CONCERTED ACTION
ENERGY PERFORMANCE OF BUILDINGS

Implementation of the EPBD United Kingdom - Wales

Status in 2020

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NATIONAL WEBSITES
https://gov.wales/building-regulations

1. Introduction

This report provides information about the implementation of the EPBD in Wales. It updates the previous reports published in 2010, 2012 and 2016. The implementation of the EPBD in the other three UK jurisdictions (England, Scotland and Northern Ireland) is addressed in separate reports.

From 31 December 2011, Wales became responsible for its own Building Regulations. Prior to this date, EPBD requirements were implemented across England and Wales with no distinction. Today, the implementation of the EPBD in Wales is shared between the Welsh Government (WG) responsible for Building Regulations, and the UK Ministry of Housing, Communities and Local Government (MHCLG) responsible for the Energy Performance of Buildings Regulations in England and Wales.

This report introduces the Wales-specific requirements. Requirements that are common to England and Wales are detailed in the England report and have not been repeated in this one.

2. Current Status of Implementation of the EPBD

2.I. Energy performance requirements: NEW BUILDINGS

2.I.i. Progress and current status of new buildings (regulation overall performance)

Figures 1 and 2 show simplified historical Building Regulations improvements in Wales for new buildings. The graphs are based on the 2006 Regulations (the reference year), historical improvements for 2010 and 2014, and Government announcements for 2017 and 2020. Note that the 2006 and 2010 Regulations

applied across England and Wales, whereas the 2014 Regulations apply to Wales only, following the devolution of powers to the Welsh Government in 2011.

The 2014 amendments to the Building Regulations set energy performance requirements for new and existing buildings[1]. The Regulations were strengthened to deliver improved CO_2 savings over the previous Regulations i.e., 8% across new residential buildings and 20% across new non-residential buildings. Changes to existing building requirements were also introduced in 2014. There were also 2016 amendments to clarify the application of the approved calculation methodology[2].

In 2019, the UK Government passed legislation to commit the UK to a legally binding target of net zero emissions by 2050[3].

Within the same year, the Welsh Government consulted on the changes to Part L (conservation of fuel and power) and Part F (ventilation) of the Building Regulations for new residential buildings. Within the consultation, the Government outlined their vision of the future Part L for 2025. This vision includes high fabric standards, a higher specification for glazing, and the use of heat pumps, heat networks, direct electric heating and/ or other technologies[4].

A review of the Building Regulations' energy performance requirements ("Part L") is ongoing. This review will be informed by further consultation and, as a minimum, it will aim to improve energy requirements where necessary to deliver NZEB standards at a cost optimal level or better for all building types, with amendments to the Building Regulations expected to come into force in late 2021/ early 2022. The review will also develop proposals to implement the 2018 amendments to the EPBD (2018/844).

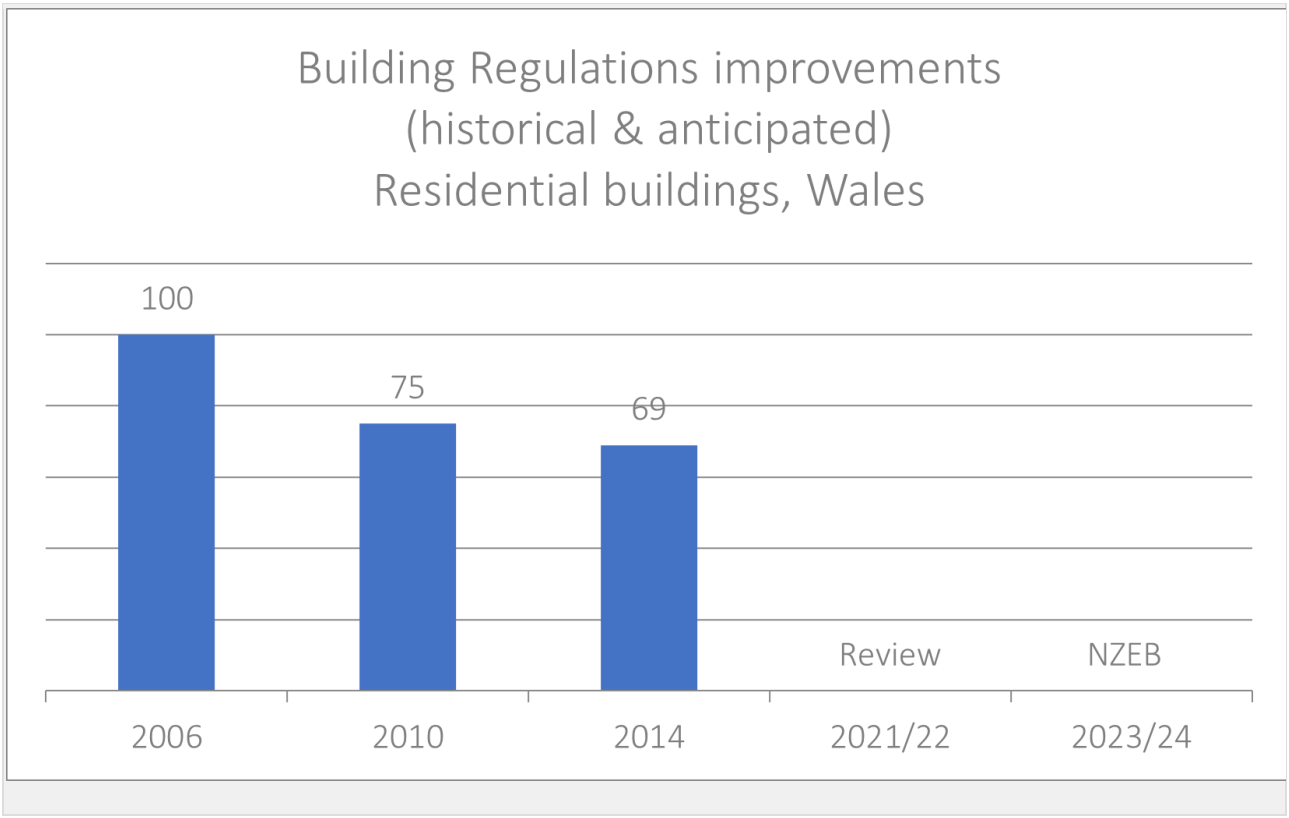

Figure 1. New residential Building Regulations improvements, Wales.

