



**An
Phríomh-Oifig
Staidrimh**

Central
Statistics
Office

Standard SIMS Report: Domestic Building Energy Ratings



Single Integrated Metadata Structure (SIMS) Report

For

Domestic Building Energy Ratings

This documentation applies to the reporting period:

2021

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2. Introduction

The EU Energy Performance of Buildings Directive (EPBD) was transposed into Irish Law from 2006 onwards. The EPBD contains a range of provisions to improve the energy performance of new and existing buildings. The EPBD obliges specific forms of information and advice on energy performance to be provided to building purchasers, tenants and users for consideration in property transactions.

From 2013, the EPBD was superseded by a Recast EPBD and S.I. 666 of 2006 was superseded by S.I. 243 of 2012 which made provisions for the inclusion of Building Energy Rating (BER) information in property sale and rental advertisements. A person offering a property for sale or rent on or after 9th January 2013, or their agent, is obliged to ensure that the energy performance indicator of the current BER certificate for the building is stated in any advertisements, where such advertisements are taken relating to the sale or letting of that building. The BER assessment is also required when an application for certain grants are made to the SEAI to improve the energy profile of a dwelling.

Detailed information on the dwelling characteristics are collected by the BER Assessor using Dwelling Energy Assessment Procedure (DEAP) software. This allows the software to calculate the Building Energy Rating. The data collected is shared with the CSO and is used to produce the quarterly release.

Data are presented by period of construction, type of dwelling, county and postal district, and fuel type. Data are not weighted except where explicitly stated otherwise.

3. Contact

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4. Metadata Update

4.1. Metadata last certified

12/01/2022

4.2. Metadata last posted

12/01/2022

4.3. Metadata last update

12/01/2022



5. Statistical Presentation

5.1. Data Description

Domestic Building Energy Ratings is a quarterly release which provides statistics and characteristic information on domestic dwellings from the BER database.

Analysis is done on the energy ratings and other characteristics of dwellings on the BER database administered by the Sustainable Energy Authority of Ireland (SEAI).

The statistics include BERs, average primary energy use, average carbon dioxide emissions and average floor area.

5.2. Classification System

The BER rating scale is divided into categories from G (largest primary energy usage) to an A1 rating (lowest primary energy usage). The kilowatt-hour is the unit of energy used in Dwelling Energy Assessment Procedure (DEAP). The BER is measured in kWh per square metre of floor area of the dwelling per year (kWh/m²/year). The full range of categories is described in Table A. For the purposes of this release A1, A2, and A3 have been combined because of the small number of Certificates in these categories.

Category	kWh/m ² /year
A1	≤ 25
A2	> 25
A3	> 50
B1	> 75
B2	> 100
B3	> 125
C1	> 150
C2	> 175
C3	> 200
D1	> 225
D2	> 260
E1	> 300
E2	> 340
F	> 380
G	> 450

Table A: BER categories

County: County of dwelling location.

Type of dwelling: Detached house; Semi-detached house; End of Terrace house; Mid-terrace house; Ground-floor apartment; Mid-floor apartment; Top-floor apartment; Basement apartment; and Maisonette.

5.3. Sector Coverage

All dwellings assessed for a BER.



5.4. Statistical Concepts and definitions

The statistics include BERs, average primary energy use, average carbon dioxide emissions and average floor area.

A BER is an indication of the energy performance of a dwelling (represented in units of kWh/m²/year). Actual energy performance will depend on how the occupants operate the dwelling. A BER is based on the characteristics of major components of the dwelling including wall, roof and floor dimensions; window and door sizes and orientations, as well as the construction type and insulation, ventilation and air tightness features; the system for heat supply (including renewable energy), distribution, and control; and the type of lighting.

Based on BER certificates issued for domestic dwellings there are three types of BER Certificates.

- A New Dwelling – Provisional BER is required for a dwelling that is not yet built but is offered for sale off the plans.
- A New Dwelling – Final BER is required for a newly-built dwelling before it is occupied. This certificate is based on data collected in a site survey carried out by a registered BER Assessor as well as drawings and specifications for the completed dwelling.
- An Existing Dwelling BER is required for any existing dwelling that is offered for sale or to let. An existing dwelling is one that has previously been sold or occupied. This is based on data collected in a site survey carried out by a registered BER Assessor

Both the New Dwelling – Final BER and the Existing Dwelling BER certificates are valid for 10 years from the date of issue. They become invalid if material changes are made to the dwelling during that period. This release is an analysis of Final and Existing BER certificates.

