

EU BSO

EU Building Stock Observatory Newsletter

EU BSO: Background

Visit the website [here](#)

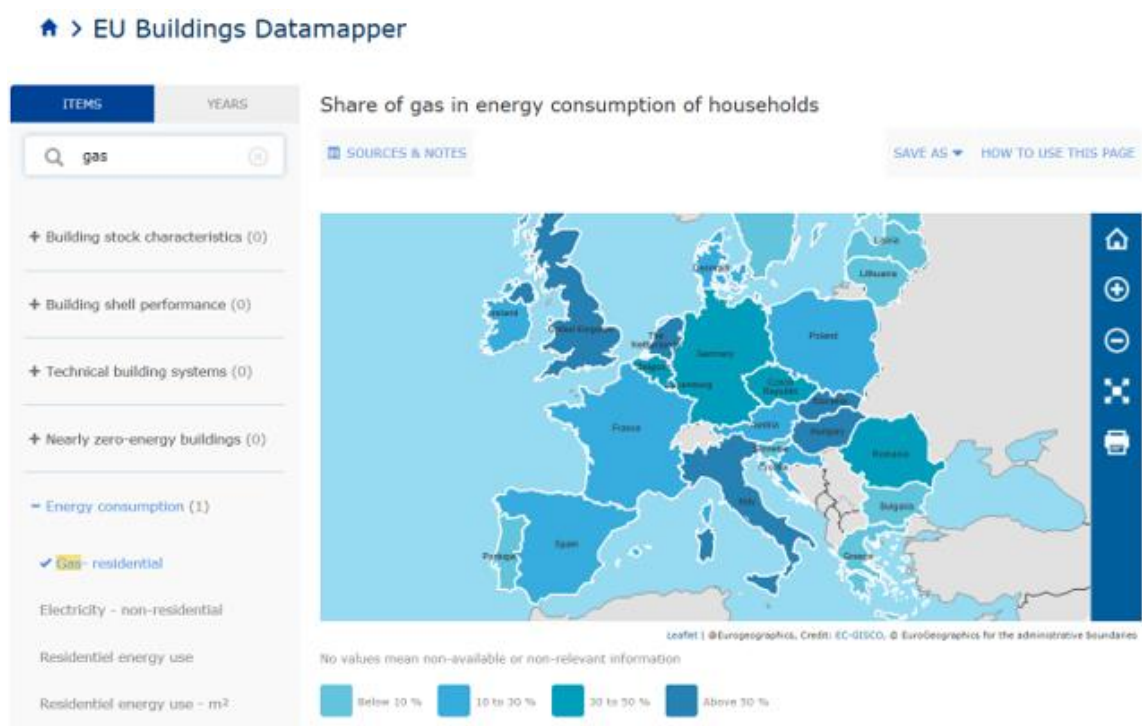
The EU BSO is a European Commission initiative to monitor the energy performance of buildings across Europe. It has two primary objectives:

- Firstly, to provide a snapshot of the energy performance of the EU built stock and provide high quality data from all MS in a consistent and comparable manner.
- Secondly, to set a framework for the continuous monitoring of the EU built stock.

The first phase of the project launched in November 2016, was developed by a consortium led by BPIE. The second phase is for the continuation of the EU BSO, but also focuses on; filling persistent data gaps, providing better data and statistics to users, rationalisation of the indicators, and revamping the website to make it more user friendly.

There are six broad topics contained within the current structure of the EU BSO:

- Topic 1: Building Stock Characterisation
- Topic 2: Technical Systems
- Topic 3: Certification
- Topic 4: Finance
- Topic 5: Energy Poverty
- Topic 6: Building Codes & Standards



One of the two new visualisation tools introduced on the revamped website

Launch of the revamped website

What's new!

Through the process of revamping the existing EU BSO website there have been a number of improvements, which aim to make the user experience much more satisfying.

- A new layout has been introduced, which reflects user expectations.
- Optimal view has been provided and website interaction experience across a wide range of devices, to allow users to enjoy the EU BSO database from any device.
- Responsive website design and improved navigation, to increase user friendliness.

- The flexibility for the potential introduction of new tools
- The ability for the introduction of new data and potential new energy efficiency indicators for regional data and new Member States (MS)
- Two new visualisation tools (example above) for data and indicators in the form of graphs and related tables, as well as the ability to download data in different formats has been provided. This allows new ways for the 170 energy efficiency indicators to be displayed to users.
- The presentation and analysis of time series is now flexible. Permitting the display of current annual data alongside historical data.

