CONCERTED ACTION
ENERGY PERFORMANCE OF BUILDINGS

Implementation of the EPBD United Kingdom - Northern Ireland

Status in 2020

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NATIONAL WEBSITES

www.finance-ni.gov.uk/topics/building-regulations-and-energy-efficiency-buildings (http://www.finance-ni.gov.uk/topics/building-regulations-and-energy-efficiency-buildings)

1. Introduction

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

The implementation of the EPBD in Northern Ireland is the responsibility of the Department of Finance (DoF) and is implemented principally through the Building Regulations and the Energy Performance of Buildings Regulations.

DoF relies heavily on research and development from other UK jurisdictions (principally England) in the development of its Regulations and technical guidance. This report introduces the most recent requirements. It addresses certification and inspection, the training of Energy Assessors, information campaigns, incentives and subsidies. For more details, visit the website[1].

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)

Northern Ireland implements the EPBD energy performance requirements through Part F "Conservation of Fuel and Power"[2] of the Building Regulations. Amendments to Part F in 2012 followed England's Regulations and guidance, and implemented a performance uplift of 25% on previous standards (Figures 1

and 2). Minor amendments were introduced in 2014[3] and 2016[4] to comply with, or to help clarify, other EPBD requirements. Department of Finance (DoF) issued an information note on the application of nearly zero-energy buildings (NZEB) in relation to new buildings owned and occupied by public authorities in 2019[5], clarifying that public procurement policies together with the existing building regulatory regime are sufficient to meet the NZEB requirements. During the same year, the UK Government passed legislation to commit the UK to a legally binding target of net zero emissions by 2050.[6]

As Northern Ireland Building Regulations are normally updated in light of amendments made in England, DoF is working to update the current technical guidance with a view to the English Building Regulations amendment proposals.

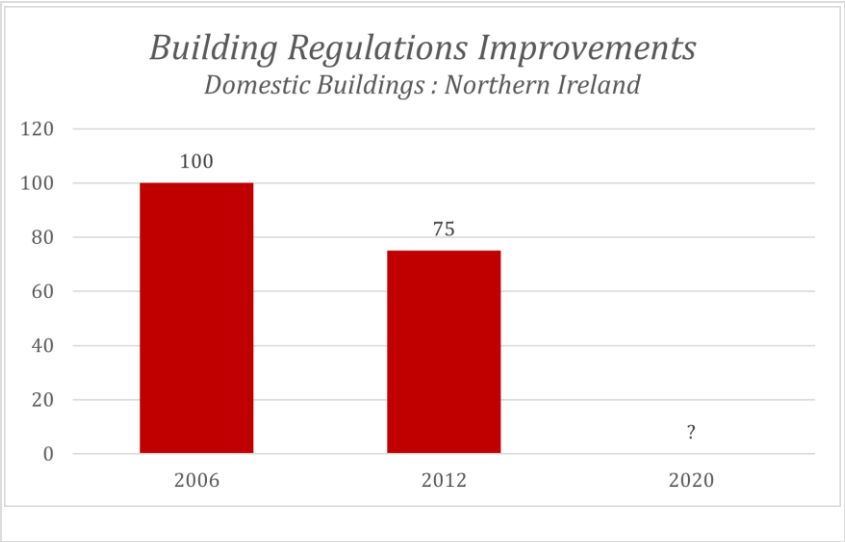

Figure 1. New domestic Building Regulations improvements, Northern Ireland.

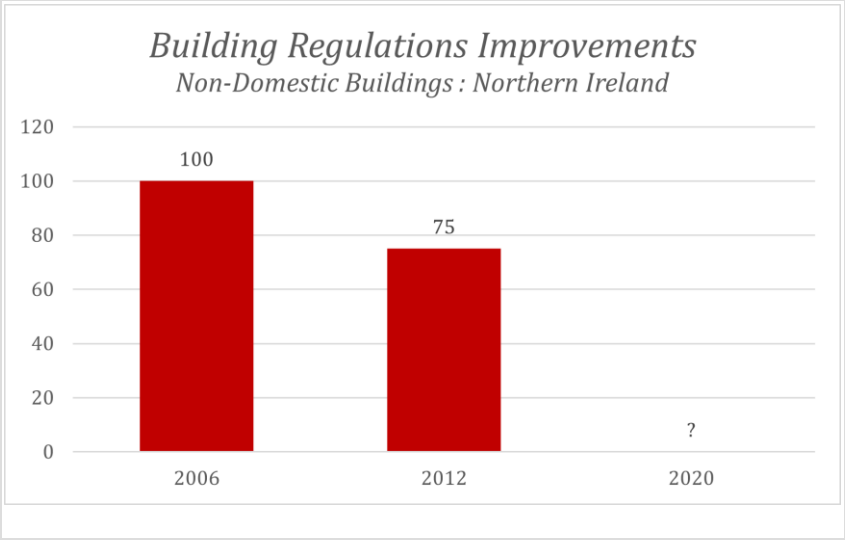

Figure 2. New non-domestic Building Regulations improvements, Northern Ireland.

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

Northern Ireland implements the EPBD energy performance requirements through Part F "Conservation of Fuel and Power" of the Building Regulations. Technical Booklets F1[7] and F2[8] (Figure 3) support the implementation of the Building Regulations Part F[1]. The booklets include references to guides such as Eurocodes (EN) and, similar to England, the Technical Booklets set out five criteria for new buildings, as detailed in Table 1:

Criteria	Definitions
1	Ensure the calculated Building CO_2 Emission Rate does not exceed the Target Emission Rate.
2	Meet minimum acceptable standards, including minimum fabric, air permeability, and building services efficiencies standards.
3	Limit the effects of summer solar gains. This references industry best practice e.g. CIBSE TM37 "Design for improved solar shading control".
4	Ensure the building performance is consistent with design calculations. Focus on air permeability, commissioning of services and thermal bridges.
5	*Provide information for energy efficient building operation and maintenance.*

Table 1. Requirements for new buildings[9] and certain large extensions to non-residential buildings, Northern Ireland.

The National Calculation Methodology (NCM)[10] implements these criteria. For domestic units, the Standard Assessment Procedure (SAP 2009)[11] is used, and for non-domestic buildings the Simplified Building Energy Model (SBEM V4.1) or approved Dynamic Simulation Models (DSMs) are used. Both domestic and non-domestic methodologies use predicted energy consumption and provide an Asset Rating for EPCs on construction, sale and rent.

The use of Accredited Construction Details (ACDs) is permitted. The English ACDs have been adopted in Northern Ireland[12]. Figure 4 gives an example. Airtightness testing is required for most domestic and non-domestic developments with some exemptions.

Building Regulations applications are submitted to local District Councils for checking and enforcement. Building Control Officers check compliance, which includes site inspections, and they have the power to take enforcement action.

Figure 3. Technical Booklets F1 & F2, Conservation of fuel and power in dwellings & buildings other than dwellings.[7] [8]