Year of construction: Year when the dwelling was originally built.

Main Space Heating system: The main space heating system heats the largest proportion of the dwelling. This proportion is calculated using a count of the habitable rooms. It often provides hot water as well as space heating.

Main Water Heating system: This category has similar fuel response options to the Main Space Heating system.

Total Internal Floor Area of the dwelling: the total area of exposed and semi-exposed floors. It excludes any unheated areas that are thermally separated from the dwelling. The total energy usage is divided by the dwelling floor area to determine the BER.

5.5. Statistical Unit

Domestic dwellings

5.6. Statistical Population

Domestic dwellings that have had a BER assessment carried out.

5.7. Reference Area

State, County, Dublin postal districts.

5.8. Time Coverage

2009 –2021.

5.9. Base period

Not applicable.



6. Unit of Measure

The energy consumption is expressed as kilowatt hours per square metre floor area per year (kWh/m²/year) and the CO₂ emissions expressed in terms of kilograms of CO₂ per square metre floor area per year (kgCO₂/m²/year). The floor area is expressed in terms of m².

7. Reference Period

2021

8. Institutional Mandate

8.1. Legal Acts and other agreements

S.I. 243 of 2012 which makes provisions for the inclusion of BER information in property sale and rental advertisements.

8.2. Data Sharing

The CSO obtained access to the BER data collected by the SEAI under Section 30 of the Statistics Act, 1993.

9. Confidentiality

9.1. Confidentiality – policy

All information supplied to the CSO is treated as strictly confidential. The Statistics Act, 1993 sets stringent confidentiality standards: Information collected may be used only for statistical purposes, and no details that might be related to an identifiable person or business undertaking may be divulged to any other government department or body.

These national statistical confidentiality provisions are reinforced by the following EU legislation: Council Regulation (EC) No 223/2009 on European statistics for data collected for EU statistical purposes. Further details are outlined in the CSO's Code of Practice on Statistical Confidentiality.

For more information on the CSO confidentiality policy please visit:

<https://www.cso.ie/en/aboutus/lgdp/csodatapolicies/statisticalconfidentiality/>

9.2. Confidentiality – data treatment

All confidential data are treated in accordance with Part V of the Statistics Act, 1993.

10. Release Policy

10.1. Release Calendar

The date of dissemination of all statistics released by the CSO can be found in the Release Calendar published by the CSO. This calendar is regularly updated.

10.2. Release calendar access

The release calendar can be accessed via the CSO website, www.cso.ie, or directly from this link: <https://www.cso.ie/en/csolatestnews/releasecalendar/>



10.3. User access

In accordance with Principle 6 of the European Statistics Code of Practice all users of CSO statistics have equal access via the CSO website at the same time of 11 am. Any privileged pre-release access to any outside user is limited, controlled and publicised. In the event that leaks occur, pre-release arrangements are revised so as to ensure impartiality.

The CSO recognises that in very limited circumstances a business need for pre-release access may be substantiated. Any form of pre-release access is a privilege and a strict CSO pre-release access policy is adhered to for these special requests. The full pre-release access policy can be accessed at <https://www.cso.ie/en/aboutus/lgdp/csodatapolicies/csopolicyonpre-releaseaccess/>

The various results are published nationally in statistical release format on the CSO website (www.cso.ie). Selected extracts from the results are posted on the CSO's data dissemination database, PxStat.

11. Frequency of Dissemination

Quarterly.

12. Accessibility and clarity

12.1. News release

Not applicable.

12.2. Publications

The data is made available on the CSO website at 11am on the day of publication. The most recent releases can be found via this link <https://www.cso.ie/en/statistics/climateandenergy/domesticbuildingenergyratings/>

12.3. On-line database

BER data (BER rating, Dwelling type, Main space heating fuel, Period of construction, County and Dublin postal district and Year) are also accessible from the CSO dissemination database, PxStat, via this link <https://data.cso.ie/table/EBA02>

12.3.1. AC 1. Data tables - consultations

Not calculated.

