

Explanatory Memorandum to the Building etc. (Amendment) (Wales) Regulations 2026

This Explanatory Memorandum has been prepared by the Planning Department and is laid before Senedd Cymru in conjunction with the above subordinate legislation and in accordance with Standing Order 27.1.

Cabinet Secretary's Declaration

In my view, this Explanatory Memorandum gives a fair and reasonable view of the expected impact of the Building etc. (Amendment) (Wales) Regulations 2026. I am satisfied that the benefits justify the likely costs.

Rebecca Evans MS

Cabinet Secretary for Economy, Energy and Planning

5 March 2026

PART 1

1. Description

- 1.1 The Building etc. (Amendment) (Wales) Regulations 2026 (“the Amendment Regulations”) make changes to the Building Regulations 2010 (“the 2010 Regulations”) to:
- amend the definition of “fixed building services” to include fixed lifts, escalators or moving walkways in new buildings (but not in individual dwellings),
 - revoke two regulations related to nearly zero energy buildings and consideration of high efficiency systems which are now deemed redundant due to the uplift in energy efficiency standards,
 - provide for a new way of measuring energy efficiency, using a new performance metric,
 - amend the Part L title (conservation of fuel and power) to recognise the requirements also reduce greenhouse gas emissions,
 - provide a new requirement within Part L so that when a dwelling or a building containing a dwelling is erected, a system for renewable electricity generation must be installed on-site,
 - include references to the new notification for building work that has reverted to a local authority introduced by regulation 5 of the Amendment Regulations.
- 1.2 The Amendment Regulations also amend the Building (Registered Building Control Approvers etc.) (Wales) Regulations 2024 (“the RBCA Regulations”) and the Building (Restricted Activities and Functions) (Wales) Regulations 2024 (“the Restricted Activities Regulations”).
- 1.3 This is to align with changes introduced by the Building etc. (Amendment) (No. 2) (Wales) Regulations 2025 (“the Amendment No.2 Regulations”) and the Building (Higher-Risk Buildings Procedures) (Wales) Regulations 2025 (“the HRB Regulations”) as part of the Welsh Government’s continued implementation of the Building Safety Act 2022 (“the 2022 Act”).
- 1.4 The insertion of new regulation 17A into the RBCA Regulations ensures that notifications for reverted work are captured in the same way as notifications for standard work.
- 1.5 The Amendment Regulations also amend regulation 20 of the Building etc. (Amendment) (No. 2) (Wales) Regulations 2025 to ensure the transitional arrangements in relation to changes to building control

processes from 1 July 2026 function as intended for work overseen by Registered Building Control Approvers.

2. Matters of special interest to the Legislation, Justice and Constitution Committee

None.

3. Legislative background

Energy efficiency requirements

- 3.1 The Welsh Ministers, as the appropriate national authority (defined in section 126 of the Building Act 1984 (“the 1984 Act”), have powers derived from those conferred on the Secretary of State and now exercisable by them to draft these elements of the Amendment Regulations. Those powers can be found in sections 1(1) and 34 of, and paragraphs 1, 4, 4A, 7, 8 and 10 of Schedule 1 to, the 1984 Act.
- 3.2 Those sections of the 1984 Act set out the purpose for making building regulations which include securing the health, safety, welfare and convenience of persons in or about buildings and furthering the conservation of fuel and power with respect to matters including the design and construction of buildings or fittings and equipment in, or in connection with buildings. They also include details and procedure relating to the Welsh Ministers approval of the Amendment Regulations, together with energy efficiency requirements and other provisions relating to energy performance.

Reform for building control

- 3.3 The Amendment Regulations also make amendments to building regulations further to, and as a consequence of, the Welsh Government’s continued implementation of the 2022 Act.
- 3.4 The Welsh Ministers make these elements of the Amendment Regulations in exercise of the powers conferred on them by sections 1(1), 46A(4), 47(2) and 52(3) of, and paragraphs 1A, 1D, 1F, and 10 of Schedule 1 to, the 1984 Act.
- 3.5 These powers enable the Welsh Ministers to make regulations in relation to the classification of buildings, the rejection or cancellation of an initial notice, the content and giving of notices, the obtaining, keeping and giving of information and documents.

Senedd Procedure

3.6 The Amendment Regulations are being made under the Senedd Annulment procedure.

4. Purpose and intended effect of the legislation

Energy efficiency requirements

- 4.1 The Welsh Government is committed to meeting its target of net zero emissions by 2050. Improving the energy efficiency of buildings represents a significant opportunity to reduce carbon emissions and support the Government in reaching its target, whilst keeping energy costs down for consumers now and in the future. The performance-based targets set through Part 6 of the 2010 Regulations are an important means by which the Government can regulate for minimum energy efficiency standards.
- 4.2 The Government has committed to making changes to the 2010 Regulations minimum energy efficiency standards and the associated Approved Documents. A two-stage approach to implementation has been adopted to support industry to prepare and position itself for the new high efficiency standards. The first stage was implemented in 2022 with a significant uplift to the 2010 Regulations and Approved Documents. This second stage of amendments made by regulation 3 and changes to Approved Documents are intended to provide a further very considerable but achievable increase to the energy efficiency standards for new buildings, and revise the way in which performance is measured.
- 4.3 The package of changes made by regulation 3 is being delivered partially through the Amendment Regulations and partially through changes to the Approved Documents.

Reform for building control

- 4.4 The amendments made by regulations 4 to 7 are intended to align the RBCA Regulations, the 2010 Regulations and the Restricted Activities Regulations with provisions introduced as part of the Welsh Government's implementation of the 2022 Act.
- 4.5 The RBCA Regulations were introduced to consolidate and replace the Building (Approved Inspectors etc.) Regulations 2010 and implement the changes introduced through the 2022 Act and the operation of a new Registered Building Control Approver regime. The 2010 Regulations were also amended by the Amendment No.2 Regulations to implement changes introduced by the 2022 Act.
- 4.6 The Amendment No.2 Regulations inserted Part 2B of the 2010 Regulations, creating dutyholder requirements to improve the

accountability of clients, designers and contractors in building work. Regulation 5(2) inserts definitions for terms related to dutyholder requirements into the RBCA Regulations to ensure they hold the same meaning as in the 2010 Regulations.

- 4.7 Corresponding changes were made to other parts of the building regulations so that procedural requirements existed for dutyholders regarding their duties. This included requirements to make declarations regarding the compliance of work with building regulations when work is completed.
- 4.8 While these changes were implemented for most building control routes, the collapse of certain private sector building control providers highlighted that where work reverted to local authorities and was being regulated by them via that route, these requirements did not exist. This was not intentional and so the amendments made in regulations 4 and 5(3) seek to correct this by creating a new completion notification requirement for works which have reverted to the local authorities which aligns with those which exist across the building control regime and ensures the relevant dutyholder requirements are complied with in these instances.
- 4.9 In addition, it was identified that the legal framework could allow for someone carrying out work who receives a contravention notice from a Registered Building Control Approver (RBCA) to cancel an Initial Notice themselves at this point and seek to find a more compliant regulator for their work.
- 4.10 This is not the intention of the legislation. Regulation 5(4) makes amendments so that the person submitting an Initial Notice is required to inform the local authority that they have previously received a contravention notice in relation to the work that was not remedied, and give details of the contravention, as part of the prescribed form. Regulation 5(5) also introduces corresponding provisions to give additional grounds for local authorities to reject an Initial Notice if the applicant has previously received a contravention notice and failed to address it. These amendments are intended to stop individuals from avoiding enforcement by switching RBCA after receiving a contravention notice.
- 4.11 The Restricted Activities Regulations were introduced to restrict key building control activities and functions to only be carried out by, or with the advice of, a registered building inspector who has demonstrated relevant competence through the registration system and are regulated by the Welsh Ministers. This includes the activity of checking plans for compliance with building regulations.
- 4.12 The HRB Regulations introduce a new route under which plans could be submitted to local authorities, specifically for higher-risk buildings. The amendment made in regulation 6 will ensure that when the HRB Regulations come into force the checking of plans for higher-risk buildings

remains a restricted activity. This was a drafting error that is being rectified.