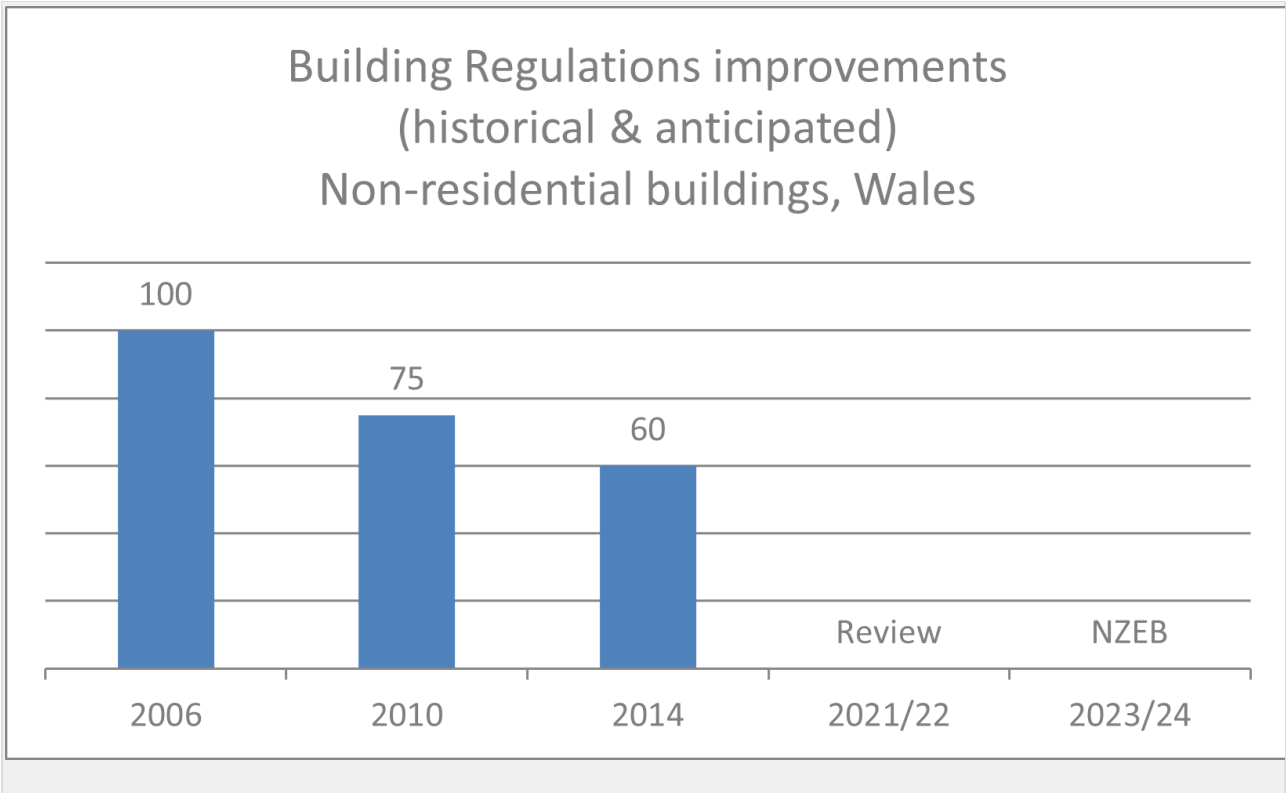

Figure 2. New non-residential Building Regulations improvements, Wales.

2.I.ii. Format of national transposition and implementation of existing regulations

Wales adopted a similar approach to England, i.e., four "Approved Documents" (ADs)[5] which provide a route to comply with Building Regulations. Five criteria are set for new residential and non-residential buildings (Table 1).

Criteria	Definitions
1	Ensure that the calculated Building CO_2 Emission Rate is no greater than the target. For non-residential buildings only, ensure that the Building Primary Energy Consumption is not greater than the target.
2	Meet limits on design flexibility, including minimum fabric standards and building services efficiencies.
3	Ensure appropriate passive control measures to limit summer heat gains, including the effect of shading devices and comfort assessment.
4	Ensure the "*as built*" building performance (including fabric and fixed building services) is consistent with design calculations.
5	Provide information for energy efficient building operation.

Table 1. Requirements for new buildings, Wales.

As with England, these requirements are included in the National Calculation Methodology (NCM) and compliance is demonstrated by using Government-approved software. The Welsh Approved Documents allow the use of English Accredited Construction Details (ACDs) to demonstrate compliance. Wales adopted

the English ACDs. Figure 3 gives an example. Compliance checks are similar to England, using Building Control Bodies (BCBs) and "*Competent Persons*". See England report for details.

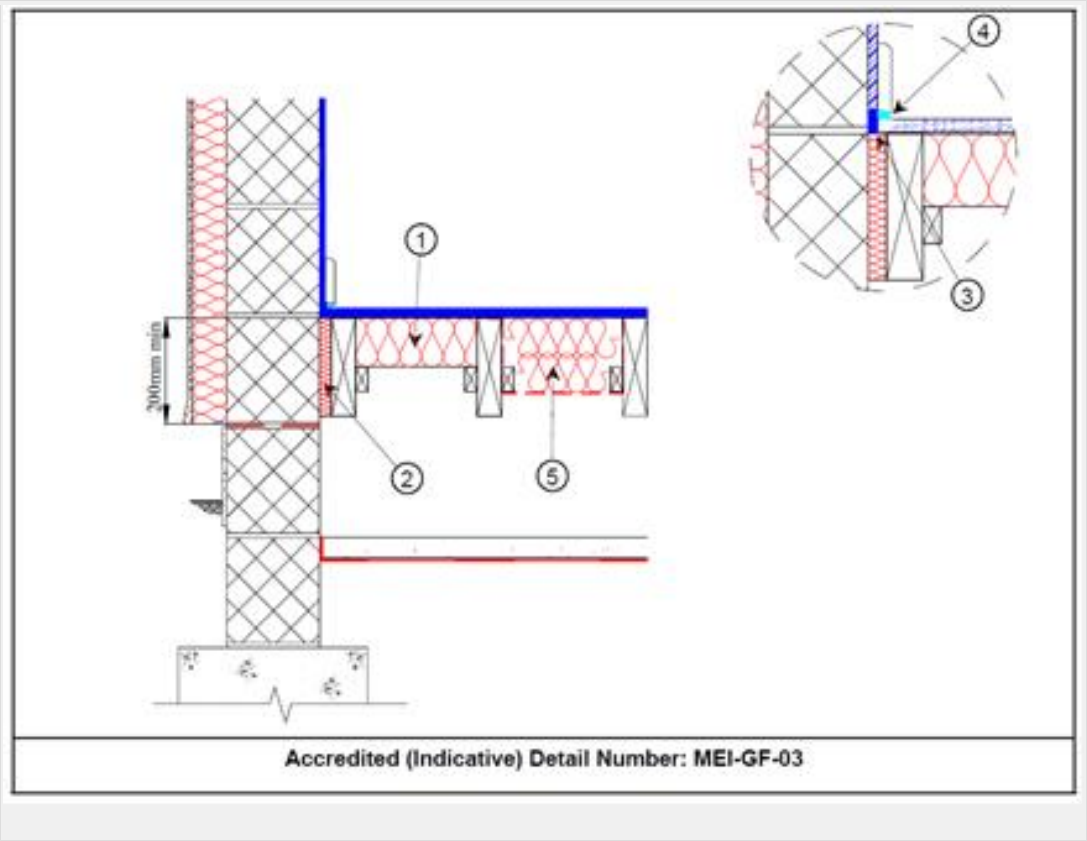

Figure 3. ACD for Timber Suspended Ground Floor. Extracted from ACDs for Masonry External Wall insulation.

Cost-optimal procedure for setting energy performance requirements

A UK-wide cost-optimal report, which addresses Wales, was published in January 2019[6]. See England report for details.

2.I.iii. Action plan for progression to NZEB for new buildings

The current Building Regulations incorporate NZEB. Regulation 25B[2] states: "*Where a building is erected, it must be a nearly zero-energy building.*" and implementation dates align with the EPBD.

A review of Building Regulations Part L is ongoing. The review is intended to deliver, as a minimum, improvements to energy requirements where necessary to deliver NZEB standards at a cost optimal level or better to all new buildings in late 2021/ early 2022.

National application of the NZEB definition

NZEB statistics are not maintained in Wales. Figure 4 shows historical records of EPCs for energy efficiency ratings A and A+[7,8]. The graph shows an upward trend in A rated buildings for non-residential sectors, and a sharp drop in 2015/16 of A rated residential buildings, which levelled out in 2017. Since 2018 there has been a sharp increase in the number of A rated residential buildings. New building construction rates will also affect these data.