12.4. Micro-data Access

Links to a microdata research tool is available on the SEAI website at <https://ndber.seai.ie/BERResearchTool/Register/Register.aspx>

The SEAI have extensive documentation. The CSO can compile special analyses if requested.

12.5. Other

Most of the data used to publish this release is also available through the National BER Research Tool which gives researchers access to statistical data from the BER scheme, administered by the SEAI. This tool provides access to information on all aspects of construction that affect the energy performance of dwellings.



Results are updated nightly and can be viewed on screen or downloaded in the form of a Microsoft Excel spreadsheet. <https://ndber.seai.ie/BERResearchTool/Register/Register.aspx>

12.5.1. AC2. Metadata consultations

Not calculated.

12.6. Documentation on Methodology

Further information on the methodology used for this release can be found in the CSO methods page: <https://www.cso.ie/en/methods/climateandenergy/domesticbuildingenergyratingsurvey/>

12.6.1. AC3 – Metadata completeness – rate

Not calculated.

12.7. Quality Documentation

Metadata information on the quality of this release is available from the CSO methods page <https://www.cso.ie/en/methods/climateandenergy/domesticbuildingenergyratingsurvey/>

13. Quality Management

13.1. Quality Assurance

Quality Management Framework

The CSO avails of an office wide Quality Management Framework (QMF). This framework allows all CSO processes and outputs to meet the required standard as set out in the European Statistics Code of Practice (ESCoP). The QMF foundations are based on establishing the UNECE's Generic Statistical Business Process Model (GSBPM) as the operating statistical production model to achieve a standardised approach to Quality Management. All and any changes implemented to CSO processes and outputs require adherence to the QMF.

13.2. Quality Assessment

The 2020 Quality Management Self-Assessment (QMSA) identified the mandatory collection of Eircodes and updating the weighting of BERs up to national level of non-vacant households by using 2016 Census of Population instead of 2011 Census of Population. The Eircode is now a mandatory input within the DEAP software. The BERs were weighted to national level of non-vacant households using 2016 Census of Population from the Q1 2021 Domestic Building Energy Ratings release onwards.

14. Relevance

14.1. User Needs

The data are produced in response to national needs.

14.1.1. Main National Users

Government, Policy makers, Energy Sector, Business, National media – journalists, general public etc.

14.1.2. Principal External Users

Not applicable.



14.2. User Satisfaction

Not measured.

14.3. Data Completeness

Additional value was added to the Domestic Building Energy Rating release with the publication of the Domestic Building Energy Ratings from a Social Perspective 2016 report in July 2021. The report examined the relationship between a household's socio-economic status and the energy efficiency of their dwelling. 2016 Census of Population and Domestic Building Energy Rating data were matched using the Eircode.

14.3.1. Data Completeness rate

Not measured.

15. Accuracy and reliability

15.1. Overall accuracy

Data is collected and produced using standardised software to estimate energy performance.

15.2. Sampling Error

Not applicable.

15.2.1. A1. Sampling error indicator

Not applicable.

15.3. Non-sampling Error

Not applicable.

15.3.1. Coverage error

Not applicable.

15.3.1.1. A2. Over coverage rate

Not applicable.

15.3.1.2. A3. Common units – proportion

Not applicable.

15.3.2. Measurement error

Not applicable.

15.3.3. Non-Response Error

Not applicable.

15.3.3.1. Unit non-response rate

Not applicable.



15.3.3.2. Item non-response rate

Not applicable.

15.3.4. Processing error

Not applicable.

15.3.5. Model assumption error

Not applicable.

16. Timeliness and punctuality

16.1. Timeliness

The results have a target timeliness of 30 days after the end of each quarter.

16.1.1. TP1. Time lag – First results

Not applicable.

16.1.2. TP2. Time lag – Final results

Data is received on a quarterly basis and is usually published within t+14 days.

16.2. Punctuality

This release was published on time for all 4 quarters in 2021 in accordance with the time frame specified in the CSO release calendar.

16.2.1. TP3. Punctuality – Punctuality - delivery and publication

Q1 2021	Q2 2021	Q3 2021	Q4 2021
0 days	0 days	0 days	0 days

17. Comparability

17.1. Comparability – Geographical

Not applicable.

17.1.1. CC1. Asymmetry for mirror flow statistics

Not applicable.