- 4.13 The Amendment No. 2 Regulations made transitional provisions for forms submitted under the RBCA regulations. Regulation 7 substitutes this transitional provision to ensure the transitional arrangements function as intended for work overseen by Registered Building Control Approvers.

Transitional Provisions

- 4.14 Transitional provisions ensure the amendments made in regulation 3 in relation to the Part L associated changes to the 2010 Regulations do not apply to building work that has commenced, or if certain notifications have been made in relation to the work, to make sure that work which is already in progress can be completed without major disruption. As with the transitional provisions made in the Building (Amendment) (Wales) Regulations 2022 and the Building (Amendment) (Wales) (No. 2) Regulations 2022 (referred to collectively as “the 2022 Regulations”), the new transitional provisions in the Amendment Regulations apply to individual buildings (rather than an entire site), which means work must be commenced on each individual building to benefit from any exemptions from the new 2026 standard. However, although the transitional provisions that were made under the 2022 Regulations exempted building sites which fell under transitional arrangements made in 2014, no exemption is now made for the 2026 standards (as proposed in the consultation).
- 4.15 Additionally, amendments made in regulation 5, in relation to contravention notices, dutyholder definitions and completion notices for reverted work, will not apply to Initial Notices cancelled before the Amendment Regulations come into force. This is to avoid circumstances where a person may inadvertently not comply with these provisions due to the timing of cancelling an Initial Notice.

Coming into force

- 4.16 The Amendment Regulations have split coming into force dates and times. Regulation 4 of the Amendment Regulations makes changes to provisions within the 2010 Regulations, which will be inserted by the Amendment No.2 Regulations at the beginning of the day on 1 July 2026. To ensure that the changes in regulation 4 immediately follow, they will come into force at 12:01 am on 1 July 2026.
- 4.17 Regulations 2, 5, 6, 7 and 8(3) come into force on 1 July 2026 to align with the other implementing regulations coming into force on the same date.
- 4.18 Regulations 3, 8(1), 8(2) and 8(4) all come into force on 4 March 2027 to allow industry adequate time to prepare for the changes.

5. Consultation

Energy efficiency requirements

- 5.1 In relation to the amendments made by regulation 3 a full public consultation was conducted between August and November 2025.
- 5.2 That consultation set out proposals relating to the 2010 Regulations and the accompanying statutory guidance for Part L (Conservation of Fuel and Power) and Part F (Ventilation) in new and existing homes and non-domestic buildings. The consultation also set out proposals to amend Part O (Overheating) of Schedule 1 to the 2010 Regulations to capture certain high risk works on existing dwellings, however, these proposals will be considered separately at a later date.
- 5.3 The consultation was drawn to the attention of a wide audience of key stakeholders such as Approved Inspectors, Local Authority Building Control Bodies and professional bodies such as Chartered Association of Building Engineers (CABE), Royal Institute of Chartered Surveyors (RICS), and the Chartered Institute of Building (CIOB). A webinar for interested parties was provided in September 2025 and pre and post consultation sessions were held with the Building Regulations Advisory Committee Wales (BRACW).
- 5.4 The consultation documents, summary of responses and government response can be found here: [Building Regulations Part L: 2025 review | GOV.WALES](#) The Government response provides an overview of the responses received and sets out the Government's policy position. There have been some amendments to the proposals following the feedback to the consultations.
- 5.5 Approved Documents provide statutory guidance on how to meet the requirements of 2010 Regulations. The consultation contained draft versions of the Approved Documents, and new versions are being produced in line with these regulations and the Government's policy position set out in the Government response. The new Approved Documents will be published at least 6 months before the Amendment Regulations come into force, and will be available online through the following link: [Building regulations: approved documents | GOV.WALES](#)

Reform for building control

- 5.6 A full public consultation on the policy intent that informed the amendments made in regulations 4 to 7 was conducted between March and May 2025.

- 5.7 The consultation document detailed the Welsh Government's proposals for procedural reform for building control, introducing new duties and requirements for the key decision makers in building projects and giving local authorities new enforcement powers.
- 5.8 In addition, and in accordance with section 14(7) of the 1984 Act, BRACW were consulted during the consultation stage and subsequently in the consultation response stage regarding the proposed changes to the 2010 Regulations.
- 5.9 The consultation document, summary of responses and Government response can be found here: [New building control regime for higher-risk buildings and wider changes to the building regulations in Wales | GOV.WALES](#)

PART 2 – REGULATORY IMPACT ASSESSMENT

6. Reform for building control

- 6.1 As the amendments made by regulations 4 to 7 are part of the Welsh Government's implementation of the 2022 Act and are directly related to other legislation that has already been laid, their impact has been included in the full and joint assessment of the wider implementation. This can be found online as part of the explanatory memorandum to the Amendment No.2 Regulations here: [SL\(6\)708 - The Building etc. \(Amendment\) \(No. 2\) \(Wales\) Regulations 2025](#)
- 6.2 The following text sets out the Regulatory Impact Assessment for amendments made by regulation 3 in relation to the Part L (Conservation of fuel and power) associated changes to the 2010 Regulations.

7. Energy efficiency requirements

- 7.1 As well as changes made by the Amendment Regulations, changes will be made to Approved Documents L1, L2 and F1 which provides practical guidance on Part L (energy efficiency) and F(ventilation) of the 2010 Regulations. The changes to these Approved Documents will cover changes made by the Amendment Regulations and changes to other areas of the guidance. The impact of the changes has been assessed collectively as the changes together represent the collective energy efficiency and ventilation measures being introduced through the Amendment Regulations and amendments to Approved Documents. The figures and analysis provided below are therefore not solely a result of those changes set out in the Amendment Regulations.

8. Policy changes considered in this impact assessment

- 8.1 The assessment considers the impact on dwellings and non-domestic buildings in Wales of the 2026 amendments to Part L and Part F of Schedule 1 to the 2010 Regulations.
- 8.2 The costs and benefits of the changes have been assessed over a 70-year appraisal period (assuming a 10-year policy period + 60-year building lifespan). The costs and benefits are net of those that would be incurred under the 2022 standards, including what is being done voluntarily that is above the 2022 standards (i.e. the counterfactual).
- 8.3 The policy changes are, in summary:
- New Dwellings:
 - An uplift in energy efficiency standards' requirements in Part L of the 2010 Regulations. The amendments include a requirement for

solar photovoltaic (PV) and changes to the notional building¹ to include an air source heat pump and a decentralised mechanical ventilation system (dMEV);

- A change to the current performance metrics. The current metric of Dwelling Energy Efficiency Rate (DEER) is to be replaced with the Energy Use Intensity metric (EUI). The new Home Energy Model (HEM) will be used as the methodology to demonstrate compliance with the Part L standard, replacing the Standard Assessment Procedure (SAP); However, until HEM is fully implemented, and energy assessors are fully trained on HEM, SAP 10.3 can also be used as compliance tool.
- Existing Dwellings:
 - An uplift in building services energy efficiency standards in Part L of the Building Regulations;
 - A requirement for renewable energy for significant extensions.
- New Non-Domestic:
 - An uplift in energy efficiency standards in Part L of the Building Regulations. The notional building to increase lighting efficiency; the introduction of an air source heat pump and the requirement for a solar PV array equal to 40% of roof area (for side lit buildings) or 60% (for top lit buildings);
 - A mandatory requirement for provision of photographic evidence to demonstrate compliance, focussing on high-risk areas where construction quality, changes, or substitutions during the construction process could impact the predicted performance outcomes;
 - Building automated control systems (BACs) – changing the minimum effective rated output of a space heating or air conditioning system at which a BACs must be installed from 270kW to 180kW.
- Existing Non-Domestic:
 - An uplift in building services energy efficiency standards in Part L of the Building Regulations.