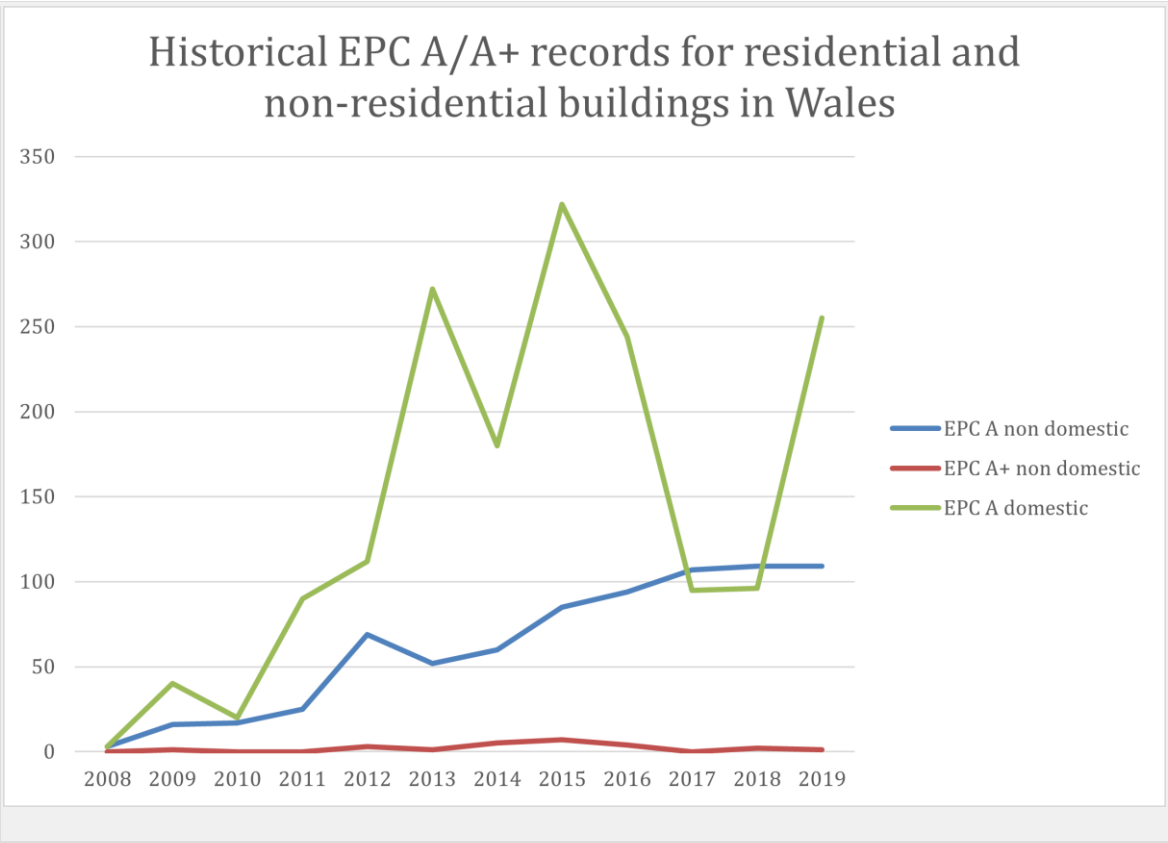

Figure 4. Historical EPC A/A+ records for residential and non-residential buildings in Wales.

2.I.iv. Requirements for building components for new buildings

Please refer to Section 2.I.i. Progress and current status of new buildings for details on building fabric requirements for new buildings.

2.I.v. Enforcement systems new buildings

Enforcement of the requirements of the Building Regulations are similar to England, using Building Control Bodies (BCBs) and "*Competent Persons*". See England report for details.

2.II. Energy performance requirements: EXISTING BUILDINGS

Live tables on residential building stock by tenure provide a statistical overview of the UK building stock[9]. See England report for details.

Wales has about 1.4 million homes. Figures 5 and 6 show the distribution of >1,000,000 residential EPCs and >43,000 non-domestic EPCs in Wales. Buildings with no EPCs are not represented.