We encourage you to take a look at the revamped website [here](#).

If you want to be kept updated with the latest news and events from the EU Building Stock Observatory, please register your interest by emailing us at EUOBs@rics.org

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How does the EU BSO database look in terms of data population?

Current data position of the EU BSO

How has the data position changed in the last 12 months?

We undertake quarterly data updates of open source data

The EU BSO faces a serious amount of persistent data gaps. Meaning, some energy efficiency indicators present in the EU BSO have no data whatsoever. One of the main tasks of the current phase of the EU BSO is to populate as much of the database as possible.

Currently, the EU BSO has 13% of its indicators populated with data (Figure 1). Of this 13%, 8.4% of the populated data are sourced regularly from high quality and reliable sources, i.e. Eurostat, Odyssee-Mure, and various National Statistical databases. Moreover, 4.6% of these populated data points represent data sourced through completed EU projects (e.g. Entranze, Inspire, Tabula, etc.). As shown in Table 1.

During the 4th quarterly data update in 2018 a substantial number of indicators were updated via open source databases. Although the overall proportion of populated indicators within the database didn't alter drastically, all of these indicators now have data up to 2017 and 2018.

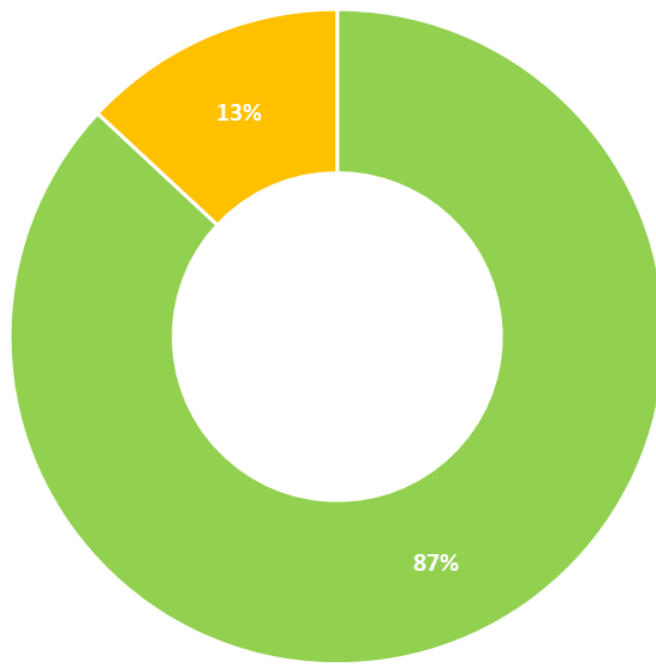


Figure 1. Current Data Position of the EU BSO

BSO	Percentage
Data Gap	86.9%
Eurostat	6.2%
National Statistics	0.1%
Odyssee-Mure	2.1%
EU Project	4.6%

Table 1. Current Data Position by Source



Open data sources

Eurostat, Odyssee-Mure and associated National Statistical Offices.

We perform four data updates each year from open source database. These open source databases release numerous datasets throughout the year, but their release calendars indicate that the majority of datasets concerned with energy efficiency and the EU BSO database are released in the 4th quarter of each year. Therefore, in the future, look out for updated datasets in the EU BSO towards the end of each calendar year!

Other open data sources utilised by the EU BSO:

In the original iteration of the EU BSO numerous EU Projects were employed to populate approximately 4% of the entire EU BSO database. There is a long list of projects that are cited in the database, some examples include; Entranze, Tabula, Inspire, etc. However, these projects have now reached completion, which effects the future data position of the EU BSO. As these projects are no longer collecting data on energy efficiency indicators across the EU built stock, which consequently means that the indicators within the EU BSO that were originally populated through these projects will not be updated with the latest data.

Conference

Recent event!

2019 EU BSO Stakeholder Workshop

Late January 2019 saw the team travel to Brussels to host the second EU BSO stakeholder workshop. Where we presented the progress made over the past 12-months, and we had lots of exciting developments to share!

The highly engaged attendees made the conference into a thought-provoking discussion and gave the team some great feedback. Which will keep us busy over the next 12-months! Thanks to all that braved the adverse weather conditions and student protest near the event for making it a great event.

