



CONCERTED ACTION ENERGY PERFORMANCE OF BUILDINGS

EPBD implementation in the United Kingdom - Wales

Status in December 2016

AUTHORS

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NATIONAL WEBSITES

www.wales.gov.uk/topics/planning/buildingregs/?lang=en

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 Department for Communities and Local Government (DCLG) 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

2.1. Energy performance requirements: NEW BUILDINGS

2.1.i. Progress and current status

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. The Regulations were strengthened to deliver improved CO₂ 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.

Further changes to the Building Regulations will be required to achieve the Government’s NZEB commitment for all new buildings by 2018/2020. A review of Building Regulations’ energy performance requirements (“Part L”) is scheduled for 2017 for all building types.

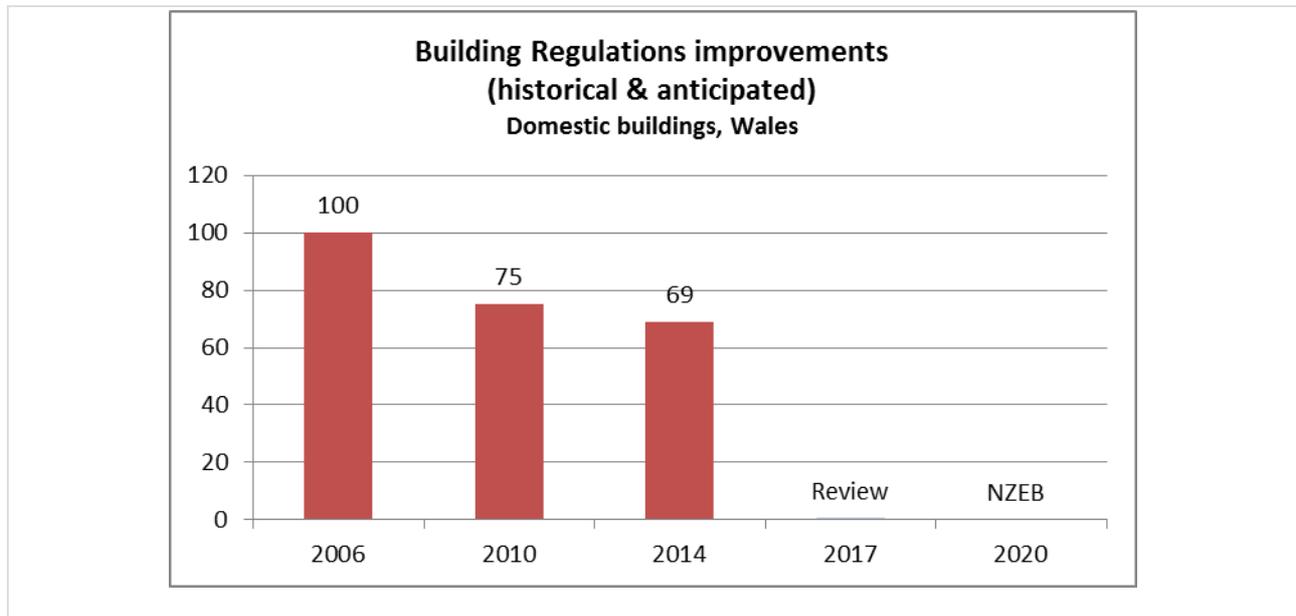


Figure 1. New residential Building Regulations improvements, Wales.

