Chinese manufacturing players become big by exporting technology, they have not fared well in the last couple of years. From a German perspective, with the exception of Manz AG, all players were either acquired (Roth & Rau AG by Meyer Burger AG) or went into receivership or both. Operationally, they faced very tough times in the last three years when module prices fell dramatically and cell and module players had simply no funds available to invest. It looks like H1 2015 brought a certain turn to the players, particularly as some of them can offer technology upgrades further improving the efficiency of cells.

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**Silicon and Wafers:** A sub-segment which used to be the bottleneck a couple of years ago has seen its prices fall dramatically to about USD 16 per kg from a height of more than USD 300 per kg in 2007. However, Wacker, one of the major players in the silicon industry, has used the time well to prepare itself for such a slide and continues to go strong. Despite a number of attempts by Chinese market participants to enter this segment with more than 60% of today’s PV-grade silicon still supplied by Western players. The wafer sub-segment looks very different with 76% of all wafer output coming from China and European players such as PV Crystalox struggling.

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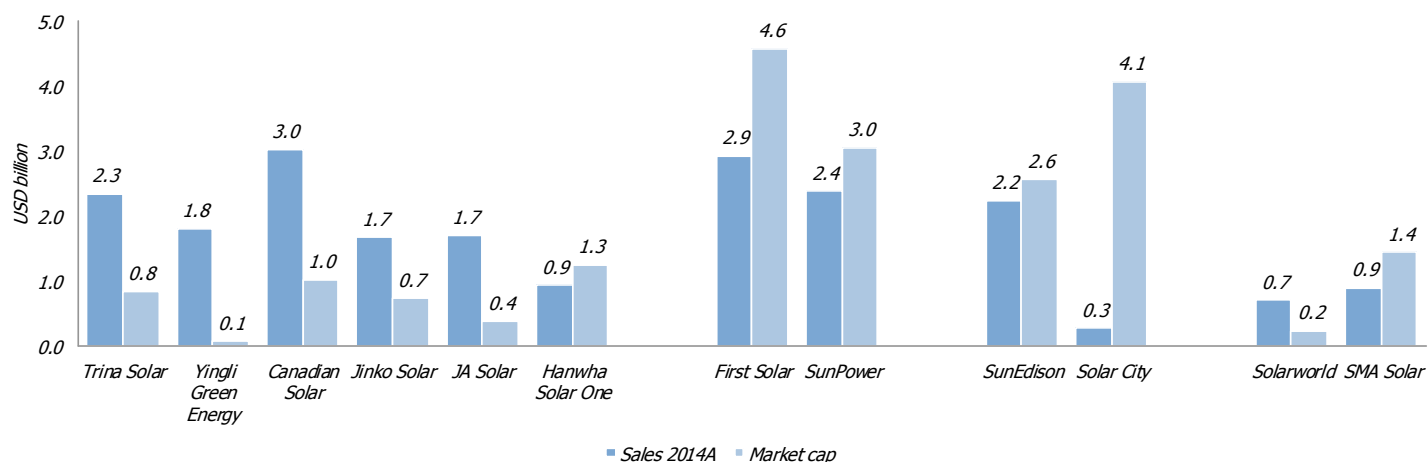
**Cells and Modules:** This is the sub-segment which over the last years has been most firmly grabbed by Chinese players through a relentless policy of loss-leader pricing and massive financing of capacity expansion by Chinese banks. Due to anti-dumping provisions, particularly in the U.S., some players were able to stem some of the tide, but nevertheless more than 70% of all modules sold globally today have a Chinese provenience. Despite some spectacular insolvencies such as Suntech Power or more recently Tianwei the sector continues to have ample supply thus continuing to exert downward pressure on prices. Amongst the leading industry participants Yingli Solar continues to struggle with negative earnings whereas Trina and Canadian Solar have recovered to positive earnings and Trina—the most profitable player—posting a net earnings margin of approximately 5% of sales

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**Downstream Distribution** This is a sub-sector which has grown significantly in the U.S., particularly in retail distribution. Solar City with its innovative approach to financing, targeting users with no up-front payment, controlled 34% of all retail installations in residential solar in H1 2015. Vivint, the number two player in the U.S. residential market, announced in July 2015 that it would be taken over by SunEdison for USD 2.2 billion. This is a remarkable purchase price given Vivint's sales of only USD 25.3 million. Overall there is a strong trend towards consolidation with the five biggest players already controlling more than 50% of the retail distribution market. This contrasts heavily with Germany where down-stream distribution has also seen major fallout after the crisis. The traditional German two tier system of wholesalers supplying installers and installers having the direct relationship with end customers is increasingly coming under strain as a number of wholesalers have become insolvent and most installers never considered Solar PV to be their core business. Some German players such as Solarworld reacted by pushing a more direct sales approach circumventing the wholesalers and trying to position themselves as a consumer brand.