Third EU BSO Stakeholder Workshop, Spring 2020

Energy renovation and nearly zero-energy buildings

A report documenting all findings on a MS and EU level will be released in 2019

This is an EC service contract which is being carried out by Navigant, in partnership with Ipsos. The overall goal of the project is to undertake a robust statistical and comprehensive analysis of the renovation activities and NZEB uptake in the EU 28. This project complements the EU BSO, as there are indicator overlaps in the energy renovation and NZEB sections, and identical building typologies applied.

The project includes the execution of three large scale surveys with consumers, architects and installers and involves the development of a complex methodology and its application. The new set of indicators allows the measurement and monitoring of the renovation rates, investment and energy savings in the residential and non-residential EU built stock for all EU MS separately, for the time-period 2012-2016.

Rationalisation of Indicators

Proposed rationalisation of the indicators present in the EU BSO

There are over 170 main energy efficiency indicators, spanning six main topics

With the EU BSO hosting a large number of energy efficiency indicators, combined with the fact that the database has a substantial proportion of missing data it was necessary to perform a rationalisation of the present indicators, in order to address the large number of persistent data gaps. The rationalised indicators may be revisited at a later date and are not permanently deleted.

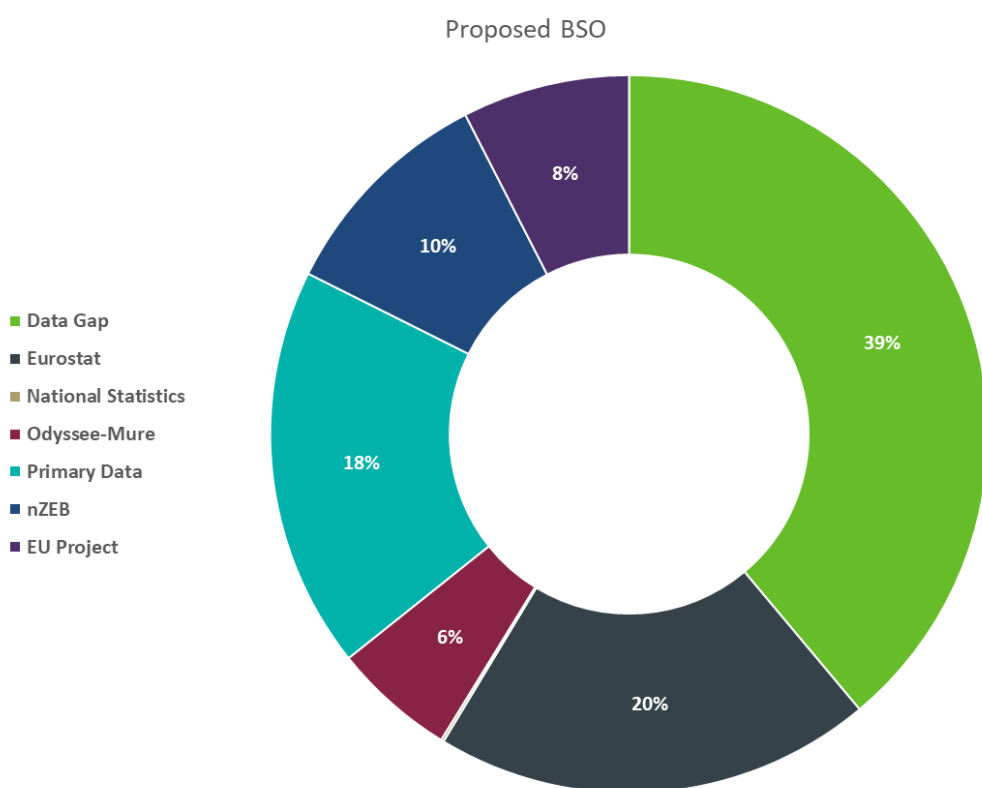
It has been recommended that approximately 69% of the indicators currently present in the EU BSO database be removed from the public domain, however they could be revisited at a later date. This approach will reduce the proportion of persistent data gaps from 87% to approximately 64%. Consequently, the amount of populated data will increase to 36%. With 23% of the existing persistent data gaps will be closed, as shown in Table 2.

Topic 6 is still in its infancy and therefore has not been considered during the rationalisation.

