

BUILDING-INTEGRATED PHOTOVOLTAIC SYSTEMS

Challenges and opportunities for manufacturers and specifiers

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The UK government's feed-in tariff (FIT) incentives, building regulations and planning requirements have been driving the installation of building-applied photovoltaic (BAPV) systems in the UK. With the currently prevailing low interest rates, the FITs have transformed PV installations into a serious proposition for investors and they can also be a cost-effective way to achieve compliance with the local and national regulations.

On the other hand, the uptake of building-integrated photovoltaics (BIPV^{*}) has been relatively low to date. This may be due to perceptions of high cost, questions over durability and maintenance, uncertainty concerning energy yield and ease of use for designers. Some of these perceptions may be valid and some based on misunderstandings, but what is clear is that the product manufacturers must address all concerns in an open and transparent way if they are to get their products specified in building projects.

The aim of this Information Paper is to help to close the gap between building designers and manufacturers of BIPV products. Specifiers will find useful information on products currently available and some typical applications, whilst manufacturers may benefit from the feedback obtained directly from potential users of the technology.

INTRODUCTION

The information presented in this Information Paper is based on the findings of a research project, conducted by BRE and funded by BRE Trust. The main aim of the project was to aid the integration of PV into buildings by understanding the barriers to uptake in the form of product design limitations and shortfalls in knowledge

* BIPV is classified as PV that forms part of the building fabric.



(Courtesy of CentroSolar AG)

within the construction sector. The research consisted of information and a product survey, workshops with interested parties, a survey of architects and analysis and interpretation of the information accrued.

The research shows us that the concept of BIPV is in many respects still in its infancy in the UK, with building designers and constructors requiring new products that are easy to specify and install, as well as improved knowledge on the benefits and methods of integration.

Until recently, the main exponents of BIPV in the UK have been forward-looking companies and individuals who are motivated to have systems properly integrated into their buildings and, in some cases, are prepared to pay a premium to achieve this. France and Italy have been active in recognising the advantages of BIPV as opposed to bolt-on BAPV installations and have introduced enhanced FIT rates for BIPV, thus safeguarding the appearance of their buildings at the same time as encouraging on-site generation of electricity. It is to be hoped that the UK will follow suit sometime in the near future. However, even without such incentives there are things that can be done to reduce the barriers to deployment of BIPV. This paper aims to elucidate some of the issues and suggest some possible solutions.

