December 25

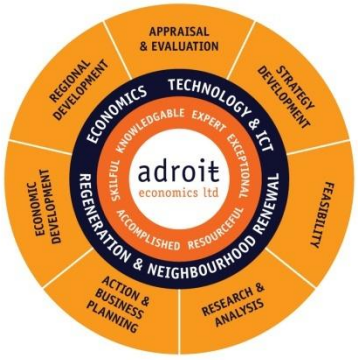
Building Safety Act 2022 Phase 2 - Design and Construction Stage - Impact Assessment - Cost-Benefit Model Report

Prepared by Adroit Economics

For and on behalf of

Welsh Government

Contents



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1. Introduction

1.1 This document sets out the approach, method, assumptions and the results of an assessment of the costs of the proposed policy option for the design and construction stage of the new building safety regime in Wales, which will be provided for in secondary legislation. The assessment is undertaken in an accompanying excel workbook, based on HM Treasury Green Book principles.

1.2 The new building safety regime is intended to improve the safety of building work in Wales, including new high rise residential buildings in Wales, building work in existing high rise residential buildings in Wales and improved oversight of other building work.

1.3 The design and construction phase regime will focus on the construction of new buildings and building works undertaken in existing buildings. Improvements to building safety during the occupation of buildings not undergoing building works is subject to the occupation phase new building safety regime. This analysis is only of the costs and benefits attributed to the Welsh design and construction phase regime (i.e. benefits attributed to the design and construction phase (not the occupation phase)).

1.4 The analysis draws in large part on the methodology, data sources and assumptions used in the analysis for the UK Government's Building Safety Act 2022 (hereinafter referred to as the England analysis). However, this analysis also reflects the different policy in Wales and draws on data reflecting the specific conditions and circumstances in Wales. The analysis builds on the Economic Impact Assessment published alongside the White Paper Safer Buildings in Wales.

1.5 The calculations and assumptions for the analysis are undertaken in an Excel work book, based on HM Treasury Green Book principles and guidance.

2. Executive Summary

2.1 The analysis estimates the cost to the Welsh Government, the local authorities in their role as building control bodies, to the Fire and Rescue authorities in their role as fire safety authorities, and to industry (to clients, principal designers, principal contractors, other designers and contractors) of complying with the range of additional requirements (for buildings in scope), over and above the current situation (the counterfactual), proposed under the policy option assessed in the analysis.

Buildings in scope

2.2 The proposals are about buildings that are being constructed or are undergoing building works.

2.3 Buildings in scope are divided into the following categories:

- Higher Risk Buildings (HRBs) – these are defined as residential buildings of height over 18m (or 7 storeys or more) containing 1 or more residential units; and including hospitals with overnight care, care homes or children's homes;
- Non-High Risk Buildings - other domestic and non-domestic buildings.

Policies considered

2.4 The analysis assesses the costs of one policy option, over and above the counterfactual:

- Option 1: Business as usual (the counterfactual);
- Option 2: New building control regime for higher-risk buildings and dutyholder requirements for other building works.

Types of additional requirements considered

2.5 The additional requirements proposed under the policy options for higher risk buildings include:

- Gateways;
- Dutyholder requirements;
- Residents engagement
- Creation of the golden thread;
- Mandatory reporting;
- Sanctions and enforcement;

- Familiarisation costs.

2.6 The additional requirements proposed under the policy options for non-higher risk buildings include:

- Dutyholder requirements;
- Familiarisation costs.

Types of cost taken into account

2.7 The principal costs of compliance with the proposed policy that are assessed are:

- Additional time (costs) required to undertake tasks, and ;
- Any costs of purchasing goods or services.

2.8 Costs are divided into those that fall on:

- Industry and on;
- The Welsh Government, the local authorities in their role as building control bodies, to the Fire and Rescue authorities in their role as fire safety authorities.

Appraisal period etc

2.9 The following appraisal periods are used in the analysis:

- Costs – a 10 year policy appraisal period is modelled;
- Benefits – a 70 year appraisal period is used, reflecting the life of a building.

Start year and price year

2.10 The analysis uses a start year of 2027 and a price year of 2023[1].

Phase in and transition

2.11 Assume all buildings are in scope from Year 1.

[1] Economic Appraisals do not take account of inflation, hence a price year is selected, on which all prices used in the analysis are based

Three scenarios are calculated

2.12 Three scenarios are calculated, a central estimate, a high and a low, to reflect the level of uncertainty regarding some of the assumptions used in the analysis.