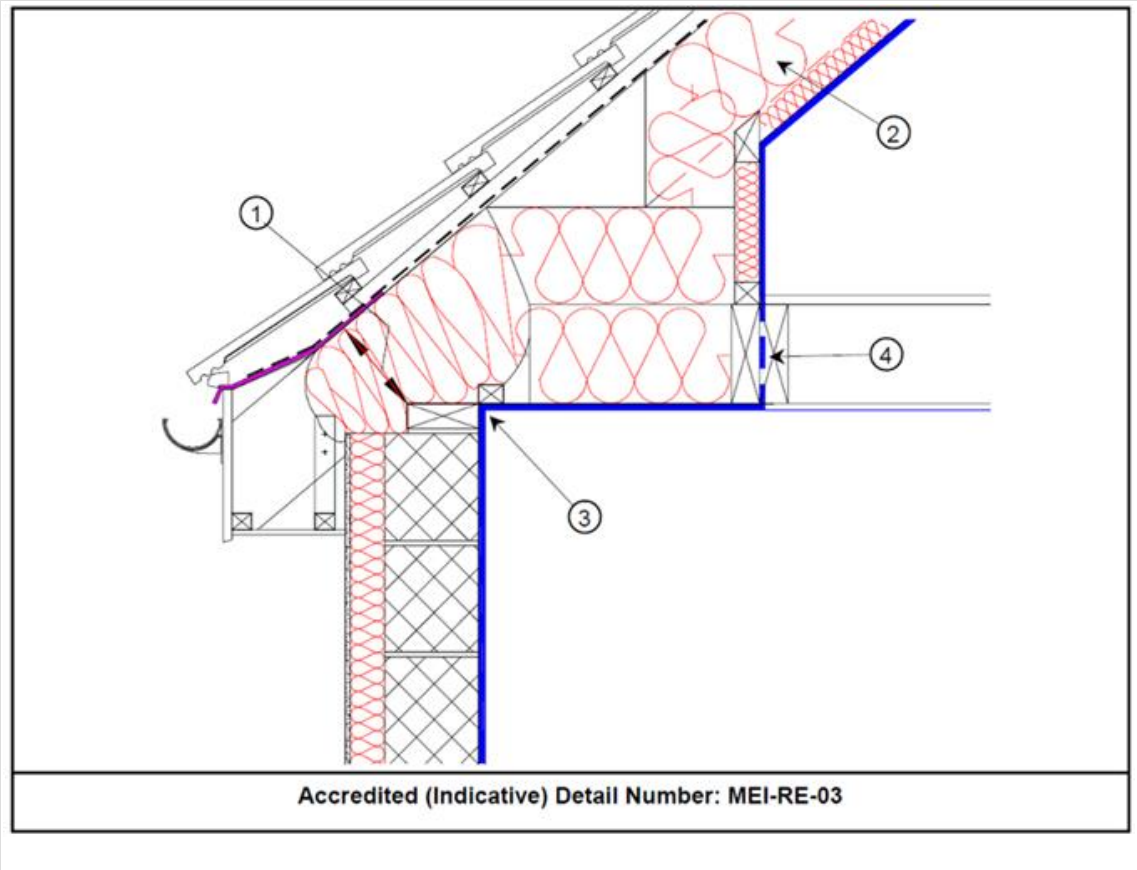

Figure 4. Illustration from ACD for Pitched Roof. Extracted from ACDs for Masonry External Wall Insulation.

Cost optimal procedure for setting energy performance requirements

A UK-wide cost-optimal report, which addresses Northern Ireland, was published in January 2019. See England report for details.

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

The UK national plan titled "Increasing the number of Nearly Zero-Energy Buildings"[13] covers all four UK jurisdictions: England, Wales, Northern Ireland and Scotland. See England report for details.

The Department introduced Regulation 43B into the Building Regulations in 2014[3] to transpose the requirement of the Energy Performance of Buildings Directive requirements for new buildings to be nearly zero energy buildings. Subsequently an information note has been provided for new buildings occupied and owned by public authorities, which were required to be nearly zero energy buildings from 1 January 2019.[5]

NZEB statistics are not maintained in Northern Ireland. The following records of EPC A/A+ rated buildings provide an alternative for high performance buildings. These records have been sourced from the Northern Ireland EPC register, and are not publicly available.

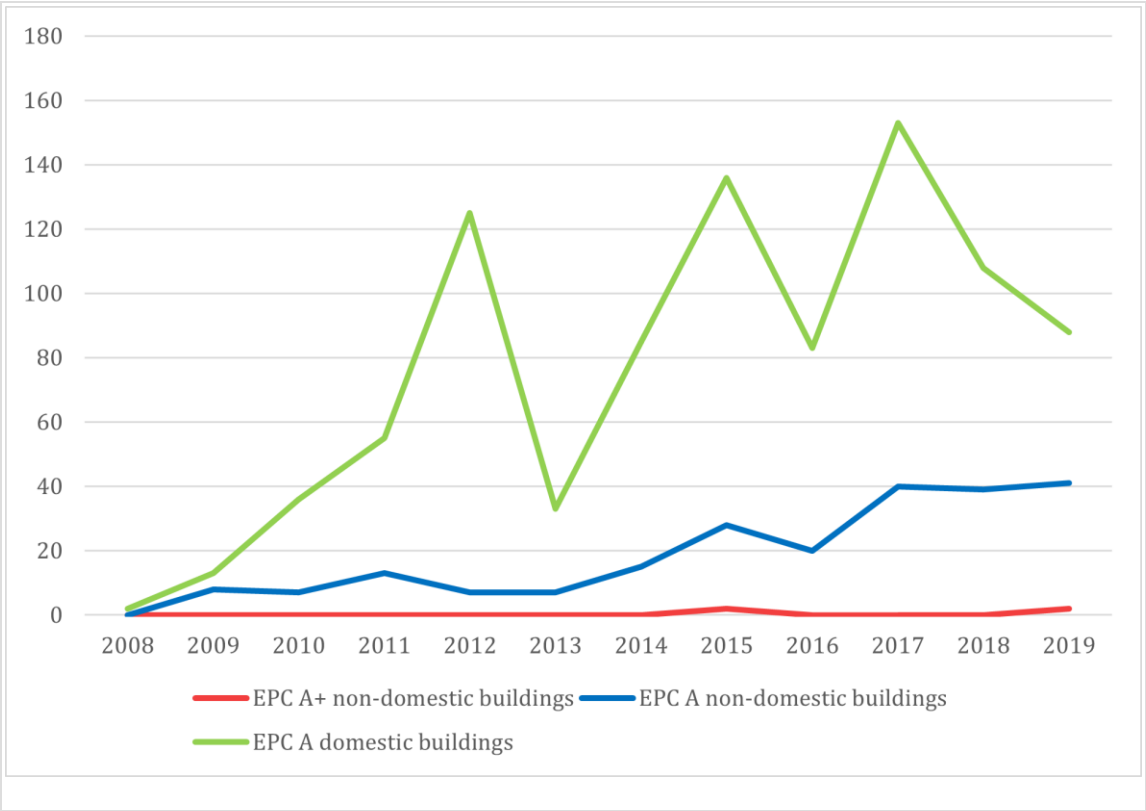

Figure 5. Historical EPCs classes A and A+, Northern Ireland. 2008-2019.

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

Building components are expected to conform to relevant standards for materials and workmanship controlled under Part B (Materials and workmanship) of Northern Ireland's Building Regulations[14]. In terms of energy performance requirements under Part F (Conservation of fuel and power), components for new buildings must form part of the overall building performance assessment, with minimum limiting U-value standards for each component providing an absolute backstop position.

Please refer to *Section 2.I.i: Progress and current status of new buildings,* for further details on criterion 2 which outlines the minimum acceptable standards for fabric, air permeability, and building services efficiencies requirements as per the relevant Technical Booklets.

2.I.v. Enforcement systems new buildings

Building Regulations "plans applications" are submitted to local District Councils for checking and enforcement. Plans applications must be submitted prior to or upon commencement of building work or a material change of use. Building Control Officers from District Councils check compliance and provide a plans approval. Those responsible for the work must notify District Councils at key stages of works, such as prior to commencement or covering up of works, in order to enable District Council Officers to carry out any necessary site inspections.

District Councils have wide enforcement powers under the Building Regulations regime, including powers of entry and inspection, powers to require submission of plans, and powers to issue contravention notices and to take legal proceedings to ensure rectification of non-compliant work. Fines may be issued and "per diem" (per day) fines may be applied by the courts for as long as a contravention continues. Where the Council has taken all reasonable measures and is content that the requirements of the Building Regulations have been met, a Building Regulations completion certificate is issued on building completion.

2.II. Energy performance requirements: EXISTING BUILDINGS

Northern Ireland has about 800,000 homes. Figure 6 shows the distribution of about 490,000 domestic EPCs. There are approximately 74,000 non-domestic premises in Northern Ireland. Figure 7 shows the distribution of about 18,000 non-domestic EPCs. EPCs are required under specific circumstances only and the statistics include buildings with more than one EPC. Furthermore, buildings with no EPC are not represented. As such, Figures 6 and 7 may not be fully representative of the Northern Ireland building stock.

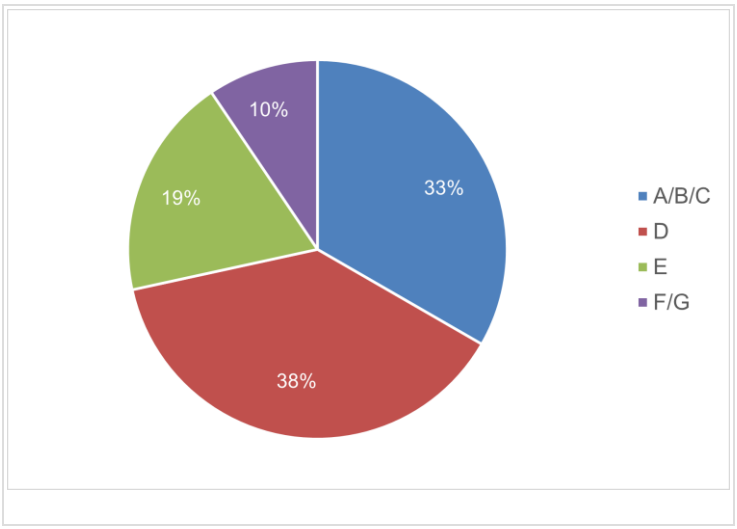

Figure 6. Distribution of domestic EPCs (Northern Ireland) 2008-2019.