There are a number of reasons why it has been proposed that this sizable share of the database be removed from the EU BSO, including duplication of indicators, some indicators are simply not measured, publicly available, or known.

Table 2. Change in data position, by Topic, once the indicators have been hidden from the public domain.

	BSO	Topic 1	Topic 2	Topic 3	Topic 4	Topic 5
Original Data Position	13% of data	20% of data	26% of data	4% of data	< 1% of data	62% of data
Suggested to be Hidden	69% of indicators	61% of indicators	19% of indicators	74% of indicators	93% of indicators	37% of indicators
Improved Data Position	36% of data	42% of data	31% of data	4% of data	6% of data	97% of data



Data Population

Data population plan

Plan to tackle the 87% of persistent data gaps

The data population plan mainly consists of our primary data collection strategies (described in detail on Page 4), and data partnerships with other EC projects.

A data partnership with the Commission’s energy renovation and NZEB contract service (see page 2) has numerous data synergies, which may populate around 10% of the indicators held in the database. Furthermore, potential data synergies with other organisations are currently being explored with expectations that more of the persistent data gaps within the EU BSO could be addressed.

Figure 2. Proposed EU BSO Population by Source of Data

EU BSO original data position Vs proposed data position

The potential data position of the EU BSO

The data population plan alongside the rationalisation of indicators are expected (in combination) to provide a new data position of approximately 61% of indicators populated with data, and an associated 39% of the database missing data.

The result is a 48% change in the proportion of persistent data gaps, from the original 87% to just 39%. As shown in Figure 3. This should provide confidence in the data for the users of the EU BSO.

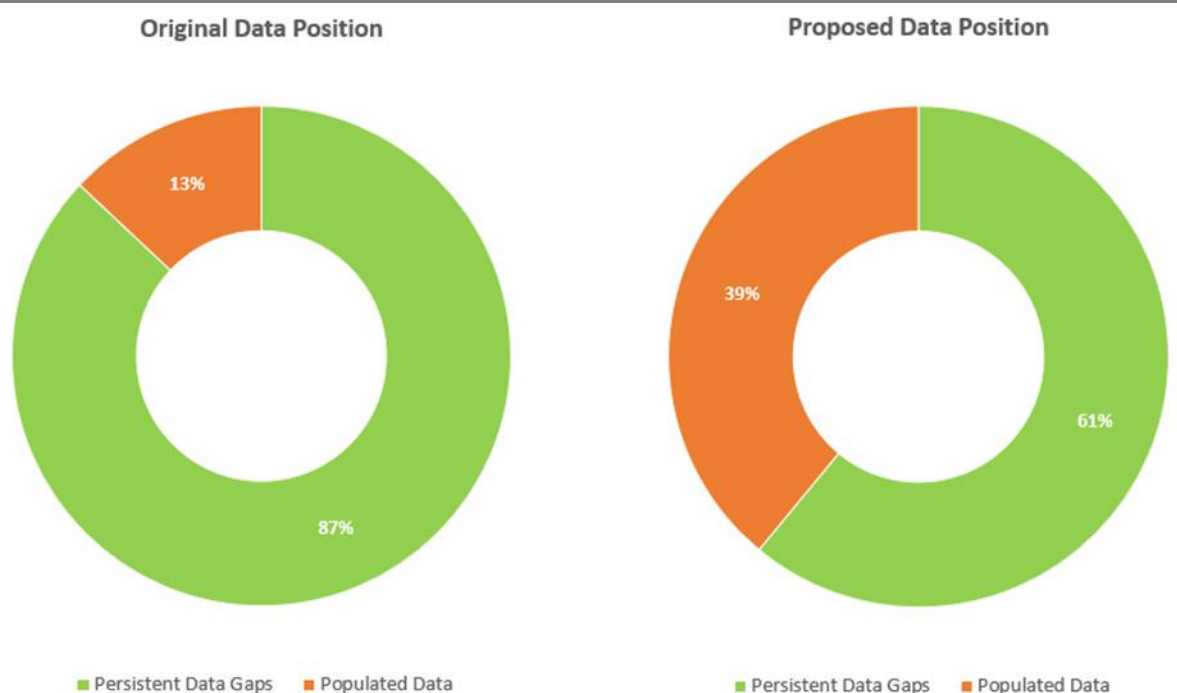


Figure 3. Original Data Position Vs. Proposed Data Position

Primary Data Collection

Results so far from the primary data collection tools

Online non-residential survey and series of interviews

The primary data collection approach takes two forms, firstly the online survey and secondly a series of focus interviews. Both of these approaches were specifically designed to address persistent data gaps in both of the priority topics, Topic 1 (Building Stock Characteristics) and Topic 2 (Technical Systems). The series of focus interviews were carried out by BSRIA, who are technical experts concerned with Topic 2. Together, these primary data collection tools are expected to address 18% of the indicators within the EU BSO database.