Results

2.13 Table 2.1 shows the total costs of the policy option over 10 years.

Table 2.1: Total 10 Year Costs PV (£million)				
		Low	Mid	high
Higher Risk Buildings - Policy Costs				
Industry	Transition	£0.14m	£0.28m	£0.41m
Regulator	Transition	£0.01m	£0.03m	£0.05m
Industry	Annual	£4.75m	£7.27m	£9.84m
Regulator	Annual	£0.90m	£1.36m	£1.84m
Non-Higher Risk Building - Policy Costs				
Industry	Transition	£5.50m	£6.87m	£8.25m
Industry	Annual	£73.13m	£91.41m	£109.70m
Total Costs		**£84.42m**	**£107.22m**	**£130.08m**

Cost Results – further detail

2.14 The tables below provide future breakdowns of the costs results,

Estimated 10yr PV costs for Proposed Options (£m)

2.15 Table 2.2 and 2.3 show the estimated 10yr PV costs for proposed options for each policy area for Higher Risk Buildings and Non-Higher Risk buildings.

Table 2.2: Estimated 10yr PV costs for Higher Risk Buildings (£m)			
	Low	Mid	High
Gateways	£3.33m	£5.57m	£7.81m
Mandatory Reporting	£0.03m	£0.04m	£0.05m
Dutyholder Requirements	£0.91m	£1.17m	£1.43m

Golden Thread	£0.20m	£0.44m	£0.65m
Sanctions	£0.67m	£0.83m	£1.00m
Residents Engagement	£0.32m	£0.45m	£0.68m
Appeals	£0.02m	£0.04m	£0.08m
Refurbishment	£0.31m	£0.38m	£0.44m
Total	**£5.79m**	**£8.93m**	**£12.14m**

Table 2.3: Estimated 10yr PV costs for Non-Higher Risk Buildings (£m)			
	Low	Mid	High
Dutyholder Requirements and Familiarisation Costs	£78.63m	£98.29m	£117.94m
Total	**£78.63m**	**£98.29m**	**£117.94m**

Table 2.4: Regulator 10 Year Costs PV (£million)			
	Low	Mid	high
Higher Risk Buildings - Regulator			
Building Control Bodies (BCB)	£0.65m	£1.01m	£1.37m
Fire and Rescue Authority (FRA)	£0.19m	£0.30m	£0.40m
Local Planning Authority (EHO)	£0.02m	£0.03m	£0.04m
Environmental Health Officers (EHO)	£0.04m	£0.06m	£0.08m
Welsh Government (WG)	£0.01m	£0.01m	£0.03m
Total	**£0.90m**	**£1.40m**	**£1.92m**

Benefits

2.16 The policy proposals will introduce changes to the design and construction for HRBs and other building works that will result in:

- Stronger oversight of building work;
- Increased duties and clearer accountability for those designing and constructing buildings, and
- Stronger enforcement against non-compliant works.

2.17 The benefits of these changes are expected to include:

- Safer buildings that will reduce the risk of fire spread and structural incidents;
- Reducing the risk of another systemic issue occurring, of a similar magnitude to the defective external cladding issue, thus avoiding the cost of resolving the issue e.g. remediation;
- Encouraging greater oversight of building works will also have benefits for the construction industry and building owners in terms of improved quality of construction.

Monetised benefits - HRBs

2.18 The analysis estimates that 80 higher risk building will be built or refurbished in Wales under the new regime during the 10 year policy period:

- The analysis estimates the value of rework costs that could be avoided as a result of both safety changes and increased oversight during construction of these. Together the proposals are estimated to achieve savings from **avoided rework costs of £1.08m over the 10 year policy period**;
- Also, on the assumption that the policy helps avoid the occurrence of a similar scale systemic building material issue, to that of defective ACM cladding, the cost savings will be substantial. 3% of buildings in England had defective ACM cladding installed. If it is assumed that the policy will reduce the risk of a similar scale defective building material being used in Wales in the future by, for example, 50%, then the avoided remediation costs in Wales would be in the region of **£2.89m.**

Switching Values – Non-HRBs

2.19 The proposed changes for building work on all other building types are expected to result in additional time being spent ensuring compliance with building regulations and the adoption of improved working practices that could help reduce rework, latent defects, intrusive surveys. The research has not found sufficient evidence available to say what proportion of this is attributable to these proposals. Therefore a 'switching value' approach has been used. This approach calculates the value of avoided rework costs that would have to be achieved for the policy to be cost neutral (i.e. for the value of benefits to equal the policy costs).

2.20 Based on the estimated annual value of construction activity used in the analysis (£2.4bn) and the estimated proportion of costs that comprise errors (5% to 21%), the analysis estimates that the policy will need to reduce the total amount of waste and errors on construction projects by between 2.2% and 9.3% for the benefits of the proposals to exceed the costs over a 10 year appraisal period.