Results

8.4 Table 8.1 sets out the results of the analysis. The table shows the monetised costs, benefits and net benefits (i.e. benefits minus costs) of compliance with the changes to the 2010 Regulations. This table also shows the cost of familiarisation with the amendments.

¹ The 'notional building' is a set of specifications that is applied to the actual building dimensions of a proposed project and is used to model performance targets that the actual building and building specifications are measured against.

Table 8.1: Summary - Present Value of the costs, benefits and net benefits, of an uplift in energy efficiency standards in Part L (£m)

	Costs	Benefits	Net Benefits	Reduction in Greenhouse Gas Emissions (MtCO ₂ e)
Familiarisation (Parts L and F)	£2m	0	-£2m	0
New Domestic	£266m	£432m	£166m	1.97
Existing Domestic - Extensions	£21m	£22m	£1m	*
New Non-Domestic	£60m	£75m	£15m	0.43

* Note: less than 0.01MtCO₂e

Further detail of the Costs and Benefits

- 8.5 Tables 8.2 to 8.5 provide a more detailed breakdown of the costs and benefits of each of the changes to Part L and F of the 2010 Regulations.
- 8.6 The costs and benefits identified in the analysis are expected to be incurred by different parties. Capital build costs will initially fall on the building developer and are expected to result in either reduced land values or increased house prices. Ongoing costs, such as replacement costs, maintenance, energy and standing charges are expected to fall on either the homeowner, landlord or occupant. Reduced carbon impacts and improved air quality are expected to benefit wider society.

Table 8.2: Present Value of the costs of changes to all residential buildings (£m)

	New Dwelling	Existing dwelling – Extensions
	Part L	Part L
Capital costs	+ 134.16	+14.49
Replacement costs	+ 132.25	+ 6.67
Maintenance costs*	0	0
Energy costs	- 24.81	-21.23
Standing charge costs**	- 59.18	0
Carbon costs	- 336.60	-0.77
Air quality costs	- 11.84	-0.04
Net costs (excluding health)	- 166.03	-0.87

*Note: the analysis assumes that the amendments to Part L will not change typical household annual maintenance costs i.e. a gas boiler and an ASHP heating systems are assumed to have similar annual average maintenance costs

****Note:** the standing charge costs presented in the analysis represent the savings from no longer requiring gas to be supplied to a property as a result of not installing a gas boiler. These reduction in standing charges are in addition to the change in estimated energy costs.

Table 8.3: Reduction in Greenhouse Gas Emissions due to changes to all residential buildings (MtCO_{2e})		
	New Dwelling	Existing dwelling – Extensions
	Part L	Part L
Greenhouse gas emissions (MtCO_{2e})	-1.97	*

* Note: less than 0.01MtCO_{2e}

Table 8.4: Present Value of the costs of changes to non-domestic buildings (£m)		
	New Build Part L	Part L
		BACS
Capital costs	+ 31.40	+ 0.26
Replacement costs	+ 28.70	0
Maintenance costs	+ 0.03	0
Energy costs	- 0.21	- 0.49
Carbon costs	- 72.66	- 0.35
Air quality costs	- 2.56	- 0.01
Net cost	- 15.31	- 0.59

Table 8.5: Change in greenhouse gas emissions as a result of changes to non-domestic buildings (mtCO_{2e})		
	New build Part L	Part L
		BACS
Greenhouse gas emissions (MtCO_{2e})	- 0.43	*

* Note: less than 0.01MtCO_{2e}

Familiarisation Costs

8.7 Businesses will incur transition costs as a result of employees spending time to familiarise themselves with the new technical requirements.

Familiarisation costs are estimated to be:

- Part L – domestic – is expected to generate familiarisation costs of £0.95m;
- Part L – non-domestic – is expected to generate familiarisation costs of £0.24m;

- Transition from SAP to the Home Energy Model (HEM) – is expected to generate familiarisation costs of £0.28m;
- Changes to the Simplified Building Energy Model (SBEM) – are expected to generate familiarisation costs of £0.11m;
- Total familiarisation costs are estimated at £1.58m present value, of which an estimated £0.10m is expected to be incurred by building control bodies as training costs.

8.8 Table 8.6 sets out the present value of the familiarisation costs, which includes the value of time and costs to understand the changes, such as CPD and training courses.

Table 8.6: Present Value of familiarisation costs for changes (£m)	
	Familiarisation Costs (£m)
Part L, F – dwellings	0.95
Part L – non-domestic	0.24
Transition from SAP to HEM	0.28
Changes to SBEM	0.11
Total	1.58

Conclusions

8.9 Table 8.7 shows the net present value of all the changes.

Table 8.7: Net Present Value of proposed changes	
	NPV (£m)
Dwelling – New Build	166
Dwelling – Existing – Extensions Renewable Energy	1
Non-Domestic – New Build	15
Non Domestic – Existing	0
Non Domestic - BACS	1
Familiarisation Costs	-2

8.10 The impact assessment estimates that each of the changes will result in a net benefit to Wales as follows:

- The changes for new build dwellings are estimated to deliver net benefits of £166m;
- The changes for existing dwellings are estimated to deliver net benefits of £1m;
- The changes for new build non-domestic buildings are estimated to deliver net benefits of £15m.

8.11 Familiarisation costs are estimated to be £2m.

9. Policy Context

Climate emergency declared in Wales

- 9.1 In Wales the Welsh Government has declared a Climate Emergency. The Welsh Government has set a legally binding target through the Environment (Wales) Act 2016 of reaching net zero greenhouse gas emissions by 2050. The built environment is responsible for around 30% of the UK's greenhouse gas emissions,¹ therefore, decarbonising buildings is a key part of the plans to meeting this net zero commitment. As set out in the Heat Strategy for Wales², achieving the net zero target is a challenge but also an opportunity for providing better outcomes for the people, businesses, and the environment in Wales.
- 9.2 The minimum energy efficiency requirements for homes and non-domestic buildings are set through Part L (Conservation of fuel and power) of Schedule 1, and Part 6 of the 2010 Regulations. In 2022 the Welsh Government implemented an uplift to energy and ventilation standards (Part L and Part F) for new and existing homes, as well as for new and existing non-domestic buildings, which are now expected to produce significantly lower carbon emissions compared to those built to the previous 2014 standards. The standards uplift represented an important stepping stone towards a cleaner, greener, and safer built environment.
- 9.3 When the Welsh Government consulted on the proposed 2022 energy and ventilation standards uplift, it also set out the intention for further improvements and more ambitious energy standards² beyond those implemented in 2022 (namely these changes).
- 9.4 The 2022 standards also aimed to not disadvantage developers who wished to adopt low carbon heating from a capital expenditure viewpoint when meeting the 2022 energy targets. The Welsh Government set out the intention for further improvements to give industry time to prepare, for example to allow developers time to upskill in relation to low carbon heating systems, as the more ambitious standards were expected to result in low carbon heating systems becoming an integral part of the specification in new buildings.

Setting energy performance related targets in building regulations is an important means of reducing the carbon emissions of buildings

- 9.5 The built environment is responsible for around 30% of the UK's greenhouse gas emissions.