The non-residential building stock survey has been open since May 2018. Over this period, we have collected 146 complete datasets on non-residential buildings. Additionally, the series of focus interviews have collected 56 datasets. Making the latest total count of datasets, 202.

The main indicators which will be addressed by the primary data collection approaches are as follows:

- Building stock by building type
- Building stock by age, and Building floor area
- Building ownership, Occupancy rates, and Operational hours
- EPC's
- Energy renovations
- On-site renewable energy generation
- Metering systems
- Annual total energy consumption, and electricity consumption (kWh)

The online non-residential survey will remain open for the duration of this phase of the EU BSO and is expected to return 280 datasets. **If you or someone you know is in a position to complete the survey please do so [here](#).**

Building Type Coverage of Survey Responses

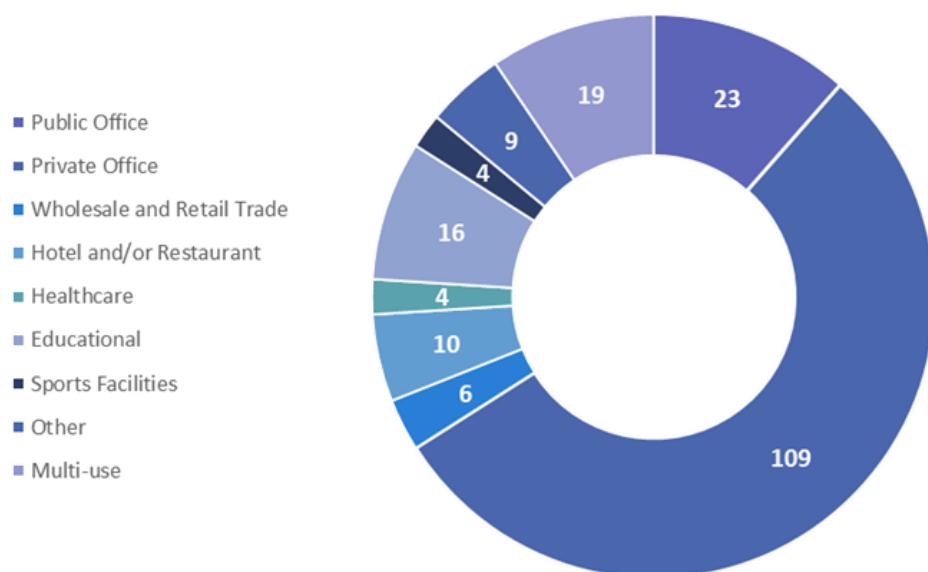


Figure 4. Building Type Datasets from Primary Data Collection Tools

Next steps for primary data collection

In the immediate future we will focus our attention on increasing the number of datasets collected. Priority Member States have been highlighted, as well as priority non-residential building types. The requirement to prioritise EU countries and building types, to gather additional datasets is because statistically a larger number of completed datasets are required in order to model the primary data.

As mentioned, both the primary data collection approaches were designed to address approximately 18% of the indicators within the EU BSO database. Once there has been a sufficient number of complete datasets collected, we plan to use this data to quantify the built stock. This will directly populate numerous indicators within the EU BSO, but also allows a large number of indicators to be populated indirectly, via calculations and estimations. This will further contribute towards closing persistent data gaps.

Future focus:

Enhanced cooperation with CA EPBD, JRC, Eurostat, Member States and Industry will continue to be a high priority, as we look for any further potential data synergies.

Off the back of the primary data collection phase, we will further develop and explore any potential additional features, which include;

- Regional breakdown of the EU buildings data
- Modelling of the building stock
- Big data task

Our future focus will also look deeper into indoor air quality indicators, energy poverty (Topic 5), financial schemes (Topic 4). And continuing to develop Topic 6 Building Codes and Standards.