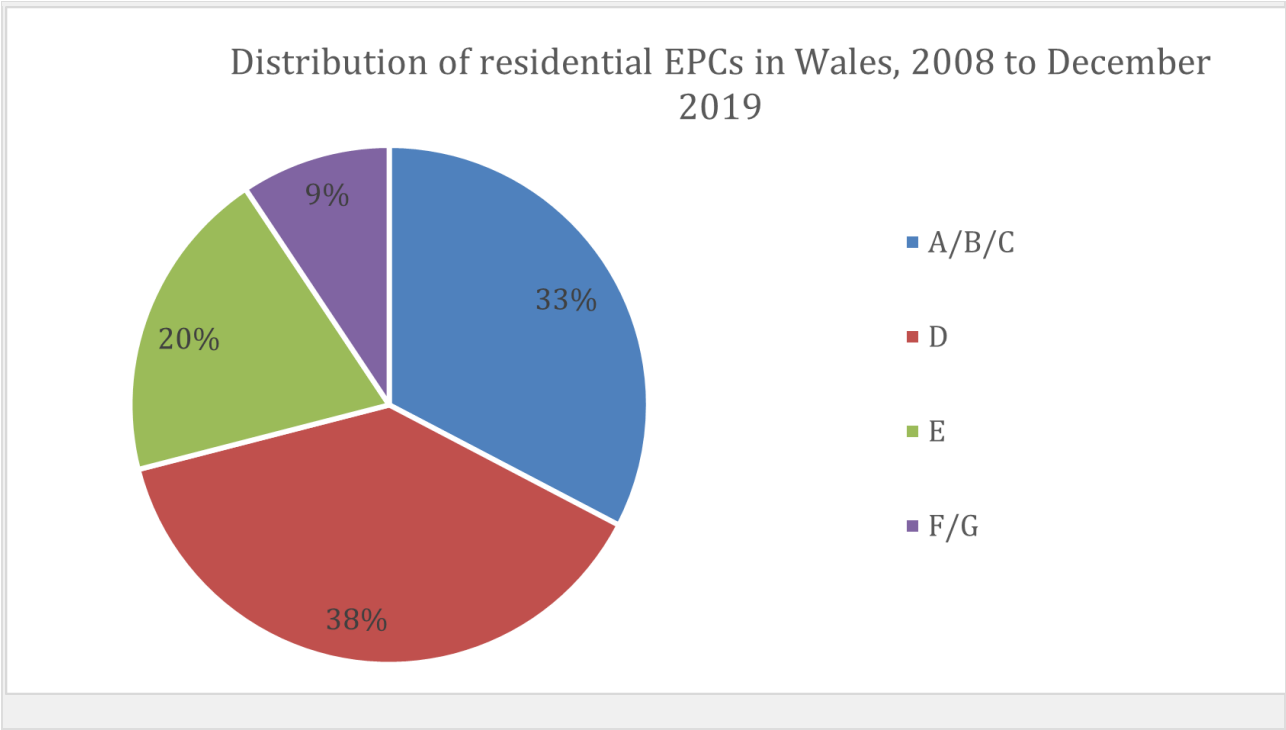

Figure 5. Distribution of residential EPCs in Wales, 2008 to December 2019

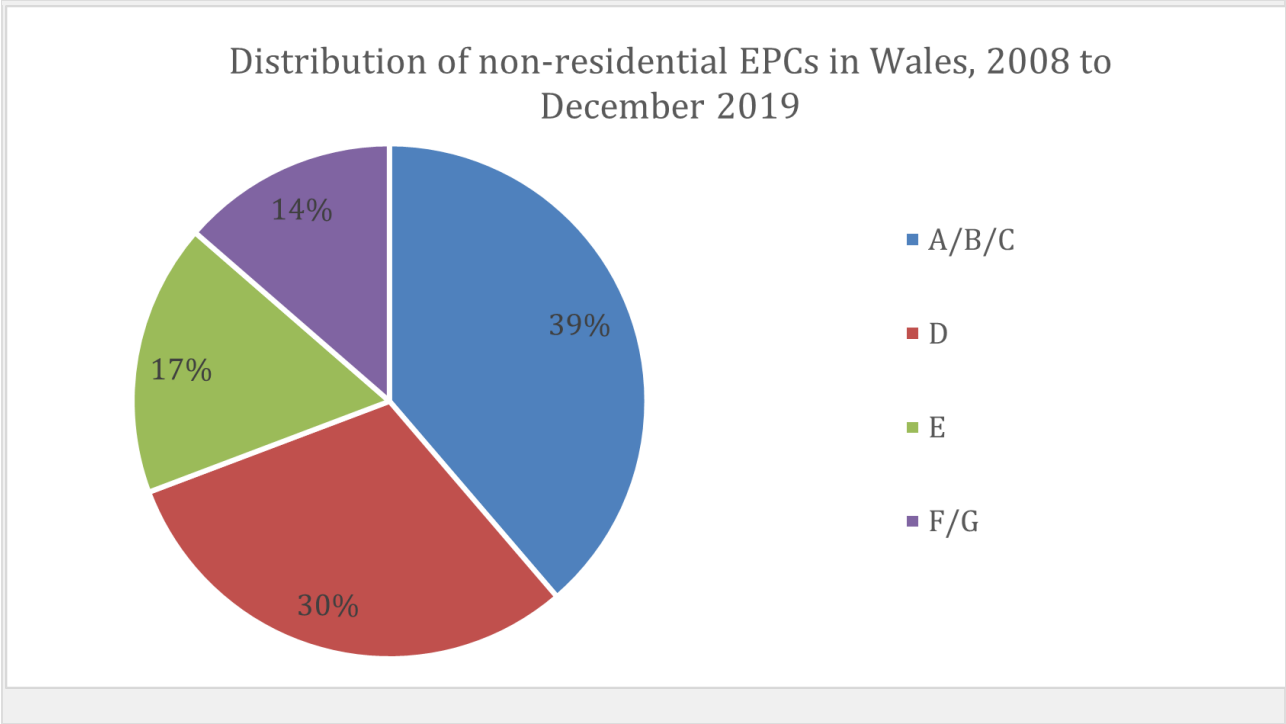

Figure 6. Distribution of non-residential EPCs in Wales, 2008 to December 2019.

2.II.i. Progress and current status of existing buildings (regulation overall performance)

Similarly to England, an elemental approach has been adopted for existing buildings. See England report for details. The 2014 revision of the Building Regulations introduced consequential energy performance improvements to all existing buildings that are extended.

2.II.ii. Regulation on individual parts, distinct from whole building performance

See England report for details.

2.II.iii. Initiatives/plans to improve the existing building stock

The 2014 UK National Energy Efficiency Action Plan[10] includes a Building Renovation Strategy in compliance with EED Article 4[11]. The Welsh policies and programmes to deliver this strategy include:

- the National Energy Efficiency and Savings Plan (2011)[12];
- the Fuel Poverty Strategy (2010)[13];
- "Nest"[14], a fuel poverty scheme delivered as part of the Warm Homes Programme that provides energy efficiency advice, alongside installation of home energy efficiency measures for qualifying properties based on a whole house assessment;
- "Arbed"[15], an area-based scheme delivered as part of the Warm Homes Programme to deliver energy efficiency improvements based on a whole house assessment;
- the availability of an additional funding to leverage investment from the Energy Company Obligation (ECO);
- Building Regulations updates which include consequential improvements for all existing residential and non-residential buildings when extension or renovation work is undertaken.

In 2017, the Welsh Government published an ambition for a carbon neutral Public Sector by 2030[16]. In 2019, the UK Government passed legislation to commit the UK to a legally binding target of net zero emissions by 2050.[3]

2.II.iv. Long Term Renovation Strategies, status

Please see England report.

2.II.v. Financial instruments and incentives for existing buildings

See UK National Energy Efficiency Action Plan[7] details above.

2.II.vi. Information campaigns / complementary policies

The Welsh Government provides advice to people living in Wales to improve their home energy efficiency. Subject to meeting certain eligibility criteria, people are provided home energy efficiency measures at no cost to the householder, to improve the energy efficiency of their homes. This contributes to the Welsh Government's efforts to reduce fuel poverty and decarbonise Welsh homes. However, there is evidence that increased benefits could be delivered through an expansion of advice and support services, targeting people struggling to maintain a satisfactory home temperature at an affordable cost. As part of the new plan to tackle fuel poverty, the Welsh Government will implement a pilot scheme to explore how people can be supported to reduce energy demand using smart metering and other measures.

2.III. Energy performance certificate requirements

The Energy Performance of Buildings Regulations apply to both England and Wales. See England report for details.

2.III.i. Progress and current status on EPCs at sale or rental of buildings

Tables 2 & 3 and Figures 7 & 8 provide Wales-specific data.[6]

	Total EPCs	A	B	C	D	E	F	G	Not Recorded
Total	1,029,685	1,729	80,471	254,235	394,556	202,325	68,602	27,745	22
Percentage	100%	0.2%	7.8%	24.7%	38.3%	19.6%	6.7%	2.7%	0.0%

Table 2. Residential EPCs, 2008 to December 2019 Wales.

"not recorded" = faulty EPC (cancelled, withdrawn, etc.)

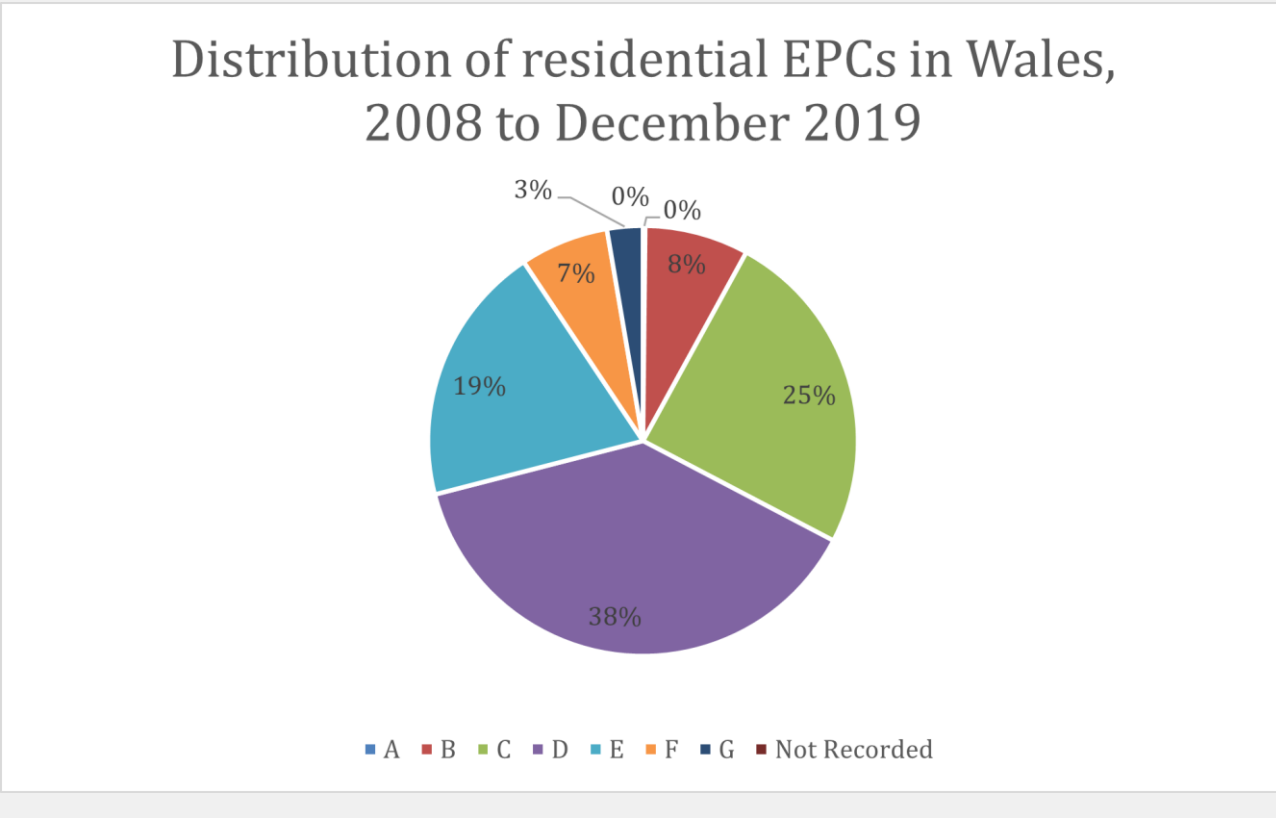

Figure 7. Residential EPCs, 2008 to December 2019, Wales. Percentages by EPC band.