² [Building regulations Part L review | GOV.WALES](#)

- 9.6 Policy 45 of Net Zero Wales commits Wales to set higher energy efficiency standards for new builds through reviewing Part L (Conservation of Fuel and Power) of the 2010 Regulations.
- 9.7 The performance-based targets set through the 2010 Regulations are an important means of ensuring reduced carbon emissions of new buildings.
- 9.8 Certain segments of the development industry are implementing reduced carbon emission measures of their own accord, but not all of the industry. This is due to a number of barriers/difficulties, termed market failures, such as the cost of climate change not being fully reflected in energy prices, lack of information about energy efficiency opportunities, and limited incentives to make energy efficiency improvements.
- 9.9 The introduction of performance-based target regulation will however ensure all of the industry achieve the required standards.

Policy objectives

- 9.10 The policy objectives considered in this assessment are to reduce carbon emissions of buildings through changes to Part L of the 2010 Regulations. Additionally, they aim is to instigate the changes in specifications, skills and supply chains needed to stimulate innovation and learning in the sector. These objectives will form the basis for introducing a world-leading performance standard incorporating low-carbon heat in new homes.
- 9.11 The proposed Part L 2026 standard aims to build on the previous 2022 uplift. The majority of the buildings that are being constructed today will still exist in 2050, and the Welsh Governments' intention is to implement a standard to ensure new buildings are fit for the future, and will not require further work to produce zero carbon emissions as the electricity grid decarbonises.
- 9.12 Policy objectives also include ensuring provision of adequate ventilation through changes to Part F of the 2010 Regulations, to align with more airtight construction, encouraged by Part L.

10. 2026 standards policy changes assessed

- 10.1 This assessment considers the impact of the amendments to Part L and F of Schedule 1 to the 2010 Regulations. The amendments are assessed relative to the counterfactual (i.e. no change to the 2022 standards).
- 10.2 Two options were presented in the consultation impact assessment relative to the counterfactual. As a result of feedback from the consultation, the preferred option was selected, with some minor changes to reflect the responses to the consultation.

10.3 The amendments to Part L and F that are assessed include the following:

New Dwellings – policy changes

Part L standards for New Dwellings

10.4 The uplift in energy efficiency standards in Part L.

10.5 In addition, two other specific changes are assessed, as follows:

- A change to the current performance metrics new dwellings are assessed against;
- Amendments to Part L and Part F to improve the commissioning and checking process for fixed building services in new homes.

Existing Dwellings – policy changes

Part L standards for Existing Dwellings

10.6 An uplift in building services energy efficiency standards in Part L;

- Amendments to Approved Documents L and F to improve the commissioning and checking processes for fixed building services in existing homes;
- A requirement for renewable energy for significant extensions.

New Non-Domestic – policy changes

Part L standards for New Non-Domestic Buildings

10.7 An uplift in energy efficiency standards in Part L.

10.8 In addition, two other specific changes to Part L are assessed:

- Photographic evidence being mandated to demonstrate compliance, focused on high-risk areas where construction quality, changes, or substitutions during the construction process could impact the predicted performance outcomes;
- Building automated control systems (BACs) – changing the minimum effective rated output of a space heating or air conditioning system at which a BACs must be installed from 270kW to 180kW.

Existing Non-Domestic – policy changes

Part L standards for Existing Non-Domestic Buildings

10.9 An uplift in building services energy efficiency standards in Part L.

11. Analytical Approach

11.1 This section sets out the principal steps and key considerations used to estimate the impact of the policy changes.

11.2 In summary, the assessment:

- Estimates the additional costs to house builders and occupiers of the 2026 standards, over and above the current situation (as defined by the 2022 standards), termed the counterfactual;
- Estimates the additional benefits likely to derive from the changes, over and above the current situation;
- Deducts the additional costs from the additional benefits to arrive at the net policy cost.

Types of costs considered in the assessment

11.3 This analysis assesses the following types of costs of the changes for a 'typical building' compared to the counterfactual (2022 standards):

- Capital costs;
- Maintenance costs;
- Replacement costs.

11.4 The costs are derived as follows:

- Costs include capital, maintenance and replacement costs;
- All costs are in current prices;
- Costs are estimated for the life of the building;
- Cost estimates are provided by AECOM;
- Changes in costs over time, due to anticipated future learning, are taken into account. The analysis uses the same learning rate assumptions as used for the England Part L analysis.³

Types of benefits considered in the assessment

11.5 Two types of benefit are assessed in the analysis:

- Energy Usage - reduced energy usage as a result of improved energy efficiency;
- Environmental benefits - reduced carbon emissions and air quality improvements;

11.6 The benefits are calculated as follows:

³ England Part L Domestic IA – Para 7.17

- Energy usage – estimated by AECOM for gas, grid electricity and electricity generated by dwellings or exported to the grid. The energy usage is modelled for the whole building using HEM and SBEM for the typical building typologies using the 2026 notional building specification compared to the counterfactual (2022 standards);
- Energy, greenhouse gas emissions and air quality costs – valued using the HMT Greenbook Supplementary Guidance: Valuation of energy use and greenhouse gas emissions for appraisal (updated November 2023);

Types of residential dwelling considered in the assessment

11.7 The assessment is based on four standard dwelling type definitions⁴:

- Detached House (117m² total floor area (TFA));
- Semi Detached House (84m² TFA);
- Terraced House (84m² TFA);
- Block of Flats (assuming 32 flats per block) (50m² TFA 1 bed single aspect apartment and 70m² TFA 2 bed corner apartment).

Types of non-domestic buildings considered in the assessment

11.8 The assessment is based on 10 non-domestic building type definitions:

- Primary School (2,379m²);
- Office - Naturally Ventilated (1,080m²);
- Office - Air Conditioned (2,160m²);
- Hotel (1,087m²);
- Secondary School (8,013m²);
- Medium Warehouse (1,200m²);
- Large Warehouse (5,262m²);
- Health Centre (2,089m²);
- Multi-Residential (non-domestic) building (2,374m²);
- Retail (1,250m²).

Appraisal period

11.9 Costs and benefits are assessed over a 70-year period (2027-2096) as follows:

⁴ The analysis uses building types and sizes that are aligned with the representative buildings used in the England Future Homes Standard and Future Building Standard impact analysis.

- Costs are assessed over the assumed 60-year lifespan of each building built during the 10-year policy period. Initial build costs are assessed for buildings constructed during the 10-year policy period and ongoing costs, such as maintenance, replacement and energy costs, are assessed over the 60-year building lifespan.
- The benefits of which are assessed over the assumed 60-year lifespan of each building built during the 10-year policy period.

Sequence of calculations

11.10 Costs and benefits are first assessed for each of the build types.

11.11 The costs and benefits of the changes across Wales are then calculated by multiplying each building type's costs and benefits by the estimated stock, or the number of new build completions over a 10-year period for each of the dwelling types (see Annex A for new build completion figures used).

Discount rates used

11.12 The results are presented in present value terms using the HM Treasury's standard discount rates of 3.5% for the first 30 years and 3.0% for the subsequent years.

12. New Dwellings

Policy standards for new dwellings

Part L Standards for New Dwellings

12.1 The following elements are considered to achieve improvement in energy efficiency standards in new dwellings:

- Air source heat pumps;
- Decentralised mechanical extract ventilation (dMEV);
- Improved air tightness;
- Increase in solar photovoltaic (PV);

12.2 In addition, two other specific changes to Part L are assessed:

- A change to the current performance metrics new dwellings will be assessed against;
- Amendments to improve the commissioning and checking process for fixed building services in new dwellings.

Impacts of the policy changes on new dwellings and how they have been calculated

Impacts per dwelling (2024 prices)

Table 12.1 below shows the estimated capital cost of buildings constructed to the 2022 standard and the 2026 standard.

