

Risks in the PV Panel Supply Chain*

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Abstract

The aim of this paper is to present and analyze risks in the photovoltaic panel supply chain. The motivation was a fast grow of photovoltaics (PV), and the fact that its complex supply chain is prone to various risks. The void in the literature concerning research questions concerning risks in PV panel supply chain stated in this work, makes it important. The proposed methodology to find and analyze proper literature from Scopus database consisting of 8 steps led to answering 4 research questions, providing a fresh look at the current issues in PV supply chain, considering the horizon of the last eleven years (2014-until now). The study revealed a growing trend in the number of published articles, which highlights growing interest in risks in PV panel supply chain in the analyzed years. It was found out that over the years, many studies have been conducted that identified and analyzed various types of problems occurring at different links in the PV panel supply chain, among others: raw materials quality and availability problems, manufacturing problems, fire risk, PV modules degradation, breakdown of various elements of the PV installation, ethylene vinyl acetate discoloration, hot-spots, corrosion, delamination, bubbles, cracks, partial shading, improper design or installation, damages during transportation, late deliveries, and recycling issues. The study also revealed the global publication trends that the main authors coming from China published the most papers on the analyzed subject (22), and in the second place is the Australia (9).

Keywords: risk management, photovoltaics, PV panel, supply chain