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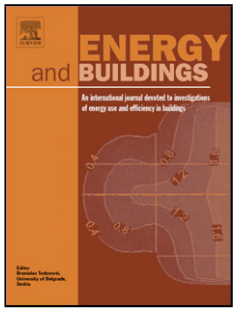

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Author: Hang-Jung Kuo Ph.D. Shang-Hsien Hsieh Professor Rong-Chin Guo Chief Executive Officer Chi-Chang Chan Project Manager

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A verification study for energy analysis of BIPV buildings with BIM

Hang-Jung Kuo, Ph.D. Candidate,

Department of Civil Engineering, National Taiwan University, Taipei, Taiwan

alaric@caece.net

Shang-Hsien Hsieh, Professor,

Department of Civil Engineering, National Taiwan University, Taipei, Taiwan

shhsieh@ntu.edu.tw

Rong-Chin Guo, Chief Executive Officer,

Research Center for Building & Infrastructure Information Modeling and Management, Department of Civil Engineering, National Taiwan University, Taipei, Taiwan

rongchin@gmail.com

Chi-Chang Chan, Project Manager,

Green Energy and Environment Research Laboratories, Industrial Technology Research Institute, Hsinchu, Taiwan

arcadia@itri.org.tw

ABSTRACT: This paper investigates the energy analysis process of Building-Integrated Photovoltaics (BIPV) buildings using a case study and explores its accuracy. Building Information Modeling (BIM) software tools are used for modeling BIPV buildings and carrying out energy analysis. The case study simulates electricity production from four BIPV panel systems of the BIPV Experiment Demonstration House located in the Industrial Technology Research Institute (ITRI), Hsinchu, Taiwan, and compares the simulated results with three-year measured data. It is shown that a reasonably good estimate of the electricity production of a BIPV building at the building design stage was obtained in the case study.

KEYWORDS: *Building Integrated Photovoltaics, Building Information Modeling, Building Energy Analysis*

1. INTRODUCTION

The production of clean energy is one of the most important and pressing technological challenges facing the human race today. Considerations about global warming and restrictions on carbon emissions necessitate the need to actively search for alternative or new energy sources and developing technologies for renewable clean energy. One of the most popular of

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