	2022 Standards	2026 Standards	Difference
Terrace	£128,100	£133,600	+£5,600
Semi detached	129,700	£135,700	+£6,000
Detached	£226,700	£234,500	+£7,800
Block of flats	£3,196,800	£3,299,900	+£103,100

12.3 The table shows that the policy will result in an additional build cost for houses built during the appraisal period, ranging from £5,600 and £7,800.

12.4 The majority (+83% to 84%) of the additional costs are related to changes to the heating system (changing from a gas boiler to an ASHP). Other changes that result in additional capital costs include the additional solar PV (+11% to 14%), changes to building ventilation and air tightness (+2% to 4%) and changes to lighting performance (+1%)

12.5 The elements of the building that are expected to change, as a result of the 2026 standards compared with 2022 standards, are typically replaced every 15-25 years. The analysis estimates the additional cost of replacing the higher specification elements relative to the elements used for the 2022 standards. The analysis estimates that the present value over the lifetime of the building of the additional cost of replacing these elements is very similar to the capital cost difference of initially installing the elements in the building (e.g. an additional £5,500 of replacement costs over the lifetime of the building for terraced housing compared to the 2022 standards).

12.6 The analysis does not anticipate a significant change in the maintenance costs for the buildings. Both types of heating system will require regular servicing and maintenance, estimated at £100 per annum.

12.7 Table 12.2 below shows the change in the regulated energy usage between the two standards for a semi-detached house. This represents the energy used by elements that are regulated by Part L and Part F of the building regulations. The changes for other dwelling types show a similar pattern.

Table 12.2 Change in energy usage (Semi-detached house) – KWh/yr			
	2022 Standards	2026 Standards	Difference
Gas	5,514	0	- 5,514
Grid electricity	276	1,981	+1,705
Exported electricity	1,981	3,071	+1,090

12.8 The table shows that a typical semi-detached dwelling built to the 2026 standards is expected to reduce gas usage by 5,500 KWh per annum compared to one built to the 2022 standard and to increase the usage of grid electricity by 1,700KWh per annum. In addition, the analysis estimates that the dwelling will be able to export an additional 1,100KWh of electricity generated by the solar panels but which is not used within the property. Given that the property will not require any gas supply under the 2026 standards, there will also be a saving from not having to install and maintain gas infrastructure (this is taken account of in the analysis through a reduced standing charge).

12.9 The increased use of electricity and reduced use of gas under the 2026 standards are expected to result in a significant reduction in carbon emissions and associated air quality impacts, primarily because carbon emissions for electricity are expected to fall. The HMT projections assume that the carbon emissions (kgCO₂e per KWh) for electricity are expected to fall from 0.191kgCO₂e per KWh in 2026 to 0.001kgCO₂e per KWh in 2045. In contrast, the carbon emissions from gas are expected to remain constant at around 0.183kgCO₂e per KWh over the period.

12.10 This means that the carbon emissions associated with a semi-detached home built to the 2026 standards relative to the 2022 standards are expected to be 600kg less per annum in 2026, improving to 900kg less per annum in 2045.

Part L 2026: improved energy efficiency standards are estimated to result in:

12.11 Costs of:

- Additional capital, replacement, and maintenance costs of £266.40m present value (net of the counterfactual):

12.12 Benefits of:

- Reduced energy costs (including standing charge) of £83.98m present value
- Increased social benefits (derived from reduced carbon emissions and improved air quality) of £348.45m present value over the appraisal period.

12.13 Resulting in a net present value policy benefit of £166.03m.

12.14 Table 12.3 sets out a breakdown of the present value of costs of Part L changes for residential new builds (£m).

Table 12.3: Present Value of costs of Part L changes for residential new builds (£m)	
	PV (£m)
Capital costs	+ 134.16
Renewals costs	+ 132.25
Maintenance costs	0.00
Energy costs	- 24.81
Standing charge costs	- 59.18
<i>Carbon costs</i>	- 336.60
Air quality costs	- 11.84
Net Costs	- 166.03
<i>Greenhouse Gas Emissions (MtCO₂e)</i>	-1.97

Non quantified benefits

12.15 The 2026 standards also include improvements to ventilation systems. The additional costs of including mechanical ventilation systems in a new dwelling relative to intermittent extract fans and trickle vents have been included in the analysis. It is expected that mechanical ventilation will improve ventilation within dwellings.

12.16 The benefits of ensuring adequate ventilation within dwellings includes reduced risk of condensation, mould and indoor air pollution. Reducing these risks can improve the health of the occupants of dwellings. The health benefits resulting from changes to the ventilation standard have not been monetised however, because the analysis has not identified relevant robust research sufficient to support assumptions to calculate the reduction in the risk of condensation, mould and indoor air pollution relative to the counterfactual.

Unit costs used in the calculations

12.17 Table 12.4 sets out in summary the costs and energy use assumptions per building used in the calculations for the 2022 standards (counterfactual) and the 2026 standards.

Table 12.4: Unit costs for New Build Part L Regulated Elements

Reference		Building Cost / Unit (2024 prices)	Energy Demands by Fuel Type (kWh/yr/unit)		
Building Reference	Building Type		Gas	Grid Elec	Gen Elec
2022 standards	Detached House	£226,678	9,157	304	2,581
2026 standards	Detached House	£234,524	-	2,859	3,993
2022 standards	Semi-detached House	£129,735	5,514	276	1,981
2026 standards	Semi-detached House	£135,730	-	1,981	3,071
2022 standards	Mid-terrace House	£128,061	4,842	273	1,982
2026 standards	Mid-terrace House	£133,624	-	1,862	3,087
2022 standards	Block of Flats	£3,196,800	44,416	2,632	7,939
2026 standards	Block of Flats	£3,299,875	-	20,882	12,651

Source: The building energy modelling was undertaken using the Home Energy Model. AECOM provided current capital and lifecycle cost data for Wales based on the notional building specifications using a base building cost from BCIS and prices for the building elements that differ.

Counterfactual Assumptions

12.18 The analysis of the costs and benefits of the policy include an estimate of the number of buildings that would have been built to the new standards without the policy changes. The estimate is based on analysis of the reported number of recently completed buildings that have heat pumps and using trend data to forecast how this may change over the appraisal period.

12.19 This analysis estimates that around 35% of new dwellings are being constructed to a specification that meets the 2026 standards under the counterfactual (mainly in terms of heat pump installations), which is expected to increase to 40% by the end of the appraisal period without the policy changes.

Other (non-monetised) Changes for New Dwellings

A change to the current performance metrics.

12.20 Transition to the Home Energy Model (HEM) will involve familiarisation costs. The analysis has estimated the costs of familiarisation with the new modelling approach presented in Section 10 of this report.

12.21 It is expected that the HEM will require more data collection and preparation than under the current modelling approach. However, the model has not yet been finalised, therefore although there may be additional ongoing costs of the Home Energy Model over the counterfactual, this has not been quantified in this assessment.

Amendments to Part L and Part F to improve the commissioning and checking process for fixed building services in new homes.

12.22 The changes are expected to result in a small additional cost from investing in new equipment to undertake airflow rate system tests. However, the tests should be quicker to complete, so there is not expected to be a significant change in the overall cost of commissioning and checking fixed building services.

13. Existing Dwellings

Policy standards for existing dwellings

Part L and F Standards for existing dwellings

13.1 The following elements are considered to achieve improvement in energy efficiency standards for existing dwellings:

- An uplift in building services energy efficiency standards in Part L;
- Amendments to Approved Documents L and F to improve the commissioning and checking process for fixed building services in existing homes;
- A requirement for inclusion of renewable energy for significant extensions.