### Assessment of Solar PV players by capital markets

It is interesting to see that capital markets have a completely different view on solar market leaders than market shares would suggest. Whereas in terms of 2014 shipment and production capacity the Chinese players dominate the scene, capital markets value innovative business models with down-stream distribution or full integration of the value chain. With a market capitalization of about USD 4.6 billion First Solar continues to be the most valuable solar company in the world. On the other hand relative newcomers such as SolarCity, which last year only had sales of USD 255 million, already have a market cap of more than USD 4 billion. The German players—as titans of the past—are only a fraction of their former past with e.g. Solarworld's former shareholder having been reduced to a 5% shareholding in the 2014 restructuring. SMA which recently regained ground following the announcement of a strategic partnership with Siemens still shows a market cap of more than USD 1 billion, which however, only is about a third of its former value.

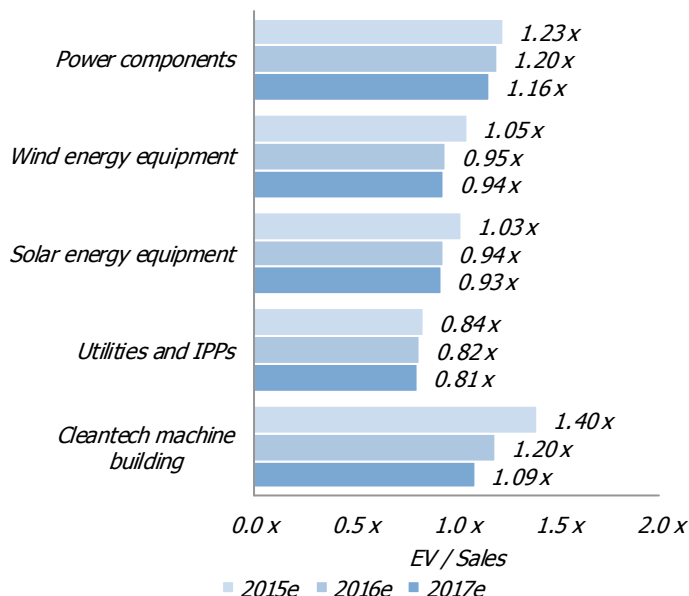


### Recent Solar PV acquisitions by European utilities

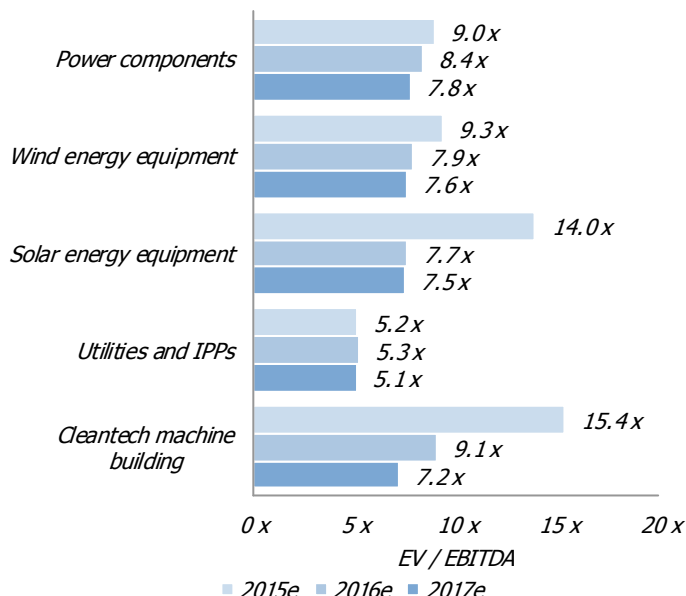
Given the assessment that today most of the value in Solar PV is seen in down-stream distribution the recent acquisitions of solar assets by European utilities start marking sense. With RWE buying a stake in Conergy and Engie (former GDF Suez) acquiring 95% of French player SolaireDirect both utilities invested in solar project development companies which will be helpful in building up their own Solar PV assets. This strategy is particularly confirmed by Conergy which recently announced that it would not just develop solar farms, but also continue holding them on its balance sheet. On the other hand E.ON and Swiss utility BKW took a bet on making solar systems more efficient by both investing in business models which make the planning and supervision of solar installations to residential consumers more efficient. BKW invested in German Solar Datensysteme which provides solutions for monitoring solar installation and optimizing grid deployment. E.ON participated in a USD 70 million financing round into U.S. solar software company Sungevity with the objective to deploy Sungevity's software in Germany and significantly increase its sales to retail consumers. We consider it likely that we will observe further Solar PV acquisitions in the next months to come.