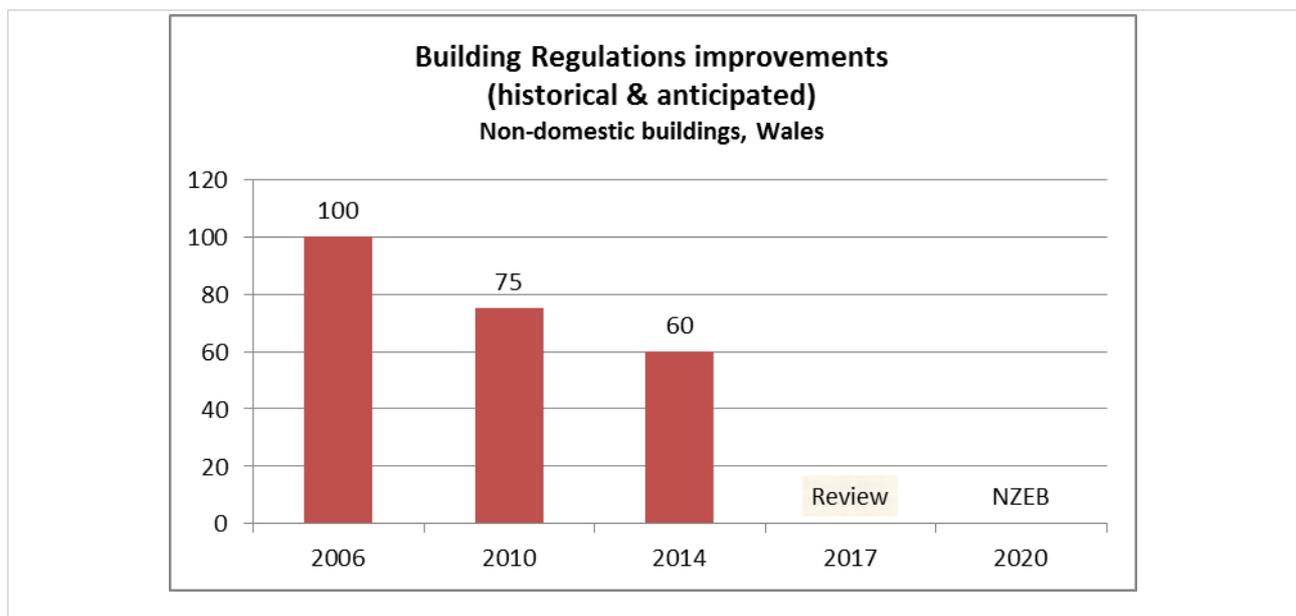


Figure 2. New non-residential Building Regulations improvements, Wales.

2.1.ii. Format of national transposition and implementation of existing regulations

Wales adopted a similar approach to England, i.e., four “Approved Documents” (ADs) 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 Accredited Construction Details (ACDs) to demonstrate compliance. Wales adopted the English ACDs¹. Figure 3 gives an example. Compliance checks are similar to England, using Building Control Bodies (BCBs) and “Competent Persons”. See England report for details.