Impacts of policy proposals for existing dwellings and how they have been calculated

Part L - uplift in building services energy efficiency standards is estimated to result in:

- 13.2 The policy will increase the minimum performance standard for some building services. Technical analysis of the changes indicates that the uplift will bring the standards in line with industry practice. Therefore, the analysis does not assume the change will result in a significant net additional costs and benefits over and above the counterfactual i.e. what industry is doing already.

Amendments to Approved Documents L and F to improve the commissioning and checking process for fixed building services in existing homes.

- 13.3 The technical analysis indicates that the amendments will mainly change how some mechanical ventilation systems are commissioned. The changes will mean that some installers will need to invest in new equipment to commission the systems. When conducting air flow rate testing, mechanical ventilation systems should be tested and commissioned using calibrated powered flow hoods instead of rotating vane anemometers with hoods. Based on current prices, a calibrated powered flow hood would cost around £2,800, while rotating vane anemometers with hoods cost around £650. This represents a capital cost uplift for commissioning engineers of around £2,150, incurred on average every 10 years. This uplift is heavily dependent on frequency of use and care taken.
- 13.4 The annual calibration cost for calibrated powered flow hoods is £175 for commissioning engineers, representing an uplift of £40 compared to the calibration cost of £135 for rotating vane anemometers. However, despite needing more expensive equipment, a powered hood requires significantly less time to prepare and undertake the assessment compared with a rotating vane anemometer.
- 13.5 Industry is already transitioning towards using powered flow hoods. The England FHS Consultations Stage Impact Assessment estimated that around 25% of commissioning engineers have already upgraded to powered flow hoods, and that this number would increase going forward regardless of this policy.
- 13.6 Finally, because of the technical challenges of retrofitting mechanical ventilation systems into older properties, it is unlikely that the policy will result in significant additional costs for existing dwellings.
- 13.7 This analysis includes familiarisation costs for industry to understand the policy changes. However, based on the points set out above, the change

to how mechanical ventilation systems are commissioned is not expected to add additional cost to the homeowner.

A requirement for renewable energy for significant extensions

13.8 This element of the policy requires that renewable energy technologies are installed in extensions above 40m². The costs and benefits of this are shown in Table 13.1 and have been calculated as follows.

Regarding number of buildings that are in scope of the policy

13.9 Regarding the number of extensions per annum that are in scope of the policy:

- The analysis estimates that 740 extensions over 40m² in scope of the policy are constructed per annum;
- This is based on the assumption that 0.5% of dwellings in Wales build an extension each year and that 10% of these extensions are in scope of the policy.

13.10 Regarding costs:

- 740 extensions p.a. are assumed to be in scope of the policy;
- With each extension installing a 2kW solar photovoltaic system at a cost of £3,700 (2024 prices);
- The total additional capital and replacement costs of systems installed over the 10 year policy period are estimated to equal a present value of £21.16m.

13.11 Regarding benefits:

- These measures are estimated to result in reduced energy costs of £21.23m;
- It is estimated that the measures will also deliver environmental improvements valued at £0.81m.

13.12 Altogether, these estimates result in a net present value policy benefit of £0.87m.

13.13 Tables 13.1 and 13.2 provide further details of the metrics and assumptions used in the analysis.

13.14 Table 13.1 shows the cost assumptions.

Table 13.1: Present value costs of changes to Part L for existing residential dwellings (£m)	
	Extensions – Renewable Energy
Capital costs	+ 14.49
Replacement costs	+ 6.67
Maintenance costs	-
Energy costs	- 21.23
Carbon costs	- 0.77
Air quality costs	- 0.04
Net Cost (excluding health impacts)	- 0.87
<i>Greenhouse Gas Emissions (MtCO_{2e})</i>	- 0.003

13.15 Table 13.2 shows the energy assumptions per dwelling used in the analysis.

Table 13.2: Energy Demands by Fuel Type (kWh/yr/unit) and cost				
		Energy Usage (electricity) kWh	Energy Export (electricity) kWh	Capital Cost
Extension	Extension 2026 standards - net change over counterfactual	-604	+848	£3,749

14. New Non-Domestic

Policy standards for new non-domestic buildings

14.1 The following elements are considered to achieve improvement in energy efficiency standards in new non-domestic buildings:

- An increase in lighting efficiency;
- A low carbon heating system;
- A requirement for a solar photovoltaic (PV) area equivalent to 40% of roof area (side lit buildings) or 60% (top lit buildings).

14.2 Photographic evidence is also being required to demonstrate compliance, focussing on high-risk areas where construction quality, changes, or substitutions during the construction process could impact the predicted performance outcomes.

Impacts of Part L policy changes for new non-domestic buildings and how they have been calculated

14.3 The estimated present value of the costs and benefits of the Part L policy changes are as follows.

14.4 Regarding costs:

- Increased capital costs of £31m;
- Increased renewal/maintenance costs of £29m;

14.5 Regarding benefits;

- Reduced energy costs of £0.2m.
- Improved carbon and air quality impacts valued at £75m;

14.6 Together the changes result in overall net additional benefits of £15m.

14.7 Table 14.1 provides further detail.

Table 14.1: Present Value of costs of Part L changes for new non-domestic buildings (£m)	
	Part L
Capital costs	+ 31.40
Renewals costs	+ 28.70
Maintenance costs	+ 0.03
Energy costs	- 0.21
Carbon costs	- 72.66
Air quality costs	- 2.56
Net Cost	- 15.31
<i>Greenhouse Gas Emissions (MtCO_{2e})</i>	- 0.43

Unit costs used in the calculations

14.8 Table 14.2 shows the unit cost assumptions per building used in the calculations for both the 2022 standards and the 2026 standards.

Table 14.2: Unit Costs for New Build Part L

Reference		Building Cost / Unit (2024 prices)	Energy Demands by Fuel Type (kWh/yr/unit)		
Policy	Building Type		Gas	Grid Elec	Gen Elec
2022 standards	Primary School	£6,242,496	74,841	16,555	25,897
2026 standards	Primary School	£6,451,328	0	29,343	52,633
2022 standards	Office (Naturally Ventilated)	£2,694,600	31,578	5,387	13,886
2026 standards	Office (Naturally Ventilated)	£2,766,623	0	11,112	22,808
2022 standards	Office (air conditioned)	£4,376,160	26,340	35,192	19,272
2026 standards	Office (air conditioned)	£4,478,773	0	60,201	16,960
2022 standards	Hotel	£2,681,629	259,526	13,330	9,699
2026 standards	Hotel	£2,762,300	0	100,780	11,639
2022 standards	Secondary School	£20,617,449	345,724	54,639	79,064
2026 standards	Secondary School	£21,284,158	0	143,483	136,720
2022 standards	Medium Warehouse	£1,089,600	203,646	6,876	14,537
2026 standards (ASHP)	Medium Warehouse	£1,221,346	0	42,910	47,482
2026 standards (Direct Electric)	Medium Warehouse	£1,163,725	0	142,555	45,196
2022 standards	Large Warehouse	£3,925,452	558,346	29,466	64,432
2026 standards (ASHP)	Large Warehouse	£4,479,351	0	127,553	269,871
2026 standards (Direct Electric)	Large Warehouse	£4,249,975	0	318,679	198,712
2022 standards	Health Centre	£5,805,331	53,528	16,377	20,900
2026 standards	Health Centre	£5,965,452	0	25,095	52,348

2022 standards	Multi Residential	£5,011,514	110,983	26,904	21,182
2026 standards	Multi Residential	£5,136,342	0	69,256	18,641
2022 standards	Retail	£3,346,250	15,862	66,208	11,153
2026 standards	Retail	£3,499,176	0	50,472	39,260

Source: The building energy modelling was undertaken using the SBEM. AECOM provided current capital and lifecycle cost data for Wales based on the notional building specifications using a base building cost from BCIS and prices for the building elements that differ.