**Current valuation levels of select European energy component and services players (mean)**

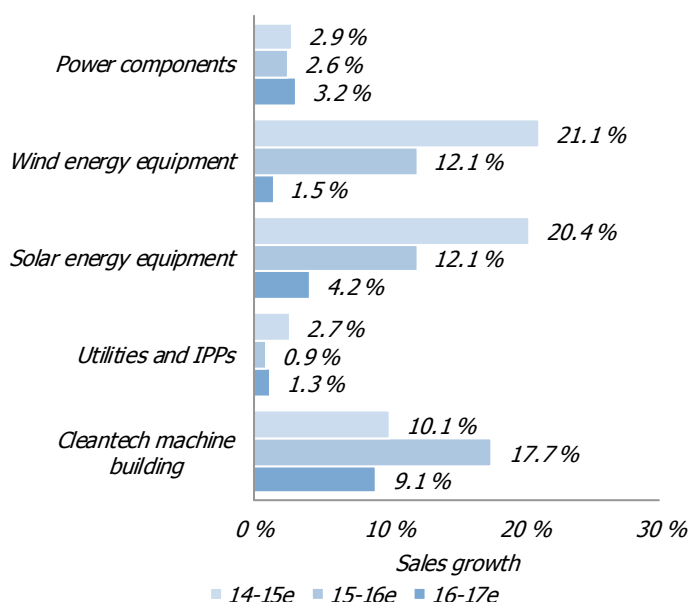
**EV / Sales (2015e-2017e)**



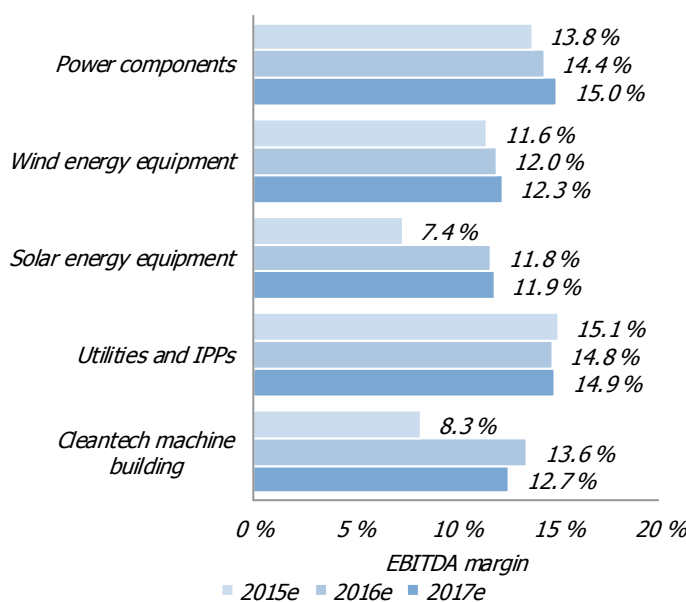
**EV / EBITDA (2015e-2017e)**



**Sales growth (2015e-2017e)**



**EBITDA margin (2015e-2017e)**



Constituents:

**Power components:** ABB, Schneider Electric, Siemens

**Wind energy equipment:** Gamesa, Nordex, Vestas

**Solar energy equipment:** SMA Solar Technology, SolarWorld

**Utilities and IPPs:** E.ON, EDF, EnBW, Engie, Iberdrola, RWE

**Cleantech machine building:** Aixtron, ISRA Vision, KUKA, LPKF Laser, PVA Tepla, Suess Microtec

Source: Thomson ONE, Bloomberg

Note: Based on closing prices as of 8th October 2015

**Commentary:**

- After the fall-out in renewables in a number of sub-segments but particularly in solar and wind in the period 2011 – 2013 most players have restored profitability in 2014.
- Solar and wind equipment as well as the machine builders serving these industries are expecting the highest growth rates which also translates into a significant trade-up in valuation levels of these companies.
- Nevertheless given the high volatility and risk associated with these business models they continue to trade somewhat below more traditional power components which include major players like Siemens, Schneider and ABB — albeit with this gap increasingly closing in 2015.
- Valuation levels of utilities and Independent Power Producers are much lower reflecting their current woes in the energy market

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**> 135**  
successful transactions in  
2014 worldwide

**26**  
successful transactions in  
DACH region in 2014

### Selected recent transactions with an energy angle advised by Lincoln International

**NPM CAPITAL**  
has sold

**Prins**  
ALTERNATIVE FUEL SYSTEMS

to

**Westport**  
POWER AND FLOWS

**EMMVEE**  
photovoltaics

has sold

Solarpark  
**bronkow**  
POWERED BY ENVEE

to

**RheinEnergie**

**yellow&blue**  
High-Tech Gründerfonds

have sold

**entelios**  
moving energy

to

**ENERNOC**

**HITEC**  
Power Protection

has sold

**SPECIAL MEASURING SYSTEMS**

to

**PHOENIX MECANO**

**FLABEG**

has sold

**Flabeg Solar**

to

**ACWA HOLDING**  
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