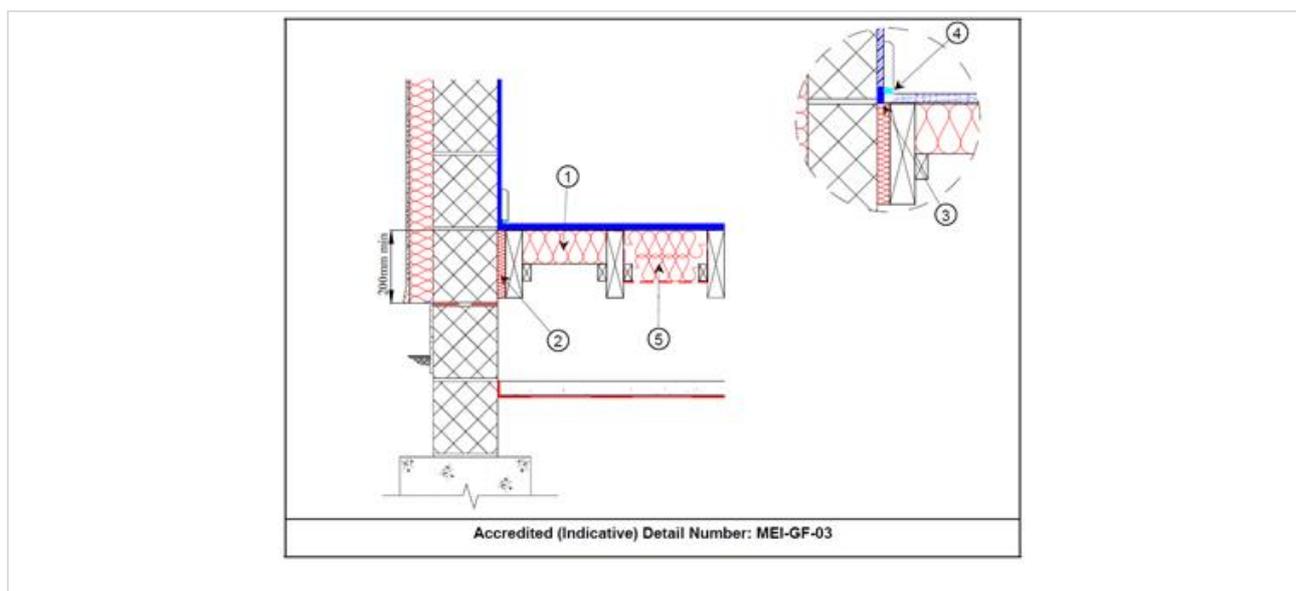


Figure 3. ACD for Timber Suspended Ground Floor. Extracted from ACDs for Masonry External Wall insulation.

Cost-optimal procedure for setting energy performance requirements

A UK-wide cost-optimal report, which addresses Wales, was published in May 2013. See England report for details. The report is expected to be updated in 2017 in line with EPBD requirements.

2.1.iii. Action plan for progression to NZEB

The current Building Regulations incorporate NZEB. Regulation 25B² 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 scheduled to commence in 2017. The review is intended to deliver, as a minimum, cost-optimal NZEB standards to be applied to new public buildings from 2018 and all new buildings from 2020.

National application of the NZEB definition

NZEB statistics are not maintained in Wales. Figure 4 shows historical records of EPCs for energy classes A and A+. The graph shows an upward trend for both residential and non-residential sectors. Note that new building construction rates will also affect these data.

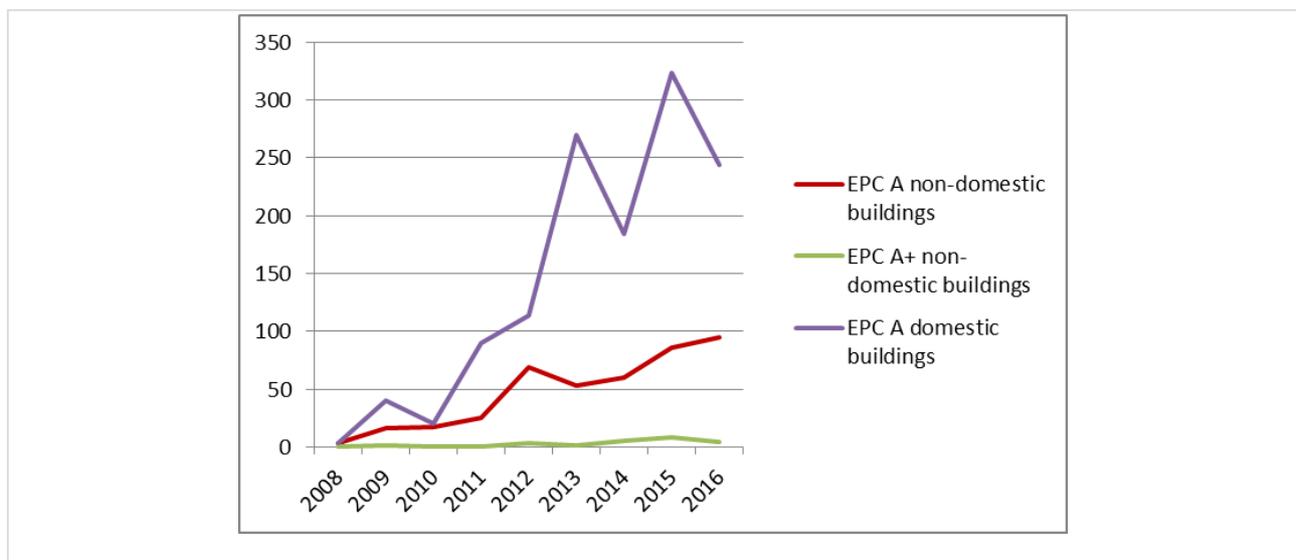


Figure 4. Historical EPC A/A+ records for residential and non-residential buildings in Wales.

2.1.iv. Requirements for systems and / or building components

Wales adopted the same approach as England, where the “Domestic and Non-domestic Building Services Compliance Guides” recommend minimum energy efficiency standards. See England report for details.

The commissioning of technical building systems is addressed in the Approved Documents and the Building Services Compliance Guides. They require commissioning to be done in accordance with relevant industry guidance, e.g., the Chartered Institution of Building Service Engineers (CIBSE)³ Commissioning Code M: Commissioning management.