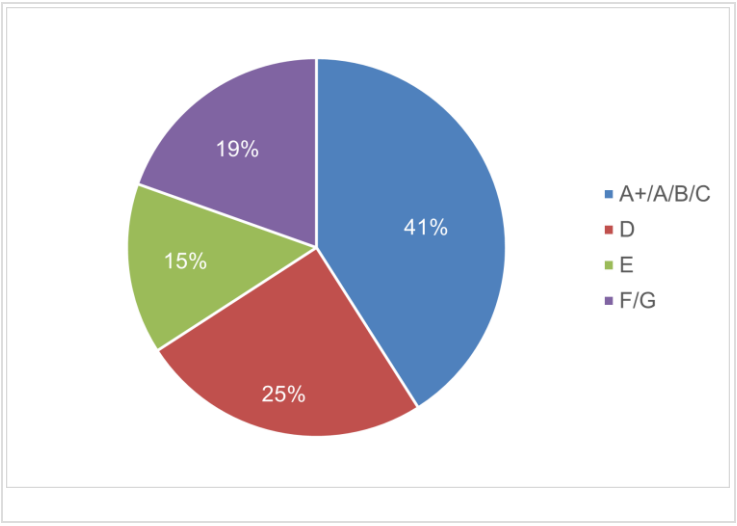

Figure 7. Distribution of non-domestic EPCs (Northern Ireland) 2008-2019.

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. Alternatively, and at the discretion of the building designer, a comparative whole building performance model (as used for new buildings) may be used. These methods are set out in Section 3 of the relevant Technical Booklet[7] [8]. Under certain circumstances (i.e. buildings >1,000 m^2, where the habitable area is extended, or where fixed building services are installed for the first time, or their capacity is increased) additional energy efficiency measures (i.e. “consequential improvements”) must be undertaken.

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

An approach similar to England has been adopted. Where a part of a building is to be renovated the Building Regulations will apply. In most cases (other than straightforward replacement or installation of a fitting or control) a full plans application or notice of work will be required. Standards for work to existing buildings are provided for in Section 3 of the relevant Technical Booklet F1 or F2[7] [8].

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

The UK National Energy Efficiency Action Plan[15] included a Building Renovation Strategy in compliance with Energy Efficiency Directive (EED) Article 4[16]. The Northern Ireland policies and programmes to deliver this strategy include:

- the "Northern Ireland's Strategic Energy Framework" (2010)[17] which set out energy priorities for Northern Ireland to 2020;
- the "Affordable Warmth[18] and Boiler Replacement Schemes[19]" supporting energy efficiency improvements in fuel-poor households;
- the "Northern Ireland Sustainable Energy Programme" (NISEP)[20], providing grants for energy efficiency and renewable energy for domestic and non-domestic buildings. The NISEP is currently under review, the outcome of which will inform decisions for future energy efficiency support.

In addition:

The Department for Communities carried out a review of the role and regulation of the private rented sector[21]. The standard of properties, including plans to introduce a minimum energy efficiency standard for the private rented housing sector was within the scope of this review. A public consultation exercise was carried out in 2017[22] which proposed to introduce legislation around EPC ratings similar to that in England. Proposals are being developed.

Invest Northern Ireland[23] delivers a suite of support, to enable Northern Ireland's businesses to identify and achieve cost savings in the consumption of water, energy and raw materials. The support includes:

- **Technical Consultancy**: Available to all businesses with an annual energy and resource spend in excess of £30,000 (~34,928 €). Technical Consultancy support offers fully funded technical audits, feasibility studies and advice, complete with a report and recommendations to help participating businesses identify cost savings.
- **Resource Matching through Industrial Symbiosis:** Fully funded support that offers opportunities to convert redundant materials of one business, into a resource for another business, helping to add value and to reduce costs for all parties.
- **Resource Efficiency Capital Grant:** Available to Invest Northern Ireland's client companies to invest in resource efficient technologies that will drive savings and business productivity. Grants of up to £40,000 (~46,571 €) are available to help with the purchasing of new equipment which will reduce the consumption of water, raw materials, and waste production.

In addition to this, Invest Northern Ireland runs the nibusinessinfo.co.uk website which is the official online channel for business advice and guidance in Northern Ireland. The website holds a section on Efficiency and Environment which provides extensive information, advice and signposting to available support, including a dedicated guide on Energy Performance Certificates for business properties.[24]

In relation to Article 5 of the EED, the UK decided to implement the alternative approach allowed by Article 5(6). See England report for details. In Northern Ireland, Energy Efficiency Plans for the Government Office Estate commenced in 2011 with targeted energy savings of 10% and more recently 5%. The Plans focused on three areas: reduction in the footprint of the estate, capital investments in energy efficiency, and behavioural change. It is the intention to proceed on the basis of a new Plan every three years.

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

Refer to the English Report for details.

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

Refer to the English Report for details.

2.II.vi. Information campaigns / complementary policies

Advertising and wider promotional activities were carried out in the years following the implementation of the EPBD requirements in 2008. This included information campaigns utilising diverse outlets such as websites, advertising (radio, press and information leaflets) (Figure 8), targeted seminars, guidance documents, roadshows, and proactive enforcement. Information is also available from www.finance-ni.gov.uk.

Other initiatives to improve buildings energy efficiency that have benefited from publicity campaigns include “Energy Wise” (Figure 9) now “Energy Advice”[25], which provides advice for both domestic and non-domestic properties and “Invest Northern Ireland”[23] which supports companies to implement resource and energy efficiency improvements.

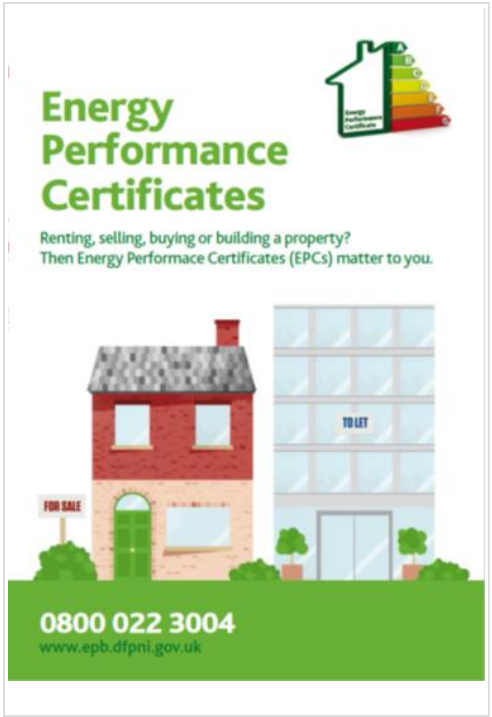

Figure 8. EPC information leaflet cover.

