

Metadata in BuiltHub

○ *Building a sustainable and meaningful data flow of the EU Building stock*

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Research

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Metadata provision on current BSO version















Link to website with database



Total floor area of dwellings

SAVE AS ▾



	Source	Unit	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Poland	ODYSSEE  	Mm ²	66.73	67.45	68.16	68.78	69.03	69.28	69.51	69.80	70.20	70.50
Austria	ODYSSEE  	Mm ²	90.60	91.30	91.80	93.90	96.40	96.90	97.40	97.80	98.00	98.20
Belgium	ODYSSEE  	Mm ²	-	81.26	-	-	-	-	-	-	-	-
Bulgaria	ODYSSEE  	Mm ²	63.91	63.45	63.50	63.55	63.60	63.67	63.74	63.82	63.90	63.95
Croatia	ODYSSEE  	Mm ²	71.61	74.40	75.10	75.80	76.50	77.20	77.90	78.60	79.30	80.00
Cyprus	ODYSSEE  	Mm ²	134.03	135.56	137.09	138.35	139.40	140.27	140.80	141.45	142.02	142.66
Czech Republic	ODYSSEE  	Mm ²	71.93	71.86	71.80	71.73	71.66	75.80	76.00	76.05	76.60	77.28
Denmark	ODYSSEE  	Mm ²	108.80	108.90	108.90	109.30	109.50	109.85	110.06	110.57	110.95	111.50
Estonia	ODYSSEE  	Mm ²	58.93	60.01	60.07	60.13	60.20	60.31	60.46	60.59	60.73	60.94
Finland	ODYSSEE  	Mm ²	95.77	95.96	95.98	96.29	96.68	98.09	98.65	98.70	99.10	99.90

BuiltHub platform

- Graph database → internally, data and metadata are handled equally
- Open question how and where metadata appear / are linked on the GUI

Filters

Dimension: indicators

Dimension: Countries

Dimension: Years

Dimension: Breakdown fuels, uses, technologies

...

Select indicator you want to

Floor area

million sqm

Single-family homes

Multi-family homes

- Single-family homes
- Multi-family homes

Final energy

TWh

Single-family homes

Multi-family homes

- Single-family homes
- Multi-family homes
- Offices
- Hotels, gastronomie
- Education
- Health care
- Wholesale, trade
- Other buildings
- District heating

Emissions

Mt

Single-family homes

Multi-family homes

- Single-family homes
- Multi-family homes
- Offices
- Hotels, gastronomie
- Education
- Health care
- Wholesale, trade
- Other buildings
- District heating

Select visualization type

Over Time

million sqm

Single-family homes

Multi-family homes

- Single-family homes
- Multi-family homes
- Offices
- Hotels, gastronomie
- Education
- Health care
- Wholesale, trade
- Other buildings

Country Comparison

Country Comparison

Map

Map



Data quality

→ Automated pre- and post-processing

→ Complete, standardised metadata

- DataCite, schema.org, Zenodo
- Author(s), title, DOI, publisher, publication year, resource type, link, content, origin, geographical extension, spatial and temporal granularity, access, terms of use

→ Comparability of indicators

- Built, gross, net, commercial, rentable, useful, usable, treated, ... square meters
- Primary, final, delivered, useful, ... energy
- Complete, transparent description of collection/measurement/calculation methods

→ Data inspection and quality assessment services

→ Open community discussions on data quality and reliability



BuiltHub platform datasets

Legend	
A	Building stock related datasets
B	Socio-economic datasets
C	Climatic datasets

Dataset number	Topic type	Name	Content
1	A	Horizon 2020 HotMaps project: Building stock analysis	Complete building stock analysis for the EU27+UK. Values related to final energy consumption and useful energy demand for space heating, space cooling and domestic hot water, construction materials and methodologies, technologies used and building stock data/information (thermal transmittancy, building stock vintages and characteristics, household occupancy related data, etc.) can be found both for the residential and the non-residential sectors per building types and construction vintages.
2	A	IEE TABULA project: Typology Approach for Building Stock Energy Assessment	Building stock data and data focused on technical systems for heating, cooling and ventilation in different production in different countries. Final energy consumption data are available as well.
...
28	C	EDGAR (Emissions Database for Global Atmospheric Research) Emissions	Global atmospheric emissions and sector (Buildings, Manufacturing, Transport, Power Industry and other sectors). Data have been collected for the years between 1970 and 2018 and are reported expressed in MtCO ₂ /year.
29	C	CORDEX - Regional climate model data on single levels for Europe	Climatic data for Europe expressed in daily, monthly and seasonal mean values as well as 3 or 6 hours resolution. Data for air temperature at 2 m, wind speed, atmospheric pressure and humidity can be found.
30	C	PVGIS - Photovoltaic Geographical Information System	This GIS dataset contains data related to the solar radiation. It takes into account both day and night-time period expressing the solar radiation raster map in W/m ² .
...

Complete metadata available for these datasets

FAIRness largely varying

BuiltHub roadmap





BuiltHub resources



20 December 2021

BuiltHub publishes new book: European Building Stock Analysis

In advance of the holiday season, the BuiltHub project has published a book analysing the European building stock. Authored by experts from EURAC, Technische Universität Wien, and e-think, the...



1 October 2021

BuiltHub Introduction video premieres on YouTube and social media

The long-awaited video "BuiltHub project: an introduction" has finally gone public! On Friday 1 October, the first project video was published online and shared with interested stakeholders on social...



Get involved!

Be proactive by becoming a...

- **Pilot user** of our building data platform
- **Data provider** in exchange of services
- **Ambassador**, promoting responsible data sharing and collection
- **Networker**, interacting with our stakeholder community

Or simply follow us:

Contact us at: info@builthub.eu

Or write me: ulrich.filippi@eurac.edu





CARTIF

NTT DATA

eurac
research



RI.
SE





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