2.II. Energy performance requirements: EXISTING BUILDINGS

The UK National Energy Efficiency Action Plan (NEEAP)⁴ gives a statistical overview of the UK building stock. See England report for details.

Wales has about 1.3 million homes. Figures 5 and 6 show the distribution of >800,000 residential EPCs and >32,000 non-domestic EPCs in Wales. Buildings with no EPCs are not represented.

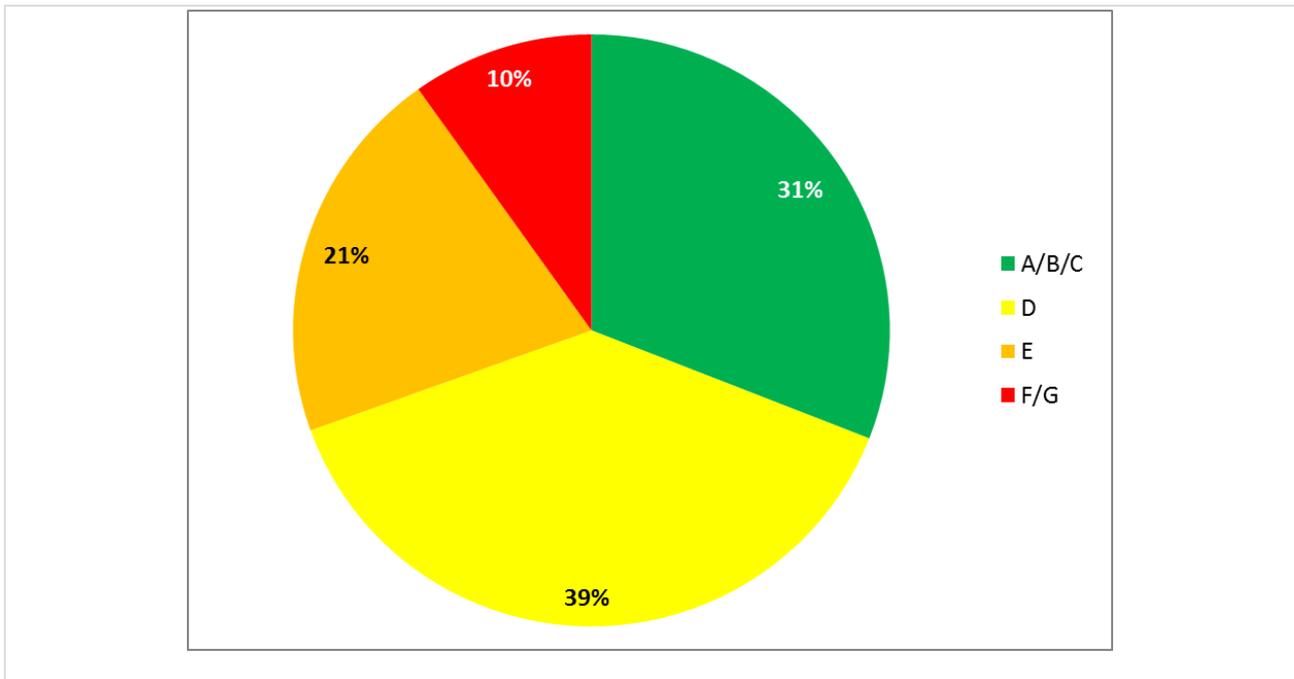


Figure 5. Distribution of residential EPCs in Wales, 2008 to December 2016.

