

Description of the database and how to use it:

The synthesis study generated a compiled database which contains a total of 218 scientific research papers focusing on the topic of **Energy Communities**. In the database, each entry (or row) represents a unique paper, accompanied by a range of bibliographic information and detailed thematic labels. The dataset includes 64 columns in total. The first set of columns records bibliometric and descriptive information such as:

Paper Number (paper index in the dataset), **Citations** (number of times the paper has been cited, until 2025-05-23), **Abstract**, **DOI**, **ISSN**, **Pages**, **Volume**, **Journal title**, **Publication date**, **Authors**, **Paper title**.

Starting from the column "**PV**", the remaining columns serve as keyword-based binary indicators describing the research scope, methodology, and other characteristics of the papers. For these keyword columns:

- A value of 1 indicates that the paper explicitly covers the topic or method described by the keyword.
- A value of 0 indicates that the topic is not addressed in the paper.

Examples of such keyword columns include:

- **Technology focus:** PV, Battery, EV, Heat pumps, Other technology.
- **Geographical scale:** e.g., Geographical level: <5 buildings, Neighbourhood, City, National.
- **Building types:** Resid single-family, Resid multi-family, Commercial, Industrial.
- **Research themes:** Theme: Sharing, Theme: Optimisation, Theme: Flexibility, etc.
- **Methodologies:** Method: ML, Method: simulation, Method: scenario analysis, and others.
- **Data availability** and **Paper type:** specifying openness of datasets and classification of research paper type.

This structured keyword tagging system allows for both quantitative and qualitative analysis of the literature, enabling an in-depth synthesis of technological focus areas, methodological

One can use the filter in Excel and filter out the multiple publications marked with 1 under multiple headers.