	Total EPCs	A+	A	B	C	D	E	F	G	Not Recorded
Total	43,880	24	746	3,740	12,472	13,390	7,510	2,825	3,150	23
Percentage	100%	0.05%	1.70%	8.52%	28.42%	30.52%	17.11%	6.44%	7.18%	0.05%

Table 3. Non-residential EPCs, 2008 to December 2019, Wales.

"not recorded" = faulty EPC (cancelled, withdrawn, etc.)

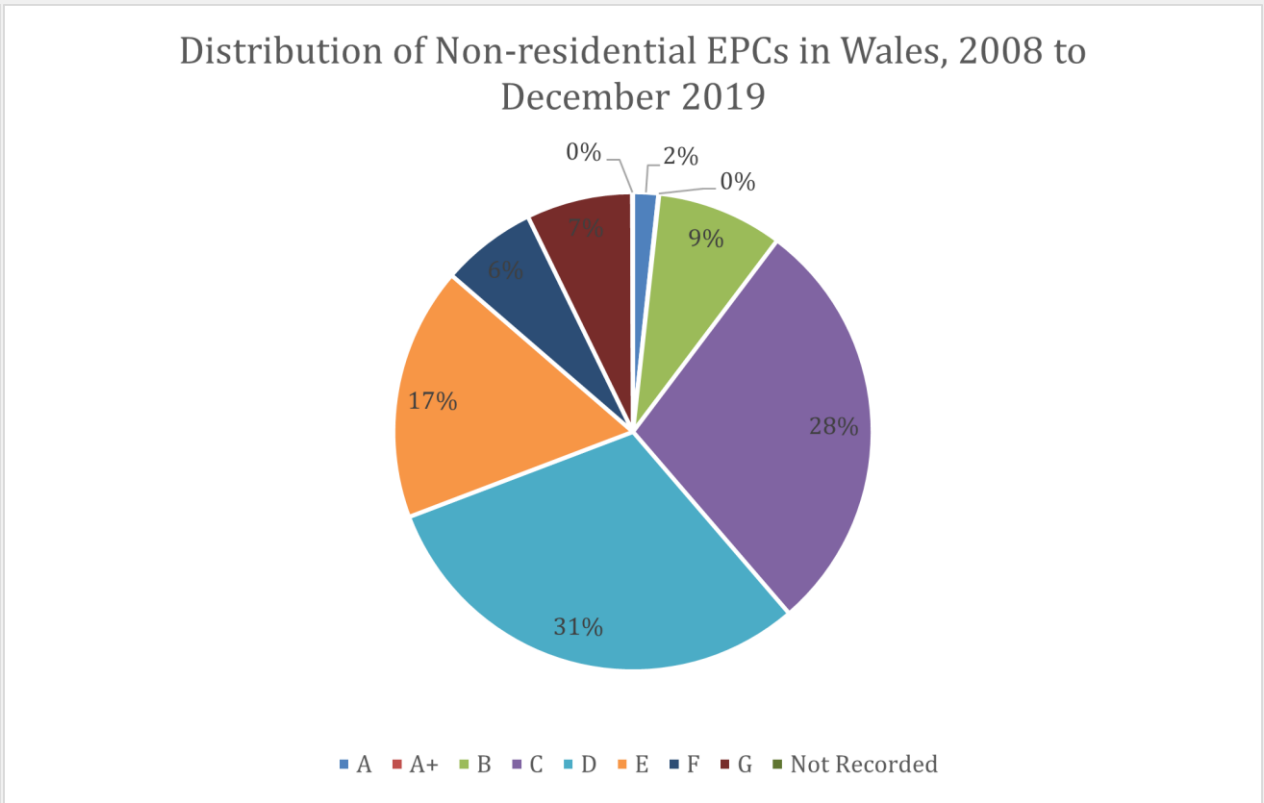

Figure 8. Non-residential EPCs, 2008 to December 2019, Wales. Percentages by EPC band.

2.III.ii. Quality assurance of EPCs

Wales adopted the same approach as England. See England report for details.

2.III.iii. Progress and current status of EPCs on public and large buildings visited by the public

Wales adopted the same approach as England. See England report for details. Display Energy Certificates (DECs) data from 2008 to December 2019 is included in Table 4 and Figure 9.[6]

	Total DECs	A	B	C	D	E	F	G	Not Recorded
Total	22,641	274	2,197	6,965	7,566	3,335	1,147	1,145	12
Percentage	100%	1.2%	9.7%	30.8%	33.4%	14.7%	5.1%	5.1%	0.1%

Table 4. Wales, 2008 to December 2019, Wales.

"not recorded" = faulty EPC (cancelled, withdrawn, etc.)

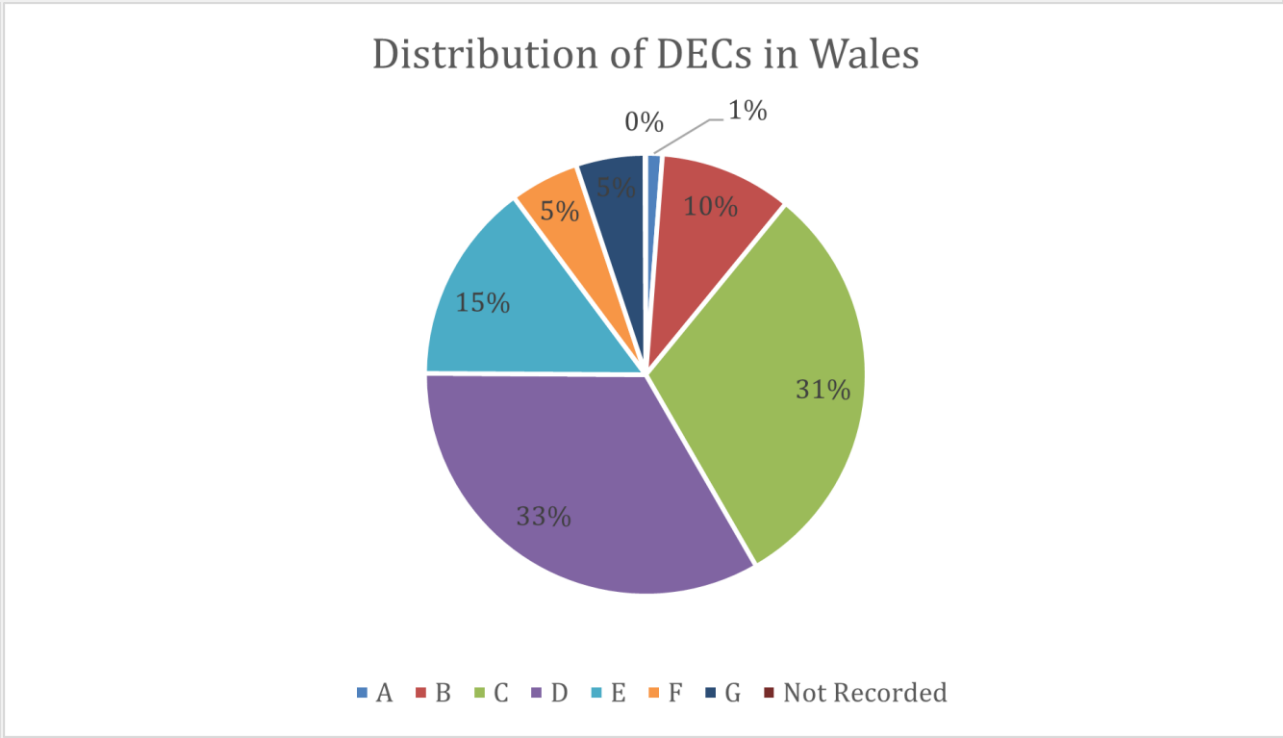

Figure 9. Display Energy Certificates (DECs), 2008 to December 2019, Wales. Percentages by DEC band.

2.III.iv. Implementation of mandatory advertising requirement - status

Wales adopted the same approach as England. See England report for details.