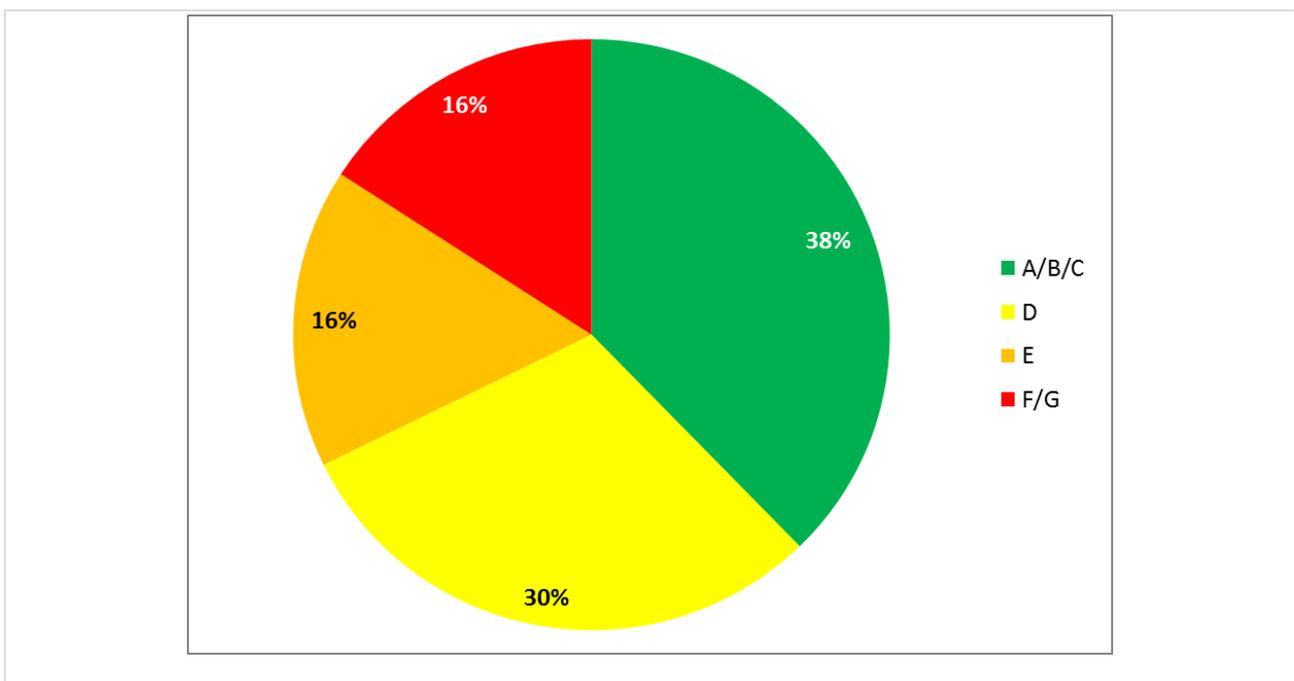


Figure 6. Distribution of non-residential EPCs in Wales, 2008 to December 2016.

2.II.i. Progress and current status of existing buildings

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. Plans to improve the existing building stock

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

- the National Energy Efficiency and Savings Plan (2011);
- the Fuel Poverty Strategy (2010);
- “Nest”, a fuel poverty programme that provides energy efficiency advice, alongside installation of “whole house” measures, for qualifying properties;
- “Arbed” a whole house retrofit programme;
- 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.

The UK decided to implement the alternative approach allowed by Article 5(6). See England report for details. The Welsh Government’s Climate Change Strategy aims to cut emissions from the Welsh Government estate by at least 30% in 2019/2020 from a 2010/2011 baseline. The Welsh Government estimates that the Strategy will save 3.4 GWh of energy which will contribute towards the UK equivalence target of 163.6 GWh savings.

2.II.iii. Regulation of system performance, distinct from whole building performance

See England report for details.

2.II.iv. Encouragement of intelligent metering

See England report for details.

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

See UK National Energy Efficiency Action Plan details above.

2.II.vi. Information campaigns / complementary policies

“Resource Efficient Wales”⁵ is a single point of contact to help people and organisations in Wales access information, advice and support on:

- using energy more efficiently;
- generating renewable energy;
- using water more efficiently; and
- reducing material waste.

The service helps people and organisations understand how they can reduce their energy use and bills through changing their behaviour and installing suitable measures within buildings. The service contains a mixture of information and advice, combined with more detailed and bespoke advice in addition to ensuring that people are aware of the wider initiatives and incentive schemes that are available.

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 sale or rental of buildings and EPCs

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

	Domestic EPC lodgements by band									
	Total EPCs	A	B	C	D	E	F	G	not recorded	
Total	823,247	1,288	57,147	196,326	317,500	169,911	57,875	23,178	22	
Percentage	100%	0.2%	6.9%	23.8%	38.6%	20.6%	7.0%	2.8%	0.0%	

Table 2. Residential EPCs, 2008 to December 2016, Wales.