14.9 The additional cost to meet the 2026 standards for each of the buildings results from changes to the specification of the heating system, lighting and solar PV requirements. The cumulative impact of these changes is expected to add between 2% and 3% to the build cost of most non domestic buildings (except warehouses) relative to the 2022 standards. For warehouses, compliance with the 2026 standards is estimated to increase build costs by between 7% and 14% depending on the type of heating system used.

14.10 The changes between the 2022 and 2026 standards affect build costs for the building types differently.

- For most building types (except warehouses and retail units), the majority of additional costs per building (between 51% and 83%) derive from the change to the heating system requirements. Where as, change to solar PV requirements accounts for up to 38% of the additional build costs and changes to the lighting specification make up between 9% and 17% of the additional costs.
- For warehouses and retail buildings, solar PV represents the majority (between 55% to 81%) of the additional cost, with changes to the heating system representing up to 35% of additional costs and changes to the lighting specification making up between 9% and 17% of additional costs.

14.11 The energy modelling indicates that the change in standards for all building types will result in a net reduction in energy consumption (KWh/yr). The analysis also shows that the majority of building types will increase the amount of electricity generated from Solar PV that can be exported each year. For all building types these changes will result in a reduction in the annual CO2e emissions.

Counterfactual Assumptions

14.12 The analysis of the costs and benefits include an estimate of the number of buildings that would have been built to the new standards without the

policy changes. The estimate is based on analysis of England and Wales EPC data and the strategic plans of several large developers.

- 14.13 This analysis indicates that about 30% of warehousing, 42% of offices/retail and 72% of schools/hotels/health centres are currently being constructed to the 2026 standards specifications.
- 14.14 This is expected to increase to 56% of warehousing (+26 percentage points), 60% of offices/retail (+18 percentage points) and 90% of schools/hotels/health centres (+18 percentage points) by the end of the appraisal period.

Other Changes

Photographic evidence

- 14.15 The policy sets out mandatory collection of photographic evidence to demonstrate compliance, focussing on high-risk areas where construction quality, changes, or substitutions during the construction process could impact the predicted performance outcomes.
- 14.16 From discussions with industry, it is understood that many developers already collect photographic evidence of building work details. There may be costs associated with collating, emailing and printing; but these are believed to be minimal, to the order of £10 per building.

15. Existing Non-Domestic

Changes to Part L

- 15.1 The Part L policy requires only one change for existing non-domestic buildings - an uplift in building services energy efficiency standards.

An uplift in building services energy efficiency standards in Part L.

- 15.2 The changes to the minimum energy efficiency standards for building services energy efficiency standards are intended to bring the guidance set out in Part L in line with industry practice. Therefore, the proposals are not expected to result in changes to the type of systems installed in buildings. Therefore, the analysis does not include any change in costs and benefits compared with the counterfactual.

16. Building Automated Control Systems (BACs)

- 16.1 A BACs is a centralised system used to monitor and control a building's environment and services. The current requirement is that new and existing non-domestic buildings, where relevant work is being carried out and where there is a heating system over 270kW, should be equipped with a BACS to avoid the need to retrofit the building later. The policy reduces the threshold at which a BACs is required from 270kW to 180kW.
- 16.2 The assessment estimates the net impacts of this requirement over and above the counterfactual over a 25-year period, which is the typical lifespan of a BACs system.

Estimate net costs and benefits of the BACs proposal

- 16.3 Based on an estimate of the size of buildings that would require a heating system of between 180kW and 270kW, the assessment estimates that there will be 10 non-domestic buildings built or refurbished per annum in Wales within scope of the policy.
- 16.4 The typical building in scope of the policy is estimated to be over 1,000 m². The analysis used in the previous impact assessment in 2022 for the introduction of the requirement for BACS in buildings with heating systems over 270kW assumes that 95% of buildings over 1000 m² will be voluntarily compliant with the policy. Therefore, the policy is expected to only affect 5 additional buildings over a 10 year period.
- 16.5 Table 16.1 sets out the present value of the costs and benefits of the change.

Table 16.1: Present Value costs and benefits of changes to the threshold for BACS (£m)	
	10yr Present Value Costs
Capital costs	+ 0.26
Energy costs	- 0.49
Carbon costs	- 0.35
Air quality costs	- 0.01
Net Costs	- 0.59

17. Transition Costs

- 17.1 Transition costs are incurred by businesses as a result of the time spent by their employees on familiarising themselves with the new technical requirements of the policy.

17.2 The method used to estimate familiarisation costs is the same as that used in the England analysis (regarding changes to Part L and F of the 2010 Regulations in England). The estimates are based on consultation with a small number of organisations designed to identify time/cost likely to be incurred. The consultation identified:

- The types of organisations that will be affected by the changes;
- The proportion of the workforce that will need to understand the changes;
- The types of familiarisation activity (training courses, self-study, CPD) likely to be undertaken;
- Costs per organisation type - average hourly employment rates⁵ for each of the affected occupations were used to monetise the resulting familiarisation time costs.

17.3 The estimates have been applied to the number of businesses and employees based in Wales. The assumptions have been reviewed to ensure that any estimates that were prepared for the changes in England are also relevant in Wales.

17.4 Table 17.1 sets out the present value of the estimated familiarisation costs for each element of the policy changes.

Table 17.1: Present Value familiarisation costs for changes (£m)	
	Familiarisation Costs (£m)
Part L and F – dwellings	0.95
Part L – non-domestic	0.24
Transition from SAP to HEM	0.28
Changes to SBEM	0.11
Total	1.58

Further detail on the familiarisation cost calculations

17.5 Table 17.2 shows the assumptions used to calculate the number of organisations that will need to become familiar with the changes.

⁵ The analysis uses employment costs, calculated using salary rates for each of the occupations from the latest Annual Survey of Hours and Earnings, ONS and an uplift of 20.2% to allow for non-wage employment costs, also using ONS data.

Table 17.2: Familiarisation Assumption – number of organisations		
	Domestic	Non-Domestic
Energy Consultant	50	10
SAP Assessor	130	-
Heating/Ventilation installers	480	150
Main Contractor/ Developer	2,210	630
Architect	300	90
Engineer - other	150	40
Engineer - energy modeller	-	20
Building Control	20	20

17.6 Table 17.3 shows the assumptions used to calculate of the time required per organisation to become familiar with the changes. This estimate includes time to read the guidance and attend CPD or external training events.

Table 17.3: Familiarisation Assumption – Time required per organisation (hrs)				
	Part L - domestic	Part L – non-domestic	SAP	SBEM
Energy Consultant	176	220	72	73
SAP Assessor	11	-	25	-
Heating/Ventilation installers	13	1	2	7
Main Contractor/ Developer	4	5	1	4
Architect	5	7	2	8
Engineer - other	45	57	12	20
Engineer - energy modeller	-	2	-	3
Building Control	152	103	95	81

18. Specific Impact Tests

Competition Assessment

New Buildings

18.1 The policy will impact housebuilders, developers, and the section of the construction industry undertaking works on buildings, along with the supply chains for the construction materials used in those projects.

18.2 As a result of higher standards, builders and installers would be required to comply with the more stringent targets, and could see the cost of construction materials rise as a result of using higher specification products. As the increase in costs will affect all builders in the same way any competitive effects in the market in Wales are likely to be negligible.