2.IV Smart buildings and building systems

Wales adopted a similar approach as England, where the "Domestic and Non-domestic Building Services Compliance Guide"[17,18] recommend minimum energy efficiency standards.

The guide sets out the minimum energy efficiency standards for fixed building services systems, including:

- space heating;
- domestic hot water;
- mechanical ventilation;
- comfort cooling;
- internal and external lighting;
- low carbon generation of heat by heat-pumps, solar thermal panels, and combined heat & power.

Table 5 shows a summary of minimum standards for residential buildings as an example.

Building Services Type	Recommended minimum energy efficiency standard
Gas-fired wet central heating: condensing boiler	Seasonal Efficiency of Domestic Boilers in the UK (SEDBUK 2009): 88%
Solid fuel heating: independent boiler – wood/ pellets/ chips	75% nominal load 70% part load
Oil-fired wet central heating: condensing regular boiler	Seasonal efficiency (SEDBUK 2009): 88%
Heat pump – electrically driven (not air to air): space heating	For new buildings: coefficient of performance 2.5 at rating conditions in EN 14511
Heat pump – electrically driven (not air to air): domestic hot water	For new buildings: coefficient of performance 2.0 at rating conditions in EN 14511
Mechanical ventilation: continuous supply and extract with heat recovery	Specific fan power (W/(l.s)): 1.5
Heat recovery: balanced mechanical ventilation systems	Dry heat recovery efficiency: 70%
Fixed lighting: internal light fittings	Lighting efficacy: 45 lamp lumens per circuit-watt
Comfort cooling: water-cooled air-conditioners working in cooling mode	Energy efficiency ratio: 2.5

Table 5: Selected examples of minimum standards. Domestic Building Services Compliance Guide, HM Government, 2013 edition – for use in England.

The Approved Documents (ADs)[5] (for new buildings) include detailed specifications for the "reference building" from which the Target CO_2 Emission Rate is derived. The "reference building" provides typical specifications for the actual building design. Standards higher than the minimum (Table 5) may be required to satisfy Building Regulations for new buildings.

2.IV.i. Status and plans on smart buildings

Please see England report.

2.IV.ii. Regulation of system performance

The commissioning of fixed technical building systems is required by Building Regulations to ensure the actual building performance is as consistent as possible with design intentions. The ADs reference the Domestic and Non-domestic Building Services Compliance Guides, and industry guidance. Typically, the guides recommend following manufacturer's instructions, and include information such as the qualifications/accreditation required for commissioning experts.

2.IV.iii. Building Automation and Controls (BACs)

Control of technical building systems are included in the Domestic and Non-Domestic Building Services Compliance Guides[17 18], the ADs[5], and the Building Regulations. The National Calculation Methodology (NCM) also provides additional benefits for more effective controls.

The ADs[5] for non-residential buildings include benefits for installing automatic monitoring of the building's energy performance and power factor correction equipment. E.g., the calculated Building Emission Rate (BER) may be reduced where management features are provided, which helps the new building to meet the maximum Target Emission Rate (TER). For "automatic monitoring and targeting with alarms for out of range values" the BER may be reduced by 5%.

In the published stage 1 Part L consultation document[19] it has been proposed that if building automation and control systems are installed in new residential buildings, then information about the energy performance of the building automation and control system must be provided to the building owner. The forthcoming stage 2 consultation will provide proposals for existing residential buildings and non-domestic buildings.

2.IV.iv. Status and encouragement of intelligent metering

See England report for details.

2.IV.v. Progress and current status on heating systems (Inspection / Equivalence)

The UK[20] adopted alternative measures for heating systems and inspections for AC systems. Wales-specific programmes include "Nest"[14] and "Arbed"[15] which aim to address fuel poverty. "Nest" also provides access to advice and support. See England report for details.

2.IV.vi. Progress and current status on AC systems (Inspection / Equivalence)

See England report for details.

2.IV.vii. Enforcement and impact assessment of inspections

Enforcement and penalties

See England report for details.

Quality control of inspection reports

See England report for details.

Impact assessment

See England report for details.

3. A success story in EPBD implementation

The Welsh Government "Warm Homes" programme, which includes the "Warm Homes Nest" and "Warm Homes Arbed" schemes, is designed to improve the energy efficiency of existing housing, targeting low-income households or those living in the most deprived areas of Wales.

"Warm Homes Nest" is a demand-led fuel poverty scheme. It combines free impartial advice and support to help reduce energy bills with a package of free home energy improvement measures to eligible low-income households living in the most energy inefficient homes.

"Warm Homes Arbed" is a strategic area-based fuel poverty scheme focused on improving the energy efficiency of homes in some of the most deprived areas. Arbed aims to reduce the carbon footprint of Wales' existing housing stock and, in doing so, provide resilience for households against rising energy costs.

Welsh Government "Warm Homes" programme takes a whole house approach to improving the energy efficiency, making homes more efficient and cheaper to heat. Between 2009 and 2019, more than £327 million (~372 M€) was invested in home energy efficiency improvements through the Warm Homes Programme, benefitting more than 55,000 homes. This investment enabled the provision of advice to more than 129,000 people over the same period.

4. Conclusions, future plans

The UK is divided into four jurisdictions. Historically, England and Wales shared the same Building Regulations. In 2011, Wales became responsible for its own Building Regulations, and the new Welsh Regulations came into force in 2014.

The 2014 Building Regulations in Wales were expected to improve new residential units' performance by 8% and non-residential buildings by 20% over the previous standards. A Primary Energy Consumption target for new non-residential buildings and improved minimum fabric standards for new residential units were introduced with an emphasis on reducing energy demand.

A review of the energy performance requirements within the Building Regulations is ongoing, to consider the next step in the Welsh commitment to improve energy requirements where necessary to deliver NZEB standards at a cost optimal level or better for all building types, with amendments to the Building Regulations expected to come into force in late 2021/ early 2022. The review will also develop proposals to implement the 2018 amendments to the EPBD (2018/844).

Regulations for the Energy Performance of Buildings, including EPCs, cover both England and Wales and remain unchanged.

Endnotes

1. Welsh Statutory Instrument No. 110: The Building (Amendment) (Wales) Regulations 2014. Available at: http://www.legislation.gov.uk/wsi/2014/110/made
2. Welsh Statutory Instrument No. 747: The Building Regulations &c. (Amendment) (Wales) Regulations 2013. Available at: http://www.legislation.gov.uk/wsi/2013/747/pdfs/wsi_20130747_mi.pdf
3. Statutory Instrument 2019 No. 1056: Climate Change. The Climate Change Act 2008 (2050 Target Amendment) Order 2019. Available at: https://www.legislation.gov.uk/uksi/2019/1056/made
4. Building Regulations Part L and F Review: Changes to Part L (conservation of fuel and power) and Part F (ventilation) of the Building Regulations for new dwellings. Welsh Government, December 2019. Available at: https://gov.wales/sites/default/files/consultations/2019-12/consultation-document-building-regulations-part-l-review.pdf
5. The Approved Documents (ADs) are available at: https://gov.wales/building-regulations-approved-documents. Conservation of Fuel and Power: Approved Document L is available at: https://gov.wales/building-regulations-guidance-part-l-conservation-fuel-and-power
6. Second Cost Optimal Assessment for the United Kingdom (excluding Gibraltar), MHCLG, January 2019. Available at:

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/770783/2nd_UK_Cost_Optimal_Report.pdf

7. Live tables on Energy Performance of Buildings Certificates: EPCs for non-domestic properties, Ministry of Housing, Communities and Local Government, January 2020. Table A: non-domestic Energy Performance Certificates by energy performance asset rating. Available at: https://www.gov.uk/-sets/live-tables-on-energy-performance-of-buildings-certificates

8. Live tables on Energy Performance of Buildings Certificates: EPCs for non-domestic properties, Ministry of Housing, Communities and Local Government, January 2020. Table D1: domestic Energy Performance Certificates for all dwellings by energy efficiency rating. Available at: https://www.gov.uk/-sets/live-tables-on-energy-performance-of-buildings-certificates