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

	Non-domestic EPC lodgements by band									
	Total EPCs	A+	A	B	C	D	E	F	G	not recorded
Total	32,072	22	424	2,722	8,920	9,629	5,257	2,412	2,673	13
Percentage	100%	0.1%	1.3%	8.5%	27.8%	30.0%	16.4%	7.5%	8.3%	0.0%

Table 3. Non-residential EPCs, 2008 to December 2016, Wales.

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

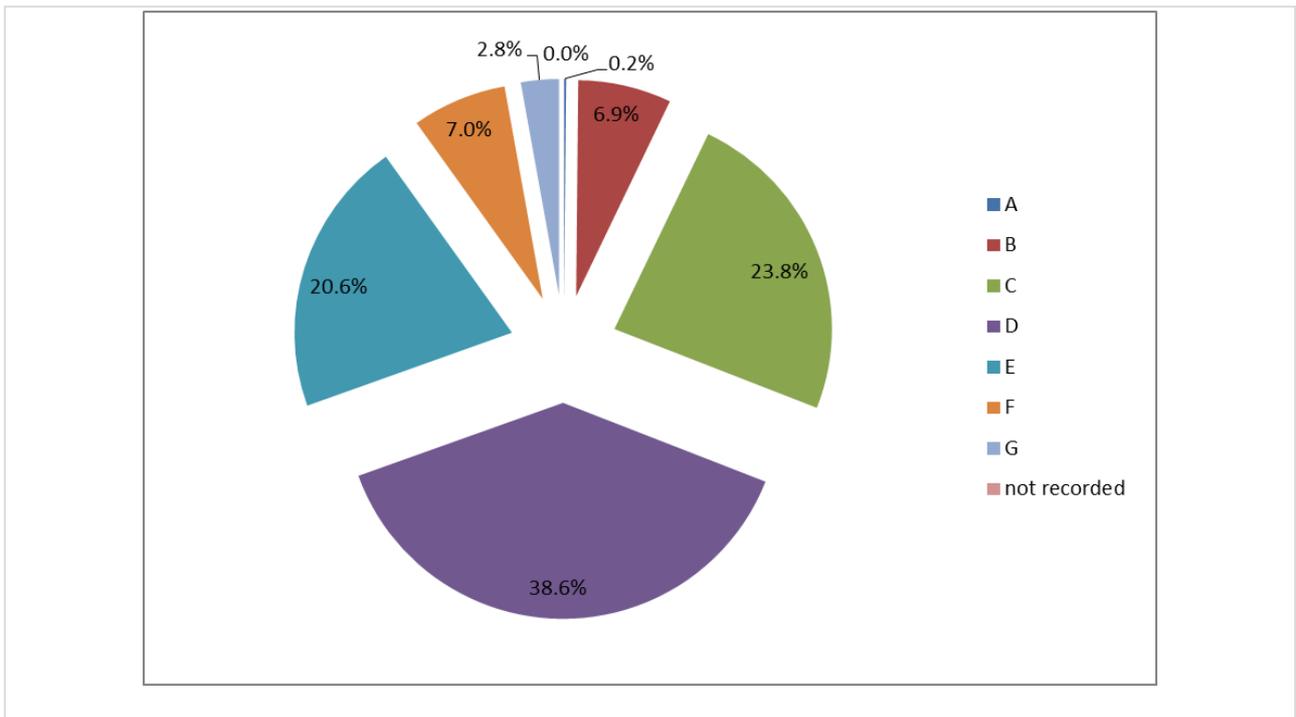


Figure 7. Residential EPCs, 2008 to July 2014, Wales. Percentages by EPC band.