- 18.3 The high standards assume some improvement in fabric and services specifications. If fabric energy efficiency had been improved in isolation, this could have given manufacturers of products which impact on fabric performance (insulation, windows) an advantage over those involved in manufacturing and supplying building services (e.g. boilers, lighting). This is not the case, however.
- 18.4 Furthermore, the flexibility in the way that developers can meet the higher performance standards should ensure that no one product or manufacturer can dominate any part of the market.

Housing Supply

- 18.5 This policy is expected to result in increased build cost, which could deter developers from building as many houses as without the changes in the short term.
- 18.6 This is because, in the short term, it may not be possible to pass the additional costs on through house price increase, and/or to reduce the purchase price of the land to take account of the higher construction costs.
- 18.7 This would then have a negative impact in the short term on net additional housing supply.
- 18.8 In particular, it is understood that the sector will not have had a very long lead-in time before this change is introduced. As a result, it is therefore likely that even if developers would have been able to reduce the purchase price of land, this will not be the case for those that have already purchased land in advance to ensure a pipeline developments.
- 18.9 As such, the short-term impact on housing supply viability may be slightly more volatile,
- 18.10 However, in the longer term, it is assumed that the system is sufficiently robust to be able to absorb unanticipated costs in other ways. For example, developers have options to renegotiate their Section 106 or make changes to planning permissions to absorb these costs.
- 18.11 Therefore, in the longer term it is likely that developers will offset higher costs with higher sales prices in areas of high demand.

Innovation

- 18.12 Particularly regarding the Part L changes, which provide for flexibility for builders and installers to choose from a range of building technologies to meet these standards, this should encourage innovation among manufacturers and enable new firms to enter the market.

Small firms impact test

- 18.13 The majority of impacts of the policy should affect all contractors equally, whether large or small.
- 18.14 Small businesses in the housing sector generally comprise of builders, installers, architects, engineers, and other technical specialists.
- 18.15 The impacts of a change in building standards are likely to be most significant for builders as any change in the costs of meeting the standards will affect their cost of business.
- 18.16 For other parties, impacts are most likely to comprise a short term need to understand and revise practices to reflect the new requirements. This is unlikely to be above the level that would be typically expected as part of ongoing professional development, however.

Environmental impact assessment

- 18.17 The main assessment described in this report presents the impact on the environment.

Social impact assessment

- 18.18 The changes to Part F will lead to improvements in indoor air quality, and consequently improvements in occupants' health and well-being.
- 18.19 Improved indoor air quality arises as a result of better air distribution between rooms, improved air flow, and simplification of the guidance, which should deliver greater compliance and reduce the risk of under-ventilation.
- 18.20 There are also potentially beneficial improvements in health and quality of life as a result of increased energy efficiency on thermal comfort.

Rural impact assessment

- 18.21 Assessing rural impacts means determining whether the impacts on rural areas will be different to those for urban areas, and whether there are specific local or regional effects. The policy will have an impact on buildings (both domestic and non-domestic) in rural areas.
- 18.22 The types of buildings in rural and urban areas are similar, although the market for buildings in rural areas is typically smaller than in urban areas.

18.23 The changes are not expected to disproportionately affect smaller businesses. Therefore, no specific rural impacts are identified.

19. Annex A: Scale up metrics

19.1 The following tables set out the number of buildings estimated to be impacted by the proposals in Wales. These are used to scale-up the building level impacts in this assessment:

- New build annual completion projections⁶;
- Number of buildings affected by the transition period.

New build dwellings

19.2 Table 19.1 shows the average number of new dwelling completions per annum between 2016 to 2023.

Table 19.1: Average number of Number of New Dwelling Completions per annum between 2016-23	
	Per annum
Detached	1,936
Semi Detached/End Terrace	1,990
Mid Terrace	700
Flats	1,229
Total Dwellings	5,855
Source: New housebuilding data collection, Welsh Government, NHBC New Homes Statistics Review	

Existing Dwellings

19.3 Table 19.2 shows the average number of existing dwellings per annum estimated to be impacted by the policy proposals, and how these figures were arrived at.

⁶ These projections were prepared by Adroit Economics Ltd. They are intended for the purposes of this assessment only and do not represent house building forecasts by the Welsh Government. These projections were prepared on a similar basis to those prepared by Adroit Economics for the England Part L assessment.

Table 19.2: The average number of existing dwellings per annum estimated to be impacted by the policy proposals, and how these figures were arrived at.

	Per annum
Large dwelling extensions	<p>740 existing dwellings estimated to be impacted</p> <p><u>Assumptions used to estimate the above figure</u></p> <ul style="list-style-type: none"> • total number of extensions estimated are 7,400 p.a. • assume 10% of all dwelling extensions are in scope

New Non-Domestic Buildings

19.4 There are no comprehensive published data available on the number of non-domestic buildings built per annum in Wales. Therefore, the analysis estimates the number based on the following assumptions:

- The floorspace estimates presented in the England FBS Consultation Stage Impact Assessment are taken as the starting point;
- A proportion is then taken as the figure for Wales based on the ratio of existing floorspace in Wales relative to England (published by the Valuation Office⁷) in each of the building typologies;
- The floorspace is then converted into number of buildings by dividing the estimated total floorspace built per annum by the average size of each of the reference buildings presented in Section 4.

19.5 Table 19.3 shows the results.

⁷ [Non-domestic rating: stock of properties including business floorspace, 2023 - GOV.UK](https://www.gov.uk/government/statistics/non-domestic-rating-stock-of-properties-including-business-floorspace-2023)

Table 19.3: Estimated number of new Non-Domestic Buildings built per annum in Wales

	Sqm built p.a. in Wales.	Number of reference buildings built p.a.
Office - Air Conditioned	52,800	24
Office - Naturally Ventilated	33,600	31
Hotel	30,800	28
Health Centre	16,800	8
Primary School	13,000	5
Secondary School	13,000	2
Retail	23,424	19
Medium Warehouse	16,900	14
Large Warehouse	21,760	4
Residential (non-domestic buildings)	49,854	21

20. Annex B: Transition Assumptions

20.1 The transitional arrangements are for a 12-month period between the laying date of the Amendment Regulations (and publication of full technical specification) and the regulations coming into force; followed by a 12-month transitional period.

20.2 The analysis estimates the proportion of building works being built to the new standards based on the transitional arrangements. The same assumptions have been used for both new and existing buildings and domestic and non-domestic buildings.

Table 20.1: Transition Assumptions (% of buildings meeting standards)

	2027	2028	2029	2035	2036
2022 standards	95%	50%	5%		0%	0%
2026 standards	5%	50%	95%		100%	100%

21. Annex C: Unit Cost Assumptions (New Build)

21.1 The costs are developed by AECOM cost consultants who are specialists in their field. The rates are based on their internal cost datasets, recent published cost data, and information provided by suppliers.

21.2 The cost analysis is intended to reflect typical Welsh national costs in 2024 that may be incurred by a medium sized housebuilder or developer using traditional construction methods and with reasonably efficient supply chains, design development, and construction processes.

- 21.3 However, costs incurred by individual organisations will vary according to their procurement strategies, the location of their activity, and the detail of their housing product.
- 21.4 Notwithstanding these variations, the proportional uplifts associated with moving from one specification to another are likely to be similar across different market segments.
- 21.5 To provide context to the cost variations assessed in the study an indicative overall build cost (£ per m²) for each building archetype was estimated. However, it should be noted that the build costs should be taken as indicative only as it is sensitive to a wide range of design and specification variables in addition to the economies of scale and regional variations discussed previously.
- 21.6 Base costs for future years are those for the 2024 price year, and subject to adjustments for learning for technologies that have not yet reached a mature market position. It should be noted that construction costs can vary considerably and rapidly with market conditions, particularly where activity levels result in a change in the availability of skills and materials. In these situations, it is not unusual to see quite large (several percentage points) change in overall costs over a period of months.