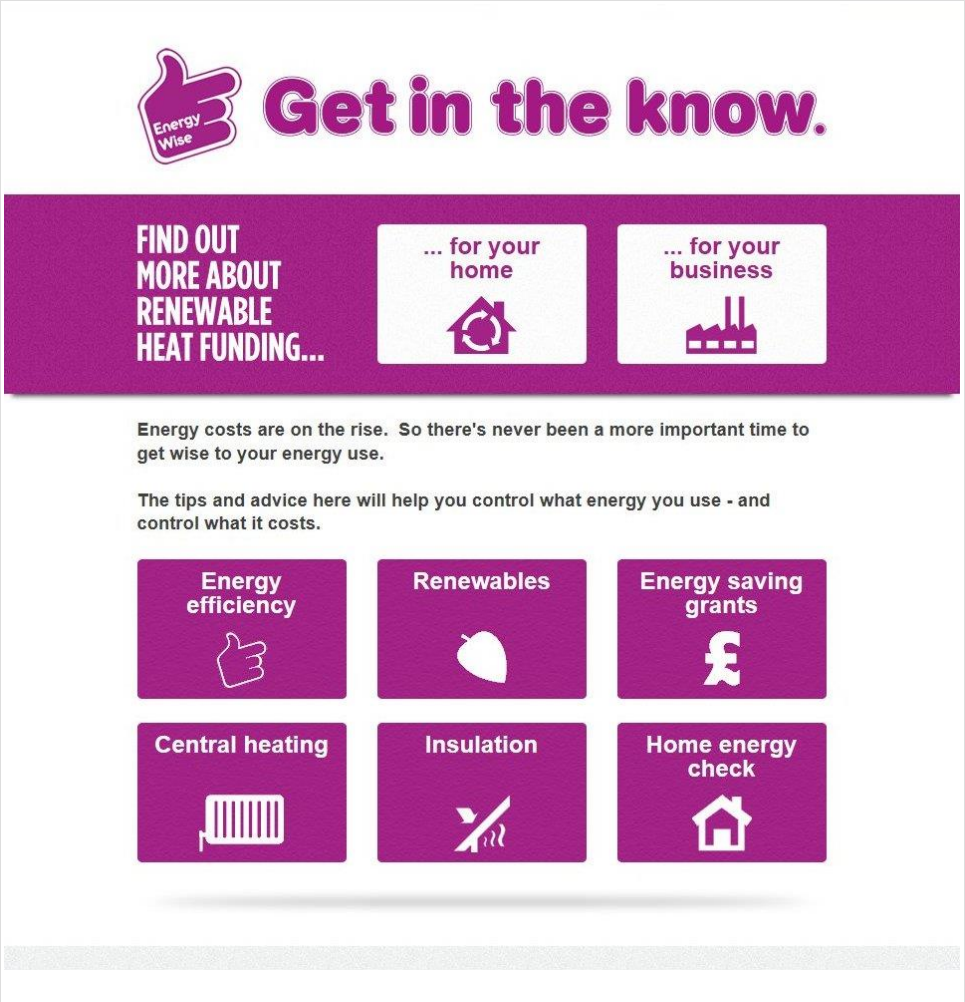

Figure 9. Previous Energy Wise campaign landing page.[26]

2.III. Energy Performance Certificate requirements

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

Overview and administration

The Northern Ireland approach generally mirrors the England provisions. The same English Accreditation Schemes accredit Energy Assessors to produce Energy Performance of Buildings Regulations outputs, i.e. EPCs and Recommendations Reports. See England report for details.

Regulatory outputs (such as EPCs) are recorded on the Northern Ireland registers[27] and are publicly available using the building's address, postcode, or the outputs' unique reference number. Selected organisations have access to limited bulk data, and anyone with an EPC can opt-out of having their data publicly available.

Format and content of the EPC

Domestic

The EPC shows the "Asset Rating" (i.e. a calculated energy rating) of the current and potential energy efficiency of the building on a scale from A (very efficient) to G (least efficient) (Figure 10). The rating is based on the building's characteristics, its services, a standardised occupancy profile and estimated energy consumption costs. The average domestic EPC rating is 60, which is in band D. The average EPC rating for a new domestic property is 81, which is in band B.

Figure 10 shows the first page of the EPC for new domestic units. The EPC for existing domestic units is very similar. The EPC includes a list of cost-effective energy efficiency recommendations and indicates the potential energy rating if all recommendations were installed.

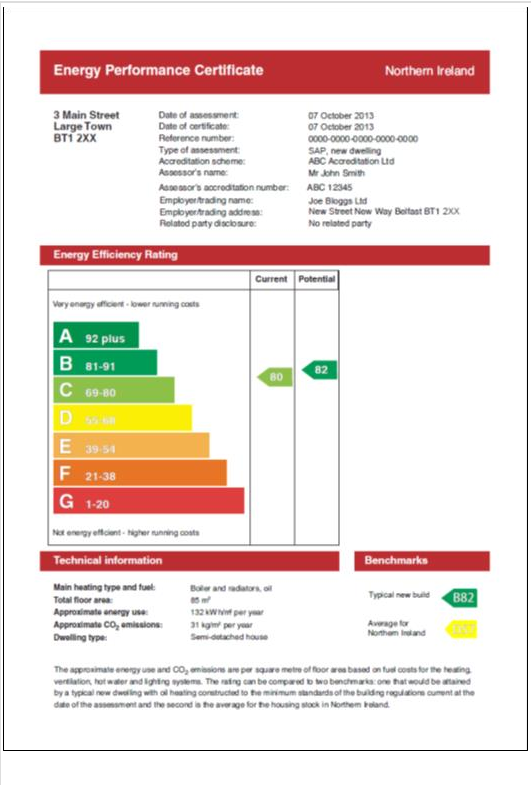

Figure 10. First page of Northern Ireland EPC for new domestic units.

Non-domestic

The EPC for non-domestic buildings is identical to England except for the reference to Northern Ireland in the top right-hand corner (Figure 11). Please refer to the England report for further details.

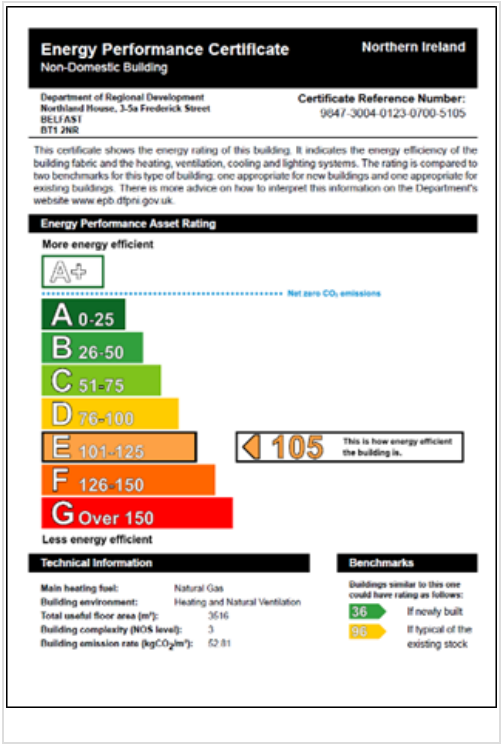

Figure 11. First page of Northern Ireland non-domestic EPC.

EPC activity levels

As in England, domestic and non-domestic EPCs produced on construction, sale and rent are valid for 10 years. All EPCs become legally valid after they are recorded on the national register. Historical data to December 2019 is included in Tables 2 and 3, Figures 12 and 13.

Domestic EPC lodgements by band								
	Total EPCs	A	B	C	D	E	F	G
Total	488,887	692	50,820	111,411	187,037	92,694	38,338	7,895
Percentage	100%	0.14%	10.40%	22.79%	38.26%	18.96%	7.84%	1.61%

Table 2. Domestic EPCs Northern Ireland to December 2019.