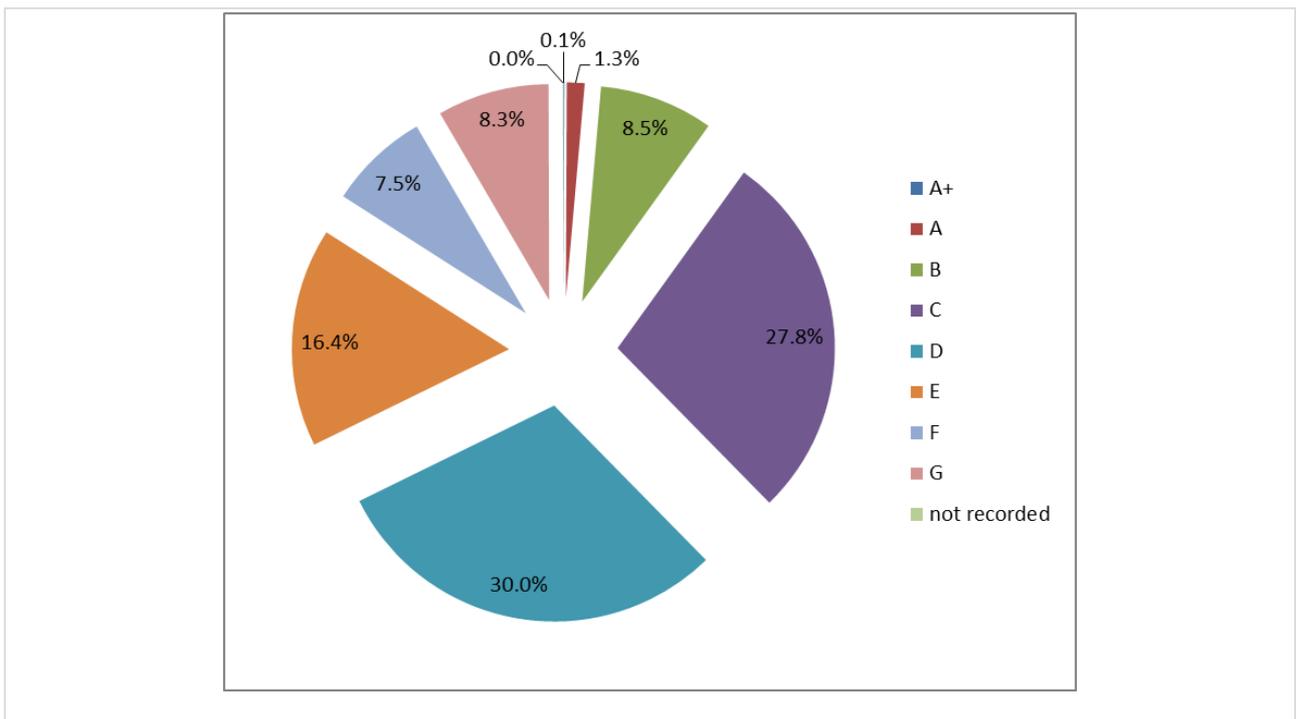


Figure 8. Non-residential EPCs, 2008 to July 2014, Wales. Percentages by EPC band.

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 2016 is included in Table 4 and Figure 9.

	DEC lodgements by band								
	Total	A	B	C	D	E	F	G	not recorded
Total	16,589	182	1,360	4,903	5,606	2,637	915	978	8
Percentage	100%	1.1%	8.2%	29.6%	33.8%	15.9%	5.5%	5.9%	0.0%

Table 4. Display Energy Certificates (DECs), 2008 to December 2016, Wales.