9. Live tables on Energy Performance of Buildings Certificates. Available at: https://www.gov.uk/Government/statistical-data-sets/live-tables-on-energy-performance-of-buildings-certificates

10. UK National Energy Efficiency Action Plan. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/307993/uk_national_energy_efficiency_action_plan.pdf

11. The Energy Efficiency Directive, European Commission. Available at: https://ec.europa.eu/energy/topics/energy-efficiency/targets-directive-and-rules/energy-efficiency-directive_en

12. National Energy Efficiency and Savings Plan. Welsh Government, 2011. Available at: https://www.bridgend.gov.uk/media/1501/wd28.pdf

13. Fuel Poverty Strategy. Welsh Government, July 2010. Available at: https://gov.wales/sites/default/files/publications/2019-06/fuel-poverty-strategy.pdf

14. The Nest scheme - a fuel poverty scheme delivered as part of the Warm Homes Programme. Available at: www.nestwales.org.uk/

15. Arbed - an area based scheme delivered as part of the Warm Homes Programme. Available at: www.warmwales.org.uk/arbed-energy-saving-program-underway/

16. Press Release: Welsh public sector to be carbon neutral by 2030. Welsh Government, July 2017. Available at: https://gov.wales/welsh-public-sector-be-carbon-neutral-2030

17. Domestic Building Services Compliance Guide, 2013. Available at: https://gov.wales/sites/default/files/publications/2019-05/building-regulations-guidance-part-l-conservation-of-fuel-and-power-domestic-building-services-compliance-guide.pdf

18. Non-Domestic Building Services Compliance Guide, 2013. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/453973/non_domestic_building_services_compliance_guide.pdf

19. Building regulations Part L review. Available at: https://gov.wales/building-regulations-part-l-review-0

20. The UK refers to England, Wales, Scotland and Northern Ireland.

Annexes - Key Implementation Decisions

Key Implementation Decisions - General Background

no	Key Implementation Decisions – General Background	Description / value / response	Comments
01.01	Definition of public buildings (according to article 9 b)	Not available	
01.02	Definition of public buildings used by the public (according to article 13)	Display Energy Certificates (based on measured energy consumption) are issued and displayed in buildings >250 m² that are occupied by a public authority and frequently visited by the public. Energy Performance Certificates (based on predicted energy consumption) are displayed in commercial premises >500 m² that are frequently visited by the public, and where an EPC has previously been issued.	
01.03	Number of residential buildings	1,431,537 residential buildings in Wales (March 2019)*	(*) Dwelling Stock Estimates for Wales https://statswales.gov.wales/Catalogue/Housing/Dwelling-Stock-Estimates/dwellingstockestimates-by-year-tenure
01.04	Number of non-residential buildings	119,680 in Wales*	(*) Estimated based on: Non-domestic rating: stock of properties including business floorspace, 2019. Table SC1.0, Valuation Office Agency (Nov 2019). https://www.gov.uk/government/statistics/non-domestic-rating-stock-of-properties-including-business-floorspace-2019
01.05	If possible, share of public buildings included in the number given in 01.04	Not available	

no	Key Implementation Decisions – General Background	Description / value / response	Comments
01.06	If possible, share of commercial buildings included in the number given in 01.04	29,470 retail premises in Wales*	(*) Estimated based on: Non-domestic rating: stock of properties including business floorspace, 2019. Table SC1.0 Valuation Office Agency (Nov 2019). https://www.gov.uk/government/statistics/non-domestic-rating-stock-of-properties-including-business-floorspace-2019
01.07	Number of buildings constructed per year (estimate)	Residential: see 01.08 Non-residential: not identified	
01.08	If possible, share of residential buildings constructed per year (estimate, included in the number given in 01.07)	New residential building completions (Wales)*: 2018-19 5,777 2017-18 6,663 2016-17 6,833	(*) New dwellings completed by period and tenure, StatsWales: Welsh Government (March 2020). https://statswales.gov.wales/Catalogue/Housing/New-House-Building/newdwellingscompleted-by-period-tenure
01.09	If possible, share of non-residential buildings constructed per year (estimate, included in the number given in 01.07)	Not identified	
01.10	Useful floor area of buildings constructed per year in million square meters (estimate)	Floor areas of residential buildings constructed per year (Wales)*:	(*) Live Table NB3, published quarterly statistics on Energy Performance of Buildings Certificates in England and Wales (^) Live Table A, published quarterly statistics on Energy Performance of Buildings Certificates in England and Wales https://www.gov.uk/government/statistical-data-sets/live-tables-on-energy-performance-of-buildings-certificates

no	Key Implementation Decisions – General Background	Description / value / response	Comments

Year	Million m^2
2009	0.56
2010	0.64
2011	0.60
2012	0.60
2013	0.57
2014	0.71
2015	0.77
2016	0.77
2017	0.77
2018	0.78
2019	0.85

Floor areas of non-residential buildings constructed per year (Wales)^:

Year	Million m^2
2009	3.72
2010	2.18
2011	2.57
2012	3.44
2013	3.05
2014	2.51
2015	2.69
2016	2.06
2017	2.32
2018	2.44
2019	2.68

Key Implementation Decision - New Buildings

no	Key Implementation Decision – New Buildings	Description / value / response	Comments
02.01	Are building codes set as overall value, primary energy, environment (CO_2), reference building or other	Reference building approach	
02.02	Requirements for energy performance of residential buildings in current building code	Wales adopted four "Approved Documents" which provide a route to comply with Building Regulations. Five criteria are set for new residential and non-residential buildings: 1. Ensure that the calculated Building CO_2 Emission Rate is no greater than the target. For non-residential buildings only, ensure that the Building Primary Energy Consumption is not greater than the target. 2. Meet limits on design flexibility, including minimum fabric standards and building services efficiencies. 3. Ensure appropriate passive control measures to limit summer heat gains, including the effect of shading devices and comfort assessment. 4. Ensure the "as built" building performance (including fabric and fixed building services) is consistent with design calculations. 5. Provide information for energy efficient building operation.	Residential buildings: Conservation of Fuel and Power: Approved Document L1A. Welsh Government, 2014 edition incorporating 2016 amendments. Available at: https://gov.wales/sites/default/files/publications/2019-05/building-regulations-guidance-part-l-conservation-of-fuel-and-power-2014-l1a-new-dwellings.pdf
02.03	Requirements for energy performance of non-residential commercial	Ditto 02.02	Non-residential buildings: Conservation of Fuel and Power: Approved Document L2A. Welsh Government, 2014 edition incorporating 2016 amendments. Available at:

no	Key Implementation Decision – New Buildings	Description / value / response	Comments
	buildings in current building code		https://gov.wales/sites/default/files/publications/2019-05/building-regulations-guidance-part-l-conservation-of-fuel-and-power-2014-l2a-new-buildings-other-than-dwellings.pdf
02.04	Requirements for energy performance of non-residential public buildings in current building code	Ditto 02.02	Non-residential buildings: Conservation of Fuel and Power: Approved Document L2A. Welsh Government, 2014 edition incorporating 2016 amendments. Available at: https://gov.wales/sites/default/files/publications/2019-05/building-regulations-guidance-part-l-conservation-of-fuel-and-power-2014-l2a-new-buildings-other-than-dwellings.pdf
02.05	Is the performance level of nearly zero energy (NZEB) for new buildings defined in national legislation?	Building Regulation 25B* states: 'Where a building is erected, it must be a nearly zero energy building'. The performance level of nearly zero energy (NZEB) for new buildings is not defined within national legislation. However, SI. 747 (2013) defines NZEB as "a building that has a very high energy performance, as determined in accordance with a methodology approved under regulation 24, where the nearly zero or very low amount of energy required should be covered to a very significant extent by energy from renewable sources, including energy from renewable sources produced on-site or nearby." The approved methodology does not set a performance level for NZEB.	(*) Welsh Statutory Instrument (SI) No. 747: The Building Regulations &c. (Amendment) (Wales) Regulations 2013. Available at: http://www.legislation.gov.uk/wsi/2013/747/pdfs/wsi_20130747_mi.pdf
02.06	Nearly zero energy (NZEB) level for residential buildings (level for building code)	Ditto 02.05	