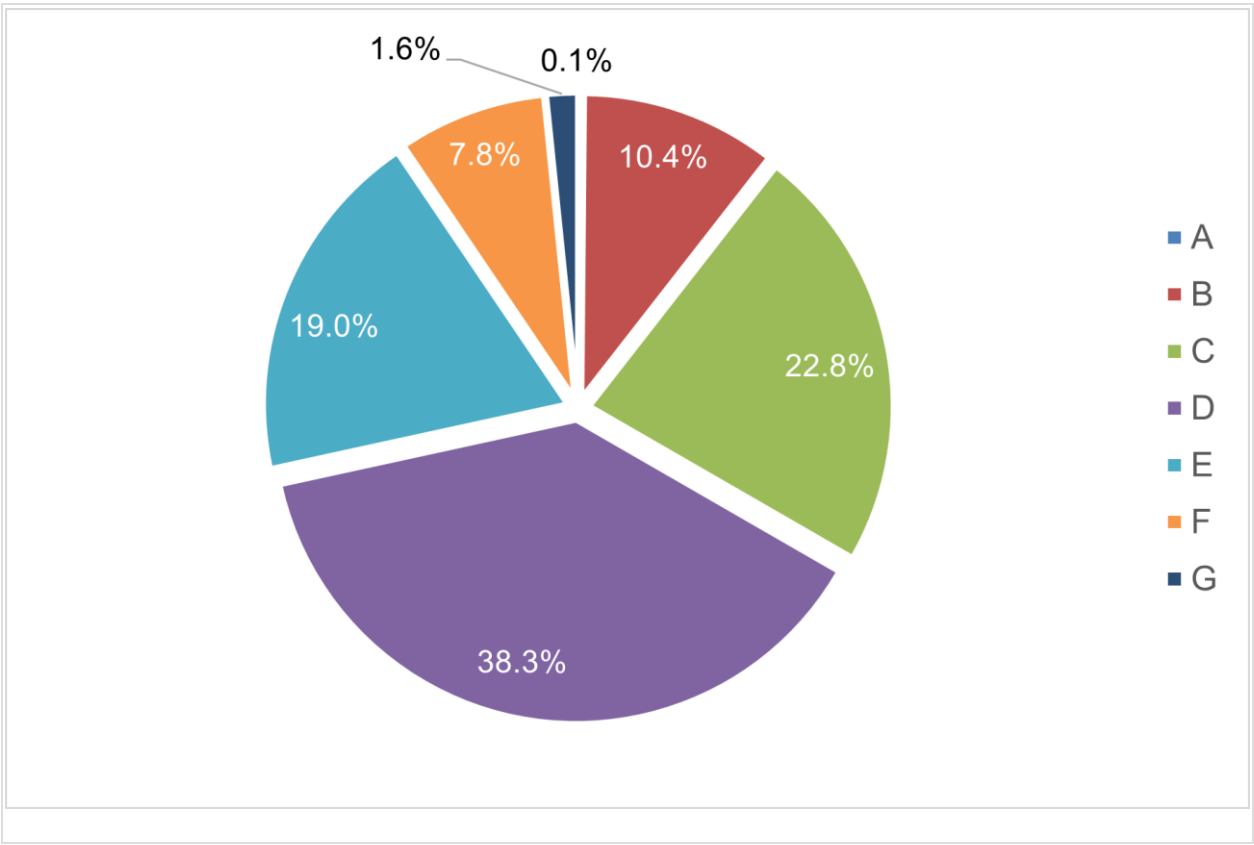

Figure 12. Breakdown of Domestic EPCs by EPC band in Northern Ireland to December 2019.

Non-Domestic EPC lodgements by band									
	Total EPCs	Carbon Neutral / A+	A	B	C	D	E	F	G
Total	49,208	75	619	2,062	4,630	6,752	8,793	6,788	19,489
Percentage	100%	0.15%	1.25%	4.19%	9.41%	13.72%	17.86%	13.79%	39.61%

Table 3. Non-domestic EPCs Northern Ireland to December 2019.

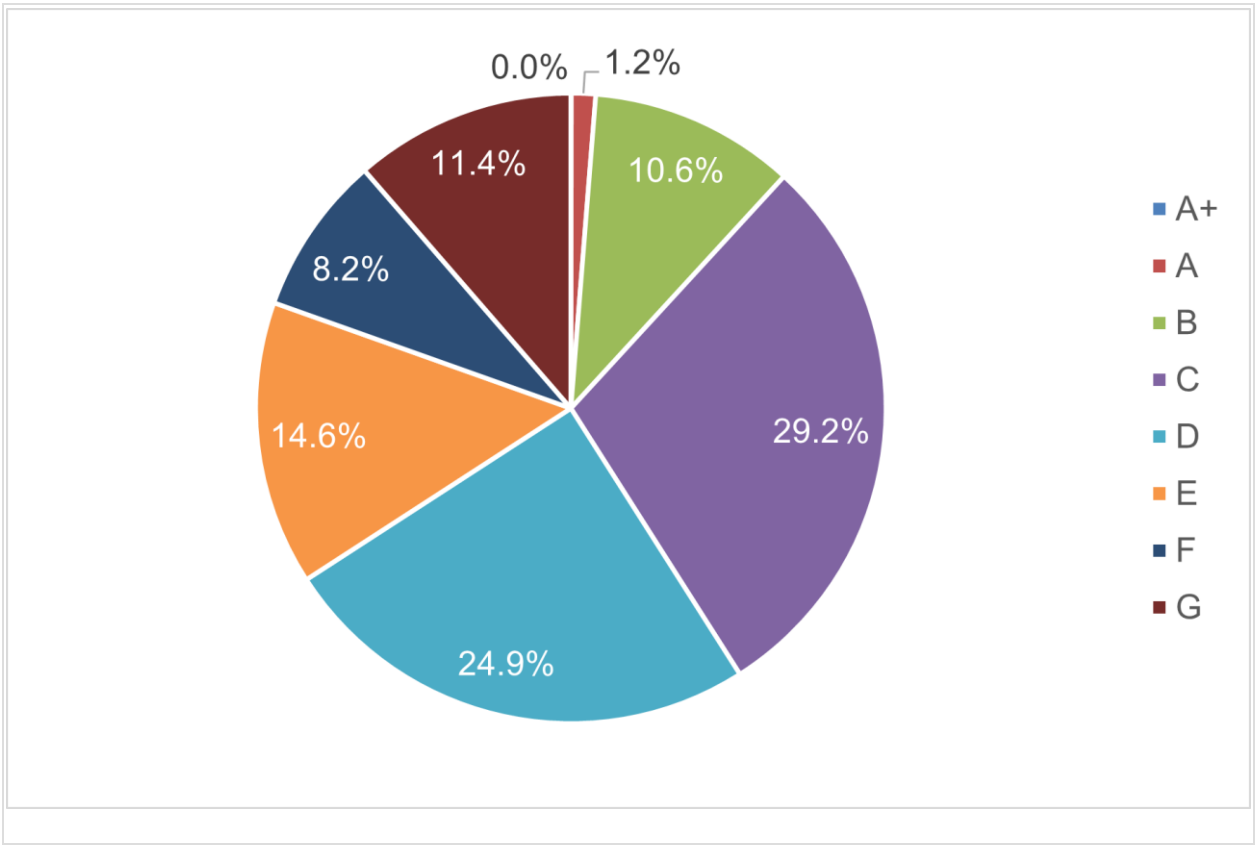

Figure 13. Breakdown of Non-Domestic EPCs by EPC band in Northern Ireland to December 2019.

Typical EPC costs

EPC costs vary. Indicative starting costs (lowest market costs based on internet search), including the registration fee (payable each time an EPC is recorded on the national register), are:

- for a domestic EPC: ~£60 to £120 (~70€ to ~140€)
- for a non-domestic EPC: ~£200 (~233€).

Assessor corps

The English National Occupational Standards (NOS) were adopted in Northern Ireland. See England report for details. Table 4 details the qualifications of Energy Assessors with a registered address in Northern Ireland as of March 2020. Assessors accredited to operate in England and Wales are also accredited to operate in Northern Ireland.

Assessor types	Assessor numbers
Domestic EPCs (existing buildings)	1,529
Domestic EPCs (new buildings)	473
Non-Domestic EPCs (existing buildings)*	503
Non-Domestic EPCs (new buildings)	120
AC inspections (level 3 systems)	28
AC inspections (level 4 systems)	89
Total number	2,742

Notes
*includes public buildings EPC: Energy Performance Certificate AC: Air-conditioning AC level 3: for simple packaged AC AC level 4: for complex central AC

Table 4. Energy Assessors' qualifications and numbers Northern Ireland at March 2020.[28]

Minimum Continuous Professional Development (CPD) requirements apply. Typically, assessors must attend 10 to 20 hours CPD/ year. If this requirement is not met, penalties include temporary expulsion from the Accreditation Scheme, which prevents the assessor from producing EPCs.

Enforcement with building owners and real estate actors

District Councils enforce the Regulations. They have powers to require the "relevant person" (i.e. the seller or prospective landlord) to produce copies of the EPC for inspection. In 2013, these powers were extended to include the "relevant person's agent" e.g. Estate or Letting Agents. District Councils operate a three-stage enforcement process: first a letter to encourage compliance, followed by a stronger "enforcement letter", and then a penalty charge notice. By February 2020, 6,571 "enforcement letters" had been issued. The Department of Finance (DoF) is responsible for enforcement on District Councils' buildings. DoF also funds awareness-raising, a telephone helpline, and general coordination and reporting of compliance activities.

The annual compliance rate for real estate agents is on average 67%. This compliance percentage reflects a combination of both visiting agents on-site and scrutinising properties advertised on websites. The compliance with Display Energy Certificates (DECs) in the audited buildings of six District Councils (out of 11 in total in Northern Ireland) was 90% at the end of January 2020.

Penalties vary depending on the type of building

For domestic properties, the penalty is £200 (~233 €), whereas for non-domestic properties, the penalty is 12.5% of the rateable value of the building, subject to a minimum of £500 (~582 €) and a maximum of £5,000 (~5,821 €).

