

# **Markets for Inorganic and Organic Thin-Film PV Encapsulation - 2012**

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## **Abstracts**

### **Summary**

Thin-film, DSC and organic PV are notoriously vulnerable to oxygen and water vapor; much more so than conventional crystalline silicon PV. NanoMarkets believes that as these newer forms of solar panel technology become ever more pervasive, it is creating a growing opportunity to supply cost-effective encapsulation technology into the PV space.

Although, in the not-too-distant past, several firms have tried to exploit similar opportunities without success, NanoMarkets now believes that the time is right for PV encapsulation to lead to significant revenue generation for well-prepared companies and this report is designed to assist a variety of firms in preparing for the PV encapsulation opportunity.

Firms that have targeted the PV encapsulation space will learn which of the several novel encapsulation technologies that are now emerging will be success in the PV market and which sectors of the market will be most receptive to them. In particular, this report examines the implications for encapsulation makers of the rise of flexible PV for BIPV and other applications. Our analysis here takes into account the differing objectives of key encapsulation firms, which include large multinationals like 3M and Corning to specialty firms such as Tera Barrier Films and Beneq

The report also provides guidance to firms providing thin-film, DSC and organic PV, showing how improved encapsulation can be leveraged by such firms to create larger addressable markets. This discussion of encapsulation-related

opportunities for PV suppliers is set in the context of today's PV industry with its poor margins and technological uncertainties. The report will also be important to the building products industry, since encapsulation is a key enabling technology for building-integrated PV (BIPV), expected to be the fastest growing sector of the PV industry over the next decade and a diversification opportunity for

NanoMarkets also believes this report will also be of considerable interest to the glass industry, since even though rigid and heavy we anticipate that glass will continue to be the most widely used material for encapsulation for PV technology. In particular, this report we provide guidance on the revenues that glass firms can expect to generate from the non-conventional PV sector.

In this report NanoMarkets provides eight-year forecasts of PV encapsulation markets in both value (\$ millions) and volume (area of material) shipped. Breakouts are by type of encapsulation technology used and type of PV. In addition, this report appraises the product/market strategies being adopted by the leading active in thin-film, OPV and DSC encapsulation.

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