

BIPV Wall Markets - 2012

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Abstracts

Summary

The goal of this report is to quantify and analyze the market opportunity for BIPV technology in walling markets over the next eight years and it builds on industry analysis that NanoMarkets has carried out in the BIPV and smart windows business over the past few years. NanoMarkets has been covering the BIPV space now for more than five years and the PV space for several years longer.

With regard to the scope of this report, we have included coverage of the use of BIPV in all areas that could broadly be considered walling. We take this to include primarily curtain walls (and related shading products) and siding products of various kinds. But we have also focused on novel technologies in the BIPV space, especially wall-related solar thermal technologies and completely new technologies such as solar-powered wall lights and so-called solar paint.

Also, in the technology sphere we have included an analysis of what the various rival types of PV could bring to the BIPV walling market. Of especial concern in this context is the ability of PV technologies to perform in a shaded environment because walling is always shaded to some extent. Flexibility also has some importance here.

With regard to end user markets, those that we discuss most extensively are commercial and industrial buildings, since this is where most of the revenues in the BIPV walling space are likely to be earned in the next eight years. However, we do include some discussion on residential markets, especially multi-tenant residential buildings which have important business characteristics in common with commercial buildings from the perspective of a BIPV provider. We have also included a special section on the role of BIPV glass in "prestige buildings," a weakly defined category, but one where BIPV has found its first revenues.

We are primarily interested in this report with BIPV products that are based on a fairly high level of integration; that is to say the "I" in BIPV is given some emphasis in this report. However, we also acknowledge that much of BIPV today is more like "first-generation" BIPV, or what is now more usually called building-attached PV (BAPV). In this approach, completely conventional PV panels are disguised by the architecture of a given building and it is this kind of disguise that constituted the "integration." BAPV is still very much alive, which is why we consider it in this report, but contrasts to a high degree with "true" BIPV, where the integration is of a technological rather than an architectural nature.

Several issues are not the focus of the report. Specifically, there is a type of solar thermal technology that is integrated into walls. BIPV has some lessons to be learned from this technology, but solar thermal is, by definition, not BIPV, so we do not discuss it in depth here. Similarly, this report does not claim to be a primer on either BIPV or PV in general. It is assumed that the reader of this report already has a good understanding about these technologies.

This report is worldwide in its scope. However, throughout this report, we discuss the differences among regional and national markets. It goes almost without saying that much of the BIPV markets are focused on a few geographies; because the PV industry as a whole is so focused. Germany, Japan and California account for most of the entire worldwide market.

Other reasons for focusing to some extent on regional or national differences is that regulatory factors and conditions in the construction industry can vary quite a lot from place to place, not to mention taste/architectural factors of importance to the BIPV glass business. Obviously, space does not allow a full coverage of matters as complex as regulation and national construction markets. Rather, we try to point out the impact of general trends.

As with all PV, the economics of including BIPV glass in buildings are better with new construction than with retrofits, we discuss both opportunities in the main body of this report. We also assess the current strategies of firms already pursuing the BIPV walling market. And as with all NanoMarkets reports, this report contains granular eight-year forecasts in both MW and dollar terms of BIPV wall markets, with breakouts by end user, type of product and type of PV technology.

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