

BIPV: Education and Training Activities for Solar Architecture

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EXECUTIVE SUMMARY

The integration of BIPV into the construction sector represents a significant yet underutilised opportunity for advancing sustainable energy in the built environment. Despite a broad range of over 80 BIPV products available in the European market [1,2], currently BIPV accounts for only 1%–3% of the PV market both in the European Union (EU) and globally. This suboptimal performance is largely due to persistent structural barriers—such as fragmentation between the solar and construction industries, regulatory uncertainty, and a lack of integrated skills and trained workforce—which have hindered investor confidence and slowed market uptake. Aside from a few countries which stand out with pilot projects and a growing market, this trend remains an exception; similar challenges are observed across the EU, USA, India, and other countries, where BIPV remains a very niche market.

In response, Sub-Task E of Phase 3 of IEA PVPS Task 15 focuses on overcoming these barriers by fostering a perspective on the interdisciplinary collaboration, integrated value chains, and development of a qualified workforce. The sub-task builds on insights from Phase 2, which identified insufficient knowledge exchange and weak networks between the solar and building sectors, along with a critical shortage of trained professionals [3].

Sub-Task E investigates key challenges in the BIPV sector, including knowledge gaps and workforce shortages across market segments. It explores strategies for integrated knowledge, upskilling, retraining, and attracting professionals, promotes cross-sectoral synergies with construction and electrical sectors, and supports the development of targeted training and educational materials for solar architecture.

Initial outputs in this report include a comprehensive first review of existing BIPV education and training offers worldwide, highlighting major topics and approaches currently adopted in knowledge transfer and the collection and mapping of available professional training

activities across different countries as a basis to reflect on the need for better-aligned and structured education and training. These efforts lay the foundation for actionable strategies to address eventual skill gaps and especially to promote a more integrated, diffused and dynamic BIPV ecosystem to support the broader strategy of workforce development and market transformation.