2.III.ii. Quality assurance of EPCs

English Accreditation Schemes are approved to operate in Northern Ireland. In 2020, there were no Accreditation Schemes approved to operate in Northern Ireland only. Therefore, the English Quality Assurance requirements apply in Northern Ireland. See England report for details.

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

Northern Ireland adopted the same approach as England. See England report for details.

Display Energy Certificates (DECs) are required to be displayed in certain public authority buildings which are frequently visited by the public. DECs provide "Operational Ratings" based on actual energy consumption. DECs are accompanied by a Recommendation Report. In Northern Ireland, DECs must be updated annually, and Recommendation Reports are updated every seven years.

DECs data to December 2019 is included in Table 5 and Figure 14.

DEC lodgements by band								
	Total DECs	A	B	C	D	E	F	G
Total	21,064	221	1705	5787	6669	3538	1493	1651
Percentage	100%	1.05%	8.09%	27.47%	31.66%	16.80%	7.09%	7.84%

Table 5. Display Energy Certificates Northern Ireland to December 2019.

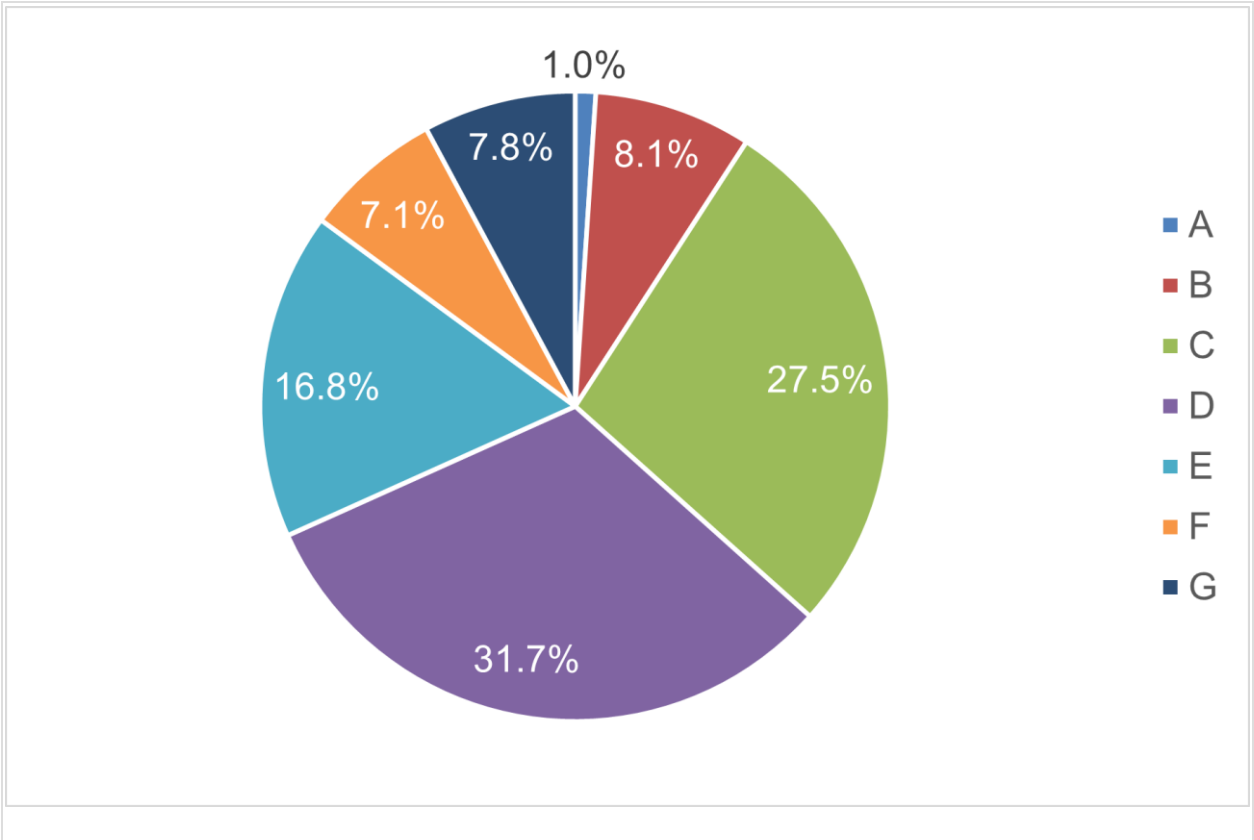

Figure 14. Display Energy Certificates Northern Ireland to December 2019. Percentages by DEC band.

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

Since 2013, a property cannot be advertised for sale or rent without an EPC. Estate or Letting Agents must ensure that an EPC is available, or has been commissioned, before the property is marketed.

Any commercial media used to advertise a property (e.g. websites, classified ads) must contain the coloured bar chart energy indicator from the EPC or the EPC energy rating e.g. "EPC F36".

The landlord or seller must ensure a copy of the EPC is shown, free of charge, to interested parties when they first enquire about the property.

2.IV Smart buildings and building systems

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

Controls, such as heating zone controls and thermostatic regulating devices are longstanding requirements under Building Regulations and details are provided in the relevant Building Services Compliance Guides[29] [30]. Building automation and control systems are encouraged under the current National Calculation Methodologies (NCM) used to assess compliance with minimum energy performance requirements and energy performance certification of buildings. The NCM development programmes are also considering how to best integrate new smart technologies.

The Department of Finance of Northern Ireland is assessing the smart building requirements in the EPBD (as amended by 2018/844/EU) and will continue to review developments in UK administrations and elsewhere. The Northern Ireland Department for the Economy is currently developing an Energy Strategy and issued a Call for Evidence[31], which closed in March 2020 and included a call to consider smart metering, controls, and tariffs. This Energy Strategy is expected to further inform local developments.

2.IV.ii. Regulation of system performance

Northern Ireland adopted England's 2018 "Domestic and Non-domestic Building Services Compliance Guides" which recommend minimum energy efficiency standards. See England report for details.

The commissioning of technical building systems is addressed in the Technical Booklets[7] [8] and the Building Services Compliance Guides[29] [30]. These documents require commissioning to be done in accordance with industry guidance, e.g. the Chartered Institution of Building Services Engineers (CIBSE)[32] Commissioning Code M: Commissioning management.

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

Building automation and control systems are encouraged under the current National Calculation Methodologies (NCM). The control of technical building systems is addressed in the Domestic and Non-Domestic Building Services Compliance Guides[29] [30] and Technical Booklets[7] [8].

The Department of Finance of Northern Ireland expects to review BACs requirements, which may include those within the Energy Performance of Buildings (Certificate and Inspection) Regulations 2008 (as amended), to ensure retrospective fitting of BACs in certain larger buildings conform with the EPBD (as amended by 2018/844/EU).

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

An approach similar to England was adopted. See England report and Technical Booklets for details. Technical Booklet F2 (non-domestic buildings)[8] references industry best practice.

The UK Government aims for all homes in Great Britain (i.e. excluding Northern Ireland) to be offered a smart meter by the end of 2020. A policy decision has not yet been made on the rollout of smart meters in Northern Ireland. Some energy suppliers started installing smart meters in 2014. The Northern Ireland Department for the Economy has responsibility in this area and consulted on this issue in its recent Call for Evidence on an Energy Strategy[31].

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

The UK[33] adopted alternative measures for heating systems and inspections for AC systems. See England report for details. Heating systems measures specific to Northern Ireland include the Affordable Warmth Scheme[18], a scheme that provides a range of energy efficiency improvement measures to privately owned and privately rented households with an annual gross income of less than £20,000 (~23,286 €). Additionally, the Boiler Replacement Scheme[19] is available to privately owned households with an annual gross income of less than £40,000 (~46,571 €).

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

The Northern Ireland arrangements for AC inspections mostly mirror the English provisions. See England report for details. The English Accreditation Schemes, which accredit AC inspectors, are approved by the Department of Finance of Northern Ireland so that inspectors can operate in Northern Ireland. Provisions specific to Northern Ireland include:

- the mandatory registration of AC inspection reports on the Northern Ireland EPC Register since 2013; to date more than 2,700 reports have been recorded in total;
- promotional activities for AC inspections including an Energy Wise[26] media campaign with radio coverage, posters and leaflets, workshops and presentations to key stakeholders' groups, etc.