17.2. Comparability over time

No break in the series has occurred to date however possible changes in the legislative basis for the collection of the data or changes to the software collecting the data could introduce a break in the series in the future.

17.2.1. Length of Comparable Time series

12 years.



17.3. Coherence – cross domain

SEAI publishes data based on the same data source. SEAI data differs from that published by the CSO as it includes provisional BER certificates.

<https://www.seai.ie/publications/NAS-Monthly-Dashboard.pdf>

17.3.1. Coherence – Sub annual and annual statistics

Not applicable.

17.3.2. Coherence with National Accounts

Not applicable.

17.4. Coherence – internal

Not applicable.

18. Cost and Burden

The Domestic Building Energy Rating release reuses data collected by the SEAI under S.I. 243 of 2012. There is no additional cost and burden.

19. Data Revision

19.1. Data Revision Policy

Revisions refer to changes made to published statistical data when the information used in its production has been updated or corrected. This information includes all data used in compiling the statistic e.g. respondent data, administrative data, weights and factors, methodology, classifications, definitions, modifications to survey questionnaires, survey scope and data collection methods.

The data revision policy that CSO statistics adheres to can be found via the following link:

<https://www.cso.ie/en/methods/quality/treatmentofrevisions/>

19.2. Data Revision Practice

Revisions are made quarterly if updated assessments are performed on a previously assessed building.

19.2.1. Data Revision – Average size

Not calculated.



20. Statistical processing

20.1. Source Data

SEAI BER administrative data.

20.1.1. Population and sampling frame

Domestic dwellings that have had a BER assessment carried out.

20.1.2. Sampling design

Not applicable.

20.1.3. Survey size

Not applicable.

20.1.4. Survey technique

Collected using SEAI DEAP software.

20.2. Frequency of data collection

Quarterly.

20.3. Data Collection

The collection of the data is the responsibility of the SEAI.

20.3.1. Type of Survey/Process

Administrative data based on the assessment of the energy performance of a domestic dwelling.

20.3.2. Questionnaire (including explanations)

<https://www.seai.ie/home-energy/building-energy-rating-ber/support-for-ber-assessors/domestic-ber-resources/deap4-software/>

20.3.3. Survey Participation

Mandatory for all dwellings offered for sale or rent since 2009 and required when applying for some grants to improve energy performance.

20.3.4. Data Capture

Data on the dwelling is collected using SEAI DEAP software

<https://www.seai.ie/home-energy/building-energy-rating-ber/support-for-ber-assessors/domestic-ber-resources/deap4-software/>

20.4. Data Validation

Not applicable.

20.5. Data Compilation



To ensure that all tables are consistent with each other, records that contain missing data in any of the main classification variables used in this release are excluded e.g. missing response for county. Records with only the main space heating fuel or main water heating fuel information missing have been included except in tables using those variables.

20.5.1. Imputation (for Non-Response or Incomplete Data Sets)

No imputation is done, missing records are removed from affected tables.

20.5.1.1. A7. Imputation rate

Not applicable.

20.5.2. Grossing and Weighting

There were 981,179 unique domestic BERs (one per dwelling) completed since audits commenced in 2009. This compares with around 1.7 million occupied private households enumerated in the 2016 Census of Population. The 2016 Census of Population included questions on county of location of the dwelling, the period when the dwelling was built, and the type of dwelling. These questions can be used to weight the BER data to national level.

Table 15 presents an initial weighting of BERs up to national level of non-vacant households using the 2016 Census of Population. The weights were calculated by dividing the number of non-vacant households in the Census by the number of unique BER households.

In cases where a household had more than one BER carried out in the period 2009-2021 only the most recent BER was used.

Around 8% of Census households were excluded because there were no BER households in a stratum e.g. detached houses in Dublin 1 that were constructed in the period 1919-1945. A stratum was classified as a unique combination of County (52 categories - Dublin postal districts were distinguished), period of construction (nine categories) and dwelling type (four categories). The BER contains more disaggregated dwelling types, e.g. mid-terrace house, but these had to be aggregated to correspond to the Census classification.

20.6. Adjustment

Not applicable.

20.6.1. Seasonal Adjustment

Not applicable.

21. Comment

The quality reports are generally updated only once a year after all individual dissemination products have been completed.

This quality report refers to dissemination carried out throughout 2021 and includes information for all 4 quarters in the year.