no	Key Implementation Decision – New Buildings	Description / value / response	Comments
02.07	Year / date for nearly zero energy (NZEB) as level for residential buildings (as indicated in 02.04)	For all new buildings (excluding new buildings owned and occupied by public authorities), the coming-into-force date for Regulation 25B is 31 December 2020.	Welsh Statutory Instrument (SI) No. 747: The Building Regulations &c. (Amendment) (Wales) Regulations 2013. Available at: http://www.legislation.gov.uk/wsi/2013/747/pdfs/wsi_20130747_mi.pdf
02.08	Nearly zero energy (NZEB) level for all non-residential buildings (level for building code)	For new buildings owned and occupied by public authorities the coming-into-force date for Regulation 25B is 1 January 2019. For other new buildings, see 02.07.	Welsh Statutory Instrument (SI) No. 747: The Building Regulations &c. (Amendment) (Wales) Regulations 2013. Available at: http://www.legislation.gov.uk/wsi/2013/747/pdfs/wsi_20130747_mi.pdf
02.09	Year / date for nearly zero energy (NZEB) as level for non-residential buildings (as indicated in 02.06)	See above.	
02.10	Are nearly zero energy buildings (NZEB) defined using a carbon or environment indicator?	Carbon based.	
02.11	Is renewable energy a part of the overall or an additional requirement?	Part of the overall requirement.	Welsh Statutory Instrument (SI) No. 747: The Building Regulations &c. (Amendment) (Wales) Regulations 2013. Available at: http://www.legislation.gov.uk/wsi/2013/747/pdfs/wsi_20130747_mi.pdf
02.12	If renewable energy is an additional requirement to NZEB, please indicate level	Not applicable.	
02.13	Specific comfort criteria for new buildings, provide specific parameters for instance for airtightness, minimum ventilation rates	See 02.02	

Key Implementation Decision - Existing Buildings

no	Key Implementation Decision – Existing Buildings	Description / value / response	Comment
03.01	Is the level of nearly zero energy (NZEB) for existing buildings set in national legislation?	No	
03.02	Is the level of nearly zero energy (NZEB) for existing buildings similar to the level for new buildings?	Not defined	
03.03	Definition of nearly zero energy (NZEB) for existing residential buildings (if different from new buildings)	Not defined	
03.04	Definition of nearly zero energy (NZEB) for existing non-residential buildings (if different from new buildings)	Not defined	
03.05	Overall minimum requirements in case of major renovation	Please see England report.	
03.06	Minimum requirements for individual building parts in case of renovation	Ditto 03.05	
03.07	National targets for renovation in connection to Long Term Renovation Strategy (number or percentage of buildings)	Please see England report.	
03.08	National targets for renovation in connection to Long Term Renovation Strategy (expected reductions and relevant years)	Please see England report.	

Key Implementation Decision - Energy Performance Certificates

no	Key Implementation Decision – Energy Performance Certificates	Description / value / response	Comment
04.01	Number of energy performance certificates per year (for instance average or values for of 3-5 years)	Wales: Domestic EPCs (annual average 2017– 2019): 69,804 Non-domestic EPCs (annual average 2017 – 2019): 3,942 Non-domestic DECs (annual average 2017 – 2019): 2,018	Live tables on Energy Performance of Buildings Certificates, MHCLG, (*) Table D1: *Domestic Energy Performance Certificates for all dwellings by energy efficiency rating, (^)* Table A: *Non-domestic Energy Performance Certificates by energy performance asset rating &* (**) Table DEC1: *Display Energy Certificates by local authority and energy performance operational rating,* January 2020. https://www.gov.uk/government/statistical-data-sets/live-tables-on-energy-performance-of-buildings-certificates#epcs-for-all-properties-non-domestic-and-domestic
04.02	Number of EPCs since start of scheme	Wales: Domestic EPCs (total to December 2019): 1,029,685* Non-domestic EPCs (total to December 2016): 43,880^	Live tables on Energy Performance of Buildings Certificates, MHCLG, (*) Table D1: *Domestic Energy Performance Certificates for all dwellings by energy efficiency rating,* (^) Table A: *Non-domestic Energy Performance Certificates by energy performance asset rating &* (**) Table DEC1: *Display Energy Certificates by local authority and energy performance operational rating,* January 2020. https://www.gov.uk/government/statistical-data-sets/live-tables-on-energy-performance-of-buildings-certificates#epcs-for-all-properties-non-domestic-and-domestic
04.03	Number of EPCs for different building types	Wales: **Residential buildings** Bungalow: 116,239 Flat: 177,090 House: 724,589 Maisonette: 11,523 Park home: 241 Not Recorded: 3 Total: 1,029,685	Live tables on Energy Performance of Buildings Certificates, MHCLG, (*) Table A1: *Energy Performance Certificates for all properties by total floor area and type of property &* (^) Table B: *Non-domestic Energy Performance Certificates by property group,* January 2020. https://www.gov.uk/government/statistical-data-sets/live-tables-on-energy-performance-of-buildings-certificates#epcs-for-all-properties-non-domestic-and-domestic

no	Key Implementation Decision – Energy Performance Certificates	Description / value / response	Comment
		Non-residential buildings Administration, Business, Commerce:31,477 Culture, Leisure, Sport, Travel: 8,022 Education: 1,674 Health & Social Care: 2,195 Law & Order, Emergency Services: 156 Transport:146 Other: 210	
04.04	Number of assessors	Refer to the England KIDs for details.	
04.05	Basic education requirements for assessors	Refer to the England KIDs for details.	
04.06	Additional training demands for assessors	Refer to the England KIDs for details.	
04.07	Quality assurance system	Refer to the England KIDs for details.	
04.08	National database for EPCs	Refer to the England KIDs for details.	
04.09	Link to national information on EPCs / Database	Refer to the England KIDs for details.	

Key Implementation Decision – Smart Buildings and Building Systems

no	Key Implementation Decision – Smart Buildings and Building Systems	Description / value / response	Comment
05.01	Is there a national definition of smart buildings?	Not defined	
05.02	Are there current support systems for smart buildings?	Not defined	
05.03	Are there currently specific requirements for technical building systems (for instance in building codes)?	Yes, See Table 5 above. Further details can also be located within the Approved Documents for new and existing residential and non-residential buildings.	Domestic Building Services Compliance Guide, 2013. Available at: https://gov.wales/sites/default/files/publications/2019-05/building-regulations-guidance-part-l-conservation-of-fuel-and-power-domestic-building-services-compliance-guide.pdf Approved Documents: AD L1A, AD L1B, AD L2A and AD L2B for new and existing residential and non-residential buildings respectively. Available at: https://gov.wales/building-regulations-guidance-part-l-conservation-fuel-and-power
05.04	Are there current requirements for automatics (for instance in building codes)?	Yes, See Table 5.	
05.05	Chosen option A or B for heating systems (inspection or other measures)	Option B	
05.06	Number of heating inspections; reports per year (if option A)	Not applicable	
05.07	Chosen option A or B for cooling systems (inspection or other measures)	Option A	
05.08	Number of air-conditioning / cooling system inspections; reports per year (if option A)	Refer to the England KIDs for details.	

no	Key Implementation Decision – Smart Buildings and Building Systems	Description / value / response	Comment
05.09	Is there a national database for heating inspections?	Refer to the England KIDs for details.	
05.10	Is there a national database for cooling / air-conditioning inspections?	Refer to the England KIDs for details.	
05.11	Are inspection databases combined with EPC databases for registration of EPCs and inspection reports?	Yes	
05.12	Link to national information on Inspection / Database	Refer to the England KIDs for details.	

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