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

Enforcement and penalties

District Councils are responsible for ensuring that owners of AC systems (>12 kW) possess a valid inspection report, except for their own buildings for which the Department of Finance of Northern Ireland (DoF) is the enforcement authority. The penalty for failing to possess a valid inspection report is £300 (~349 €).

District Councils have a three-stage enforcement process: first a letter to encourage compliance, followed by a stronger "enforcement letter", and then a penalty charge notice. Although 211 "enforcement letters" have been issued in 2018/19, DoF is only aware of one penalty charge notice of £300 (~349 €) issued for non-compliance since the coming into force of the AC requirements.

Quality control of inspection reports

See England report for details.

Impact assessment.

Two Regulatory Impact Assessments (RIA) were undertaken. The costs of mandatory inspections and reporting (every five years for systems >12 kW) were estimated at £600 (~699 €) for centralised systems

and £100 (~116 €) for packaged units. Benefits were difficult to quantify and included reduced electricity consumption from improved efficiency (where recommendations were implemented) and from the replacement of older systems. Other benefits, e.g. improved workplace conditions were also expected.

Mandatory recording of AC inspection reports on the national register provides a central source of information, which aims to facilitate compliance checks and to inform policy making. Since 2018, the registration fee is £9.84 (~11.46 €) excluding the Accreditation Assessor's fee.

3. A success story in EPBD implementation

District Councils enforce the Regulations for qualifying buildings in their jurisdictions. They have powers to require the building seller or prospective landlord to produce copies of EPCs for inspection. In 2013 these powers were extended to include the "relevant person's agent", e.g. Estate or Letting Agents. District Councils operate a three-stage enforcement process: first a letter to encourage compliance, followed by a stronger "enforcement letter", and then a penalty charge notice. By June 2020, almost 600 enforcement letters had been issued, with 70 penalty charge notices issued.

The Department of Finance (DoF) enforces the Regulations on District Councils' buildings. Since 2010, DoF has funded a dedicated Enforcement Team to facilitate cross-council working, deliver awareness-raising, and ensure consistency across the 11 District Councils following the Local Government reform (previously Northern Ireland was made up of 26 District Councils). DoF carried out audits of six District Councils in 2018 – 2020, which confirmed the effectiveness and benefits provided by the Enforcement Team. The team also provides quarterly reports to DoF, detailing Councils' enforcement activities and it helps Councils reduce their administrative burden.

The annual compliance rate for real estate agents in the 2019/20 financial year is 67%. This compliance percentage reflects a combination of both visiting agents on-site and scrutinising properties advertised on websites. The compliance with DEC requirements, in the audited buildings of six District Councils, was 90% at the end of January 2020. DoF has continued to fund the Enforcement Team to ensure monitoring of enforcement levels.

4. Conclusions, future plans

The UK is divided into four jurisdictions. Northern Ireland is the smallest jurisdiction, with the smallest population, least number of homes, etc. Northern Ireland relies heavily on research and development from other jurisdictions (principally England) for its own Regulations, technical guidance and development of governance arrangements. To date, Northern Ireland has adopted the majority of the English provisions in its transposition of the EPBD.

Northern Ireland has also implemented measures specific to its jurisdiction, including AC inspection information campaigns, and a successful compliance and enforcement approach.

The transposition of the EPBD continues to be reviewed by each UK jurisdiction as part of their respective programmes to achieve national energy efficiency objectives and carbon emissions reduction.

Endnotes

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9. Note that Internal Air Quality (IAQ) is addressed under Technical Booklet K, Ventilation.
10. UK's National Calculation Method for Non Domestic Buildings. Further information can be found at the following link: http://www.uk-ncm.org.uk/
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33. The UK refers to England, Wales, Scotland and Northern Ireland

Annexes - Key Indicators & Decisions

Key Indicators & Decisions - General Background

no	Key Indicators & 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	798,971 homes in Northern Ireland (December 2019)*	(*) Northern Ireland Housing Statistics 2018-19, Published 3 December 2019, Department for Communities https://www.communities-ni.gov.uk/system/files/publications/communities/ni-housing-stats-18-19-full-copy.PDF
01.04	Number of non-residential buildings	74,030 in Northern Ireland*	(*) Non-domestic Valuation List Summary 2020-2021, June 2020, Northern Ireland Government. https://www.finance-ni.gov.uk/publications/summary-valuation-lists
01.05	If possible, share of public buildings included in the number given in 01.04	Not available	
01.06	If possible, share of commercial buildings included in the number given in 01.04	Not available	

<table>
<tr><th>no</th><th>Key Indicators & Decisions – General Background</th><th>Description / value / response</th><th>Comments</th></tr>
<tr><td>01.07</td><td>Number of buildings constructed per year (estimate)</td><td>Domestic: see 01.08

Non-domestic: not identified</td><td></td></tr>
<tr><td>01.08</td><td>If possible, share of residential buildings constructed per year (estimate, included in the number given in 01.07)</td><td>New build domestic completions (Northern Ireland)*:

2016-17: 6,461

2017-18: 7,096

2018-19: 7,809</td><td>(*) Northern Ireland Housing Statistics 2018-19 (Section 1): Table 1.7. Building control new dwelling completions by development type 2010-20191, December 2019, Department for Communities

https://www.communities-ni.gov.uk/publications/northern-ireland-housing-statistics-2018-19</td></tr>
<tr><td>01.09</td><td>If possible, share of non-residential buildings constructed per year (estimate, included in the number given in 01.07)</td><td>Not identified</td><td></td></tr>
<tr><td>01.10</td><td>Useful floor area of buildings constructed per year in million square meters (estimate)</td><td>Total for domestic and non-domestic:

<table><tr><th>Year</th><th>Million m^2</th></tr><tr><td>2010</td><td>0.78</td></tr><tr><td>2011</td><td>0.89</td></tr><tr><td>2012</td><td>0.92</td></tr><tr><td>2013</td><td>0.84</td></tr><tr><td>2014</td><td>0.81</td></tr><tr><td>2015</td><td>0.94</td></tr><tr><td>2016</td><td>1.1</td></tr><tr><td>2017</td><td>1.16</td></tr><tr><td>2018</td><td>1.22</td></tr><tr><td>2019</td><td>1.22</td></tr></table></td><td>(*) Department of Finance, 2020. This data has not been published previously.</td></tr>
</table>

Key Indicators & Decisions – New Buildings

no	Key Indicators & Decisions – New Buildings	Description / value / response	Comments
02.01	Are building codes set as overall value, primary energy, environment (CO2), reference building or other	Reference building approach	
02.02	Requirements for energy performance of residential buildings in current building code	Technical Booklets F1 and F2 support the implementation of the Building Regulations Part F. The booklets set five criteria for new domestic units and non-domestic buildings: 1. Ensure the calculated Building CO_2 Emission Rate does not exceed the Target Emission Rate. 2. Meet minimum acceptable standards, including minimum fabric, air permeability, and building services efficiencies standards. 3. Limit the effects of summer solar gains. This references industry best practice e.g. CIBSE TM37 “Design for improved solar shading control”. 4. Ensure the building performance is consistent with design calculations. Focus on air permeability, commissioning of services and thermal bridges. 5. Provide instructions for energy efficient building operation and maintenance.	Domestic buildings: Technical Booklet F1, Conservation of fuel and power in dwellings, Department of Finance and Personnel, October 2012. Available at: https://www.finance-ni.gov.uk/sites/default/files/publications/dfp/Technical-booklet-F1-Conservation%20of%20fuel%20and%20power%20in%20dwellings-October-2012.pdf
02.03	Requirements for energy performance of non-residential commercial buildings in current building code	Ditto 02.02	Non-domestic buildings: Technical Booklet F2, Conservation of fuel and power in buildings other than dwellings, Department of Finance and Personnel, October 2012. Available at: https://www.finance-ni.gov.uk/sites/default/files/publications/dfp/Technical-booklet-F2-Conservation-of-fuel-and-power-in-buildings-other-than-dwellings-October-2012.pdf
02.04	Requirements for energy performance of non-residential	Ditto 02.02.	

