

PRESS RELEASE

goetzpartners Study – Photovoltaic Industry Survival Guide

How German photovoltaic companies can survive global consolidation

Munich, May 22, 2012. The German photovoltaic industry is undergoing a dramatic consolidation process. Only 86 of the 232 leading companies operating on the market today will survive until 2017 - representing a 63% decline. The market is highly saturated with overcapacity of 45% in 2011. German photovoltaic manufacturers are increasingly losing ground primarily due to the rising market penetration of Asian competitors. A continuous downward trend in system prices - 10% in 2011 alone - cannot be offset by many companies. This has resulted in an 11 percentage-point decline in gross margins and a 13 percentage-point loss in profit across the sector - and the trend is rising. Companies that are to survive must act now and redefine their business activities in line with their position in the photovoltaic value-creation chain. Market participants have eight courses of action available to them, according to the results of a recent goetzpartners' study.

"German photovoltaic companies are increasingly losing ground to the international competition and must counter this trend," affirmed Sebastian Olbert, a partner at goetzpartners and the author of the study.

The advisory firm estimates that just 37% of the leading German companies today will be operating on the international photovoltaic market in 2017:

- The number of equipment manufacturers will fall by 45% from 47 to 26 players. The consolidation process will primarily be driven by major players seeking to expand their portfolios through mergers and acquisitions.
- Polysilicon manufacturers will exploit cost advantages and force smaller players out of the market with only half of the companies in this group surviving.
- Moreover, a 50% decrease in wafer manufacturers will ensue. The remaining companies will only survive as part of integrated production.
- Only two of the six manufacturers currently focusing exclusively on solar cells will survive as part of integrated production owing to cost disadvantages and limited differentiation opportunities, representing a 67% decline.
- Module manufacturers will be the hardest hit players. Their number will plummet by 71% to 12 in 2017. Insolvencies as a result of overcapacity, price erosion and M&A transactions will be the main drivers.
- Inverter manufacturers will also be unable to avoid fiercer competition and face a 65% decrease from 20 companies today to 7. The large firms will acquire smaller ones to expand value creation. Asian players will also enter the German industrial landscape through acquisitions.
- A 67% drop in the number of PD/EPC companies from around 110 today to 36 firms in 2017 will also occur. This market segment faces consolidation with the entry of industrial players and the withdrawal of small and regional ones.

How can the remaining market participants survive? goetzpartners has analyzed the photovoltaic industry and defined action strategies for all value-creation levels which market players must adopt immediately in order to improve their chances of survival.

- **Equipment manufacturers** must focus on technological innovation. Constant improvement and innovation processes, as well as innovation leadership are the key to survival. Success factors: Diversification into associated industries, such as semiconductors, and concentration on system upgrades in times of overcapacity. Survival rate: 55%
- **Polysilicon manufacturers** must reduce costs through new technologies and optimized processes and increase earnings and throughput. In particular, the production of high-purity polysilicon can increase the efficiency of solar cells to over 20%. Survival rate: 50%
- **Crystalline module manufacturers** (c-Si) must proactively drive sales forward in order to gain direct access to projects, sales channels and end customers. This can, for example, be achieved through high service quality which also includes financing services, training and replacement part service etc., within the framework of partner programs. Bankability as a seal of product quality and reliability is also essential.
- **Thin-film module manufacturers** will find it difficult to win market share as c-Si costs are falling constantly and rapidly. They must therefore focus on competitive technologies, such as CI(G)S, and, above all, innovative products for niche markets, for example, with special designs and applications. Survival rate: 29%
- **Inverter manufacturers** require flexibility in purchasing and production as they are operating in a highly volatile market. Covering many applications and markets increases their chances, but also presents problems for niche suppliers. Survival rate: 35%
- **Project developers and EPCs** must reposition to focus on global projects and expand their project development capabilities accordingly to meet global requirements, particularly in the field of supply chain. This may be achieved with local and financially powerful partners or via joint ventures. Survival rate: 33%
- **Integrated module manufacturers** should consider forward and backward integration depending on their position in the value-creation chain. Competitive cost structures are required at all levels of the value-creation chain whereby the necessary financial capacity and R&D expertise across the chain are the key requirements. They also need to convert to global production. Survival rate: 66%

"The remaining companies cannot afford to stand still. Extensive restructuring programs are essential for many if they are to survive in the market," explained Michael Sanktjohanser, Managing Director at goetzpartners and Head of the Energy/Utilities Industry Line.



About goetzpartners

goetzpartners is a leading independent European consulting company that combines M&A (mergers & acquisitions) advisory and management consulting under one roof. With this unique service offering goetzpartners advises companies along their whole value chain, thus creating sustainable value for them. The Group is represented with offices in Munich, Düsseldorf, Frankfurt, London, Madrid, Moscow, Paris, Prague, Shanghai and Zurich, and maintains international cooperation ventures. goetzpartners Management Consultants concentrates mainly on the fields of strategy, operational excellence, and business transformation. goetzpartners Corporate Finance focuses on M&A advisory services.

Contact:

goetzpartners Management Consultants GmbH

Manuela Nikui

Director Marketing/PR

Prinzregentenstr. 56

80538 Munich

Tel.: +49 89 29 07 25-117

Fax: +49 89 29 07 25-215

nikui@goetzpartners.com

www.goetzpartners.com