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

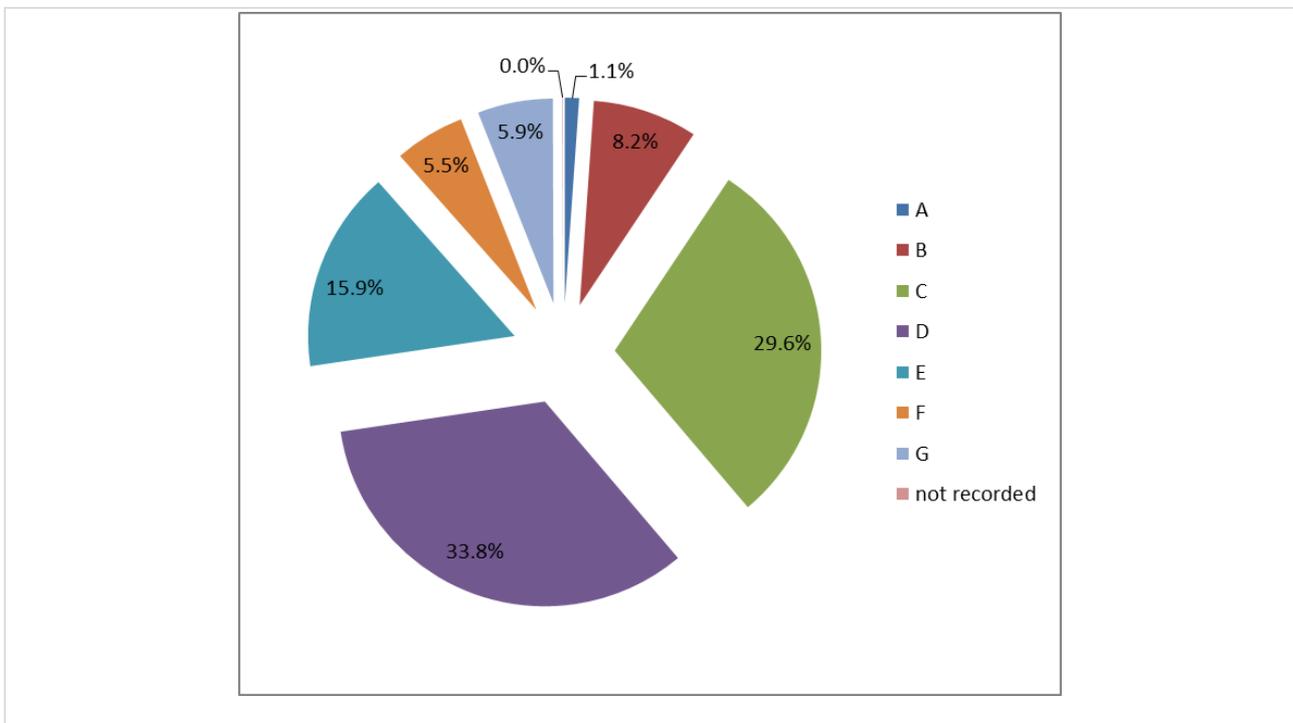


Figure 9. Display Energy Certificates (DECs), 2008 to December 2016, Wales. Percentages by DEC band.

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

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

2.IV Inspection requirements - heating systems, air conditioning

The UK⁶ adopted alternative measures for heating systems and inspections for AC systems. Wales-specific programmes include “Nest” and “Arbed” which aim to address fuel poverty. “Nest” also provides access to advice and support. See England report for details.

2.IV.i. Report on equivalence of model A and B for Heating Systems

See England report for details.

2.IV.ii. Progress and current status on heating systems

See England report for details.

2.IV.iii. Progress and current status on AC systems

See England report for details.

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

Enforcement and penalties

Activity level and statistics on penalties already levied. Ref. Article 27

Quality control of inspection reports

Ref. Art. 18 and Annex II

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”⁷ 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”⁸ 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”⁹ programme takes a whole house approach to improving the energy efficiency, making homes more efficient and cheaper to heat. Between 2014 and 2016, the Welsh Government invested over £117 million (~136 M€) in Warm Homes. This enabled the provision of advice and support to over 28,000 households and an improvement in the energy efficiency of over 17,000 homes.

“Warm Homes Nest and “Warm Homes Arbed” are designed to leverage additional funding from sources such as the Energy Company Obligation (ECO) with Warm Homes Nest leveraging in over £5.5 million (~6 M€) of ECO funding between 2014 and 2016.

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 scheduled for 2017, to consider the next step in the Welsh commitment to NZEB by 2018/2020.

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

Endnotes

1. Available at www.planningportal.gov.uk.
2. Regulation 25B: www.legislation.gov.uk/wsi/2013/747/regulation/15/made
Coming into force date: www.legislation.gov.uk/wsi/2013/747/schedule/made
3. CIBSE Commissioning Codes: www.cibse.org/knowledge/cibse-publications/cibse-commissioning-codes
4. UK National Energy Efficiency Action Plan, Department of Energy & Climate Change, April 2014
5. www.resourceefficient.gov.wales
6. The UK refers to England, Wales, Scotland and Northern Ireland
7. www.nestwales.org.uk/
8. <http://arbed.org/en/home>; www.warmwales.org.uk/arbed-energy-saving-program-underway/
9. <http://gov.wales/topics/environmentcountryside/energy/efficiency/warm-homes/?lang=en>



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