*Data article*

**Title: *Life Cycle Inventories of Dynamic Building Integrated Photovoltaic Systems***

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**Abstract**

This data contains the LCA inventories that were created in the analysis of Dynamic Building Integrated Photovoltaic (BIPV) Systems [3]. The data is divided in two sections: LCA inventory data, and simulation data. The simulation data contains all raw data obtained from previous simulations, as well as calculations of PV generation. The LCA data details all the inventories used in the calculation which has been duplicated in Excel and JSON formats.

**Specifications Table**

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| --- | --- |
| Subject area | *Environmental Assessment* |
| More specific subject area | *Building Integrated Photovoltaics* |
| Type of data | *Tables* |
| How data was acquired | *technical drawings, research papers describing the technology, and expert judgment* |
| Data format | *Analysed, and Raw* |
| Experimental factors |  |
| Experimental features |  |
| Data source location |  |
| Data accessibility | *Will be made public once accepted* [*https://github.com/architecture-building-systems/LCA\_Paper*](https://github.com/architecture-building-systems/LCA_Paper) |

**Value of the data**

* **Can be used for further life cycle assessment research of photovoltaic systems**
* **Can be used in the design of BIPV systems**
* **Can be used by LCIA databases to expand their databases**

**Data**

*The data is divided into two folders. LCA Data, and Simulation Data.*

*The LCA data contains the inventories of all components used to construct dynamic BIPV systems. This has been duplicated in Excel and JSON formats.*

*The Simulation data contains data from energy plus simulations that were obtained from previous work [1]. These were used as inputs to the current publication. This folder also consists of calculations undertaken to determine the PV generation on the panels.*

**Experimental Design, Materials and Methods**

The raw LCA data was acquired from the Eco-Invent v3.1 libraries. Inventories of the components were obtained through technical drawings, and expert judgment on the topic. These inventories have been summarized in the LCA data folder.

The calculation of PV generation was based from PVGIS. Numerical simulation data was obtained from previous simulations [1] .

**Acknowledgements**

**References**

[1] P. Jayathissa, Z. Nagy, N. Offedu, A. Schlueter, Numerical simulation of energy performance and construction of the adaptive solar facade, Proceedings of the Advanced Building Skins 2 (2015) 52–62.

[2] R. Frischknecht, N. Jungbluth, H.-J. Althaus, G. Doka, R. Dones, T. Heck, S. Hellweg, R. Hischier, T. Nemecek, G. Rebitzer, et al., The ecoinvent database: Overview and methodological framework (7 pp), The international journal of life cycle assessment 10 (1) (2005) 3–9.

[1] P. Jayathissa, M. Jansen, N. Heeren, Z. Nagy, S. Hellweg, A. Schlueter. Life cycle assessment of dynamic building integrated photovoltaics (In Press)