no	Key Indicators & Decisions – New Buildings	Description / value / response	Comments
	public buildings in current building code		
02.05	Is the performance level of nearly zero energy (NZEB) for new buildings defined in national legislation?	Building Regulation 43B* 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, SR. 44 (2014) defines NZEB as "a building that has a very high energy performance, as determined in accordance with the National calculation Methodology, 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. An information note^ has been provided for new buildings occupied and owned by public authorities, outlining that they are required to be nearly zero energy buildings from 1 January 2019.	(*) Statutory Rules No. 44: The Building (Amendment) Regulations 2014. Available at: http://www.legislation.gov.uk/nisr/2014/44/pdfs/nisr_20140044_en.pdf (^) Nearly Zero-Energy Buildings (NZEB) Requirements for New Public Buildings, Department of Finance. October 2019. Available at: https://www.finance-ni.gov.uk/sites/default/files/publications/dfp/NEARLY%20ZERO-ENERGY%20BUILDINGS%20%28NZEB%29%20REQUIREMENTS%20FOR%20NEW%20PUBLIC%20BUILDINGS.pdf
02.06	Nearly zero energy (NZEB) level for residential buildings (level for building code)	Ditto 02.05. It should be noted that the information note outlined in 02.05 only applies to new buildings occupied and owned by public authorities.	
02.07	Year / date for nearly zero energy (NZEB) as level for residential buildings (as indicated in 02.06)	For all new buildings (excluding new buildings occupied by public authorities), the coming-into-force date for Regulation 43B is 31 December 2020.	Statutory Rules No. 44: The Building (Amendment) Regulations 2014. Available at: http://www.legislation.gov.uk/nisr/2014/44/pdfs/nisr_20140044_en.pdf
02.08	Nearly zero energy (NZEB) level for all non-residential buildings (level	For new buildings occupied by public authorities the coming-into-force date for Regulation 43B is 1 January 2019. For other new buildings, see 02.07.	Statutory Rules No. 44: The Building (Amendment) Regulations 2014. Available at:

no	Key Indicators & Decisions – New Buildings	Description / value / response	Comments
	for building code)		http://www.legislation.gov.uk/nisr/2014/44/pdfs/nisr_20140044_en.pdf
02.09	Year / date for nearly zero energy (NZEB) as level for non-residential buildings (as indicated in 02.08)	See above in 02.08.	
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.	Statutory Rules No. 44: The Building (Amendment) Regulations 2014. Available at: http://www.legislation.gov.uk/nisr/2014/44/pdfs/nisr_20140044_en.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 Indicators & Decisions – Existing Buildings

no	Key Indicators & Decisions – 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	Building Regulations are supported by Technical Booklets*, which set out an elemental approach for existing buildings, and by “Domestic and Non-domestic Building Services Compliance Guides”^ which include minimum energy efficiency standards for new and replacement of existing building systems. Under certain circumstances additional energy efficiency measures (named “consequential improvements”) must be undertaken.	Domestic buildings: (*) Technical Booklet F1, Conservation of fuel and power in dwellings, Department of Finance and Personnel, October 2012. Available at: https://www.finance-ni.gov.uk/sites/default/files/publications/dfp/Technical-booklet-F1-Conservation%20of%20fuel%20and%20power%20in%20dwellings-October-2012.pdf (^) Domestic Building Services Compliance Guide, 2018. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/697525/DBSCG_secure.pdf Non-domestic buildings: (*) Technical Booklet F2, Conservation of fuel and power in buildings other than dwellings, Department of Finance and Personnel, October 2012. Available at:

no	Key Indicators & Decisions – Existing Buildings	Description / value / response	Comment
			https://www.finance-ni.gov.uk/sites/default/files/publications/dfp/Technical-booklet-F2-Conservation-of-fuel-and-power-in-buildings-other-than-dwellings-October-2012.pdf (^) Non-domestic Building Services Compliance Guide, 2018. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/453973/non_domestic_building_services_compliance_guide.pdf
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)	Refer to the England report for details.	
03.08	National targets for renovation in connection to Long Term Renovation Strategy (expected reductions and relevant years)	Refer to the England report for details.	

Key Indicators & Decisions - Energy Performance Certificates

no	Key Indicators & Decisions – 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)	Northern Ireland* Domestic EPCs (annual average 2009 – 2019): 43,894 Non-domestic EPCs & DECs (annual average 2009 – 2019): 3,556	(*) 2008 excluded as not a full year Please note that this data has not previously been published.
04.02	Number of EPCs since start of scheme	Northern Ireland* Domestic EPCs (total to December 2019): 488,887 Non-domestic EPCs & DECs (total to December 2019): 38,856	(*) Department of Finance, 2017. Please note that this data has not previously been published.
04.03	Number of EPCs for different building types	Not available	
04.04	Number of assessors	Northern Ireland*: 390 assessors with a registered address in Northern Ireland. Note 39,964** assessors are registered in England & Wales and are accredited to operate in Northern Ireland.	(*) Department of Finance, 2020 (**) Department for Communities & Local Government, 2019 Please note that this data has not previously been published.
04.05	Basic education requirements for assessors	Refer to the England report for details.	
04.06	Additional training demands for assessors	Refer to the England report for details.	
04.07	Quality assurance system	Refer to the England report for details.	
04.08	National database for EPCs	Yes	Domestic Energy Performance Certificate Register https://www.epbniregister.com/ Non-Domestic Energy Performance Register https://www.epbniregisternd.com/

no	Key Indicators & Decisions – Energy Performance Certificates	Description / value / response	Comment
04.09	Link to national information on EPCs / Database	Domestic Energy Performance Certificate Register https://www.epbniregister.com/ Non-Domestic Energy Performance Register https://www.epbniregisternd.com/	

Key Indicators & Decisions – Smart Buildings and Building Systems

no	Key Indicators & Decisions – 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	Building Regulations require i) installation of suitable controls to ensure conservation of fuel and power and ii) commissioning of fixed technical building systems to ensure the actual building performance is as consistent as possible with design intentions. Guidance, providing the normal datum of performance for common building situations, is provided in the relevant Technical Booklets* and Building Services Compliance Guides^. (*) Domestic Buildings: Technical Booklet F1, Conservation of fuel and power in dwellings, Department of Finance and Personnel, October 2012. Available at: https://www.finance-ni.gov.uk/sites/default/files/publications/dfp/Technical-booklet-F1-Conservation%20of%20fuel%20and%20power%20in%20dwellings-October-2012.pdf Non-domestic Buildings: Technical Booklet F2, Conservation of fuel and power in buildings other than dwellings, Department of Finance and Personnel, October 2012. Available at: https://www.finance-ni.gov.uk/sites/default/files/publications/dfp/Technical-booklet-F2-Conservation-of-fuel-and-power-in-buildings-other-than-dwellings-October-2012.pdf (^) Domestic Buildings: Domestic Building Services Compliance Guide, 2018. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/697525/DBSCG_secure.pdf Non-domestic Buildings: Non-domestic Building Services Compliance Guide, 2018. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/453973/non_domestic_building_services_compliance_guide.pdf

no	Key Indicators & Decisions – Smart Buildings and Building Systems	Description / value / response	Comment
05.04	Are there current requirements for automatics (for instance in building codes)?	Yes	Guidance on normal standards for zone control and energy sub-metering etc. is provided in Section 3 of Technical Booklets F1* and F2^. Provisions are similar to those of England. (*) Technical Booklet F1, Conservation of fuel and power in dwellings, Department of Finance and Personnel, October 2012. Available at: https://www.finance-ni.gov.uk/sites/default/files/publications/dfp/Technical-booklet-F1-Conservation%20of%20fuel%20and%20power%20in%20dwellings-October-2012.pdf (^)Technical Booklet F2, Conservation of fuel and power in buildings other than dwellings, Department of Finance and Personnel, October 2012. Available at: https://www.finance-ni.gov.uk/sites/default/files/publications/dfp/Technical-booklet-F2-Conservation-of-fuel-and-power-in-buildings-other-than-dwellings-October-2012.pdf
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)	Total AC inspection reports (Northern Ireland): >2,700*	(*) Northern Ireland Non-Domestic Energy Performance Register. https://www.epbniregister.com/lodgementStats.html
05.09	Is there a national database for heating inspections?	Refer to the England report for details.	The UK decided to provide advice on boilers/ heating systems, rather than implement an inspection regime.
05.10	Is there a national database for cooling / air-conditioning inspections?	Yes	The regulatory requirement for air conditioning inspection reports to be lodged on the central Register came into force 18th February 2013. https://www.epbniregisternd.com/lodgementStats.html
05.11	Are inspection databases combined with EPC databases for registration of EPCs and inspection reports?	Yes	See 05.10
05.12	Link to national information on Inspection / Database	Yes	Northern Ireland Non-Domestic Energy Performance Register. https://www.epbniregister.com/lodgementStats.html

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement Nº 820497.