Non-monetised benefits

2.21 The proposals covering design and construction complement the proposals introduced to improve safety within occupied buildings. Reducing the risk of fire spread and structural incidents will reduce the impact of these in terms of casualties, property damage and mental health impacts. In addition, the reduced risk will reassure residents and make them feel safer in their homes.

3. Policy Options

3.1 The analysis assesses the costs of the proposed policy option, over and above the counterfactual:

- Option 1: Business as usual (the counterfactual);
- Option 2: Proposed Policy: New building control regime for higher-risk buildings and dutyholder requirements for other building works.

4. Methodology

4.1 In summary, the analysis estimates/calculates the cost (to the regulator and to industry) of complying with the range of additional requirements (for buildings in scope), over and above the current situation (the counterfactual), proposed under the policy option assessed in the analysis, for the design and construction of buildings.

4.2 The additional requirements proposed under the policy options for higher risk buildings include:

- Gateways
- Dutyholder requirements
- Creation of the golden thread;
- Mandatory reporting;
- Residents' engagement;
- Sanctions and enforcement;
- Familiarisation costs.

4.3 The additional requirements proposed under the policy options for non-higher risk buildings include:

- Dutyholder requirements;
- Familiarisation costs.

Sequence of calculations used to estimate the costs of the policy options

4.4 The analysis involves two main steps:

- **Step 1** - Identifying/estimating the additional costs of compliance for typical buildings
- **Step 2** - Multiplying the cost per building by the number of buildings affected (in scope) across Wales over the 10 year policy appraisal period – this provides an estimate of the total cost of each policy option in Wales, over the appraisal period.

Step 1 – sequence of calculations further detail

- Cost of complying with the proposed policy, **per building type,** is calculated through the following two step process:

- = Types of activity required, by industry and by the regulator, to comply with the policy proposals, per building-type, are identified;
- = The cost of each of these activities, per building-type, is calculated based on (i) time involved multiplied by an appropriate hourly rate and (ii) quantification of other specific expenditure.

Step 2 – sequence of calculations further detail

- The aggregated cost of complying with policy for all buildings in scope, across Wales, is then calculated as follows:
  - = The number of buildings in scope is identified;
  - = The aggregated cost of policy is then calculated by multiplying the cost per building by the number of buildings in scope.

Appraisal period etc

4.5 The following appraisal periods are used in the analysis:

- Costs – a 10 year policy appraisal period is modelled;
- Benefits – a 70 year appraisal period is used to reflect the life of a building.

Start year and price year

4.6 The analysis uses a start year of 2027 and a price year of 2023.

Phase in and transition

4.7 The proposed implementation is for the policy to commence in Year 1.

Assumptions

4.8 The analysis rests on a large number of assumptions. The degree of certainty regarding the assumptions varies.

Assumptions' Quality Rating

4.9 Assumptions have been given a rating of 1-3 to reflect the level of evidence supporting the assumption. The scoring is based on the following criteria.

RAG rating	**1**	Quality is high - known verified source
	2	Quality is medium - evidence based assumption

	3	Quality is low - based on clearly stated assumption without direct supporting evidence
		Check has not been performed due to time or resource constraints.

4.10 To take account of the degree of uncertainty regarding some of the assumptions[2], sensitivity analysis has been undertaken, identifying the most sensitive assumptions. Three scenarios are modelled:

- A central estimate – which is based on the most likely value of each assumption;
- And a high and low estimate which is based on a high and low estimate of the costs to undertake the proposed duties for each of the most sensitive assumptions. This analysis indicates that the following percentages were applied to the central estimates to create a high/low estimate;
  - Gateways: +/- 40%[3];
  - Other policy areas: +/- 20%;

4.11 This process provides three results, rather than one, providing a range.

Types of cost taken into account

4.12 The principal costs of compliance with the proposed policies that are assessed are:

- Additional time (costs) required to undertake tasks, and
- Any costs of purchasing goods or services.

4.13 The estimates do not include the cost of undertaking any remediation work that is identified through the investigations.

Costs for Higher Risk Buildings

[2] Gateways represent the highest cost element of the policy. Post Grenfell, both industry and regulator activity has changed to respond to concerns about fire safety. This could remain long term practice but without this policy, it is possible that practice could revert in the longer term.

[3] The greater range for the cost of Gateways reflects the greater degree of uncertainty in the analysis about the costs (as these depend on how the local authorities and fire and rescue service will seek to enforce the regulations) and the degree of uncertainty about trends in the counterfactual)

4.14 The analysis commenced by estimating the costs for the construction of new HRBs. This was relatively straightforward because the majority of the costs had already been identified for the economic analysis of the England Building Safety Act 2022, and it was confirmed that the design of HRBs in Wales are very similar to those in England.

4.15 The analysis has updated assumptions based on discussions with Welsh Government about how the regulatory model will differ in Wales compared to England. The analysis has also been updated to reflect changes to the counterfactual level of activity being undertaken by industry and regulators during the design and construction of buildings over recent years.

Requirements of the policy proposals

4.16 Table 4.1 shows the various requirements of the policy proposal.

Table 4.1: Description of the costed elements of the policy proposal

	Description of the elements costed
Higher Risk Buildings	
Gateways	Planning Gateway 1
	Gateway 2
	Gateway 3
Dutyholder Requirements	Competency checks by Dutyholders
	Building handover to the responsible person
Golden Thread	Creating a digital record for new buildings
	Maintain a common data environment
Mandatory Reporting	Mandatory reporting during design and construction
Sanctions	Sanctions during building works
Residents engagement	Residents engagement during refurbishment works
Refurbishment	Major refurbishments
	Notifiable works
	Competent person schemes
	Non-notifiable works – fire/structural safety
Other Building Works	
Dutyholder requirements	Collecting information to demonstrate compliance with building regulations

Buildings in scope and time cost assumptions - overview

4.17 Table 4.3 sets out details of the common assumptions used across the analysis regarding time costs and building numbers.

Table 4.3: Common assumptions used across the analysis regarding time costs and building numbers

Function	#	Regulator / Industry	Assumption Type	Element	Assumption	Source of information	Existing Regime used as proxy	Narrative explaining the rationale to the overall assumption	Sensitivity analysis/risks with assumption/ volumetric	Impact RAG
General	A001	Both	Resourcing	Working hours per day/year	7.5 hr per day / 220 working days per year	Used typical industry standard	N/A			
General	A002	Both	Industry	Resourcing	Employment on-costs	ASHE	N/A	ASHE is the ONS source for salary costs and is aligned to previous impact assessments. A 20.6% uplift for non-wage employment costs (such as pensions) is based on an RPC opinion (in turn based on the census labour costs)	ASHE is published by ONS and is a reliable source of information about wages and salaries	1
General	A003	Both	Profile	Building Numbers	Estimated number of buildings in scope: 180 HRB (2025)	Welsh Government	N/A	WG has provided the estimate of the number of higher risk buildings		
General	A004	Both	Profile	Planning Applications for new build	150% of new build rate	Adroit; planning statistics, London[4] development database	Planning	Estimate based on a sample of local authority planning application data, and reported approved applications in London		

[4] The analysis draws on both English and London planning data in particular as good data sets are available for these, whereas the equivalent data sets are not available for Wales. The analysis assumes that the ratio of planning applications to build will be similar in cities across UK

General	A005	Both	Profile	New Build Rate	2.3% of stock per annum	Estimate based on recent trends in stock	N/A	Using partial data on the age of the building stock - calculated % of buildings constructed since 2010 and annualised the figure. This has been compared with reports on new construction projects in Wales which supports the estimate	The reliability of information on the characteristic of the stock is limited. The analysis is dependent on the reliability of the age profile of the stock	
General	A006	Both	Profile	Major Refurbishment Rate (major works requiring building control notice)	3% of stock per annum	PRP industry experience	Building Control (Local Authority)	Based on typical frequency of major refurbs - every 33 years		
General	A007	Both	Profile	Proportion of major refurbishments submitting planning applications	35% of major refurbishments	PRP industry experience	Planning/building control	Estimate of proportion of refurbishments that require planning approval - - e.g. façade remediation		

Buildings in scope assumptions – further detail

Reference New build Higher Risk Buildings

4.18 To assess the cost per building, the analysis identifies a small number of 'typical' buildings, which are thought to represent a high proportion of buildings in scope. These typical buildings (building-types) are termed reference buildings in the analysis.

4.19 Table 4.4 shows the reference buildings on which the model is based. These were estimated based on typical floorplates and number of floors for purpose built flats and the ratio of dwellings to buildings for the other buildings (mixed use and conversions).

Table 4.4: New Building Higher Risk Buildings	
Reference building types	Assumption
Higher Risk Buildings	63 flats per building
New Build - Design duration	6 months
New Build - Construction duration	24 months

Time cost assumptions – further detail

Regulator Time Costs

4.20 Regulator time costs have been estimated based on direct employee costs only (no outsourcing is assumed). Hourly rates are based on:

- Hourly rates based on data collated on employment costs and charge out rates in 2019 and inflated to 2023 prices using the HMT GDP deflator;
- Salary plus 20.6% on-costs – salary rates were derived from information provided by HSE and FRS on average pay for different grade levels and ONS data for other occupations;
- The resulting rate was then further adjusted (+65%) to include non-employment costs (such as the cost of travel & IT equipment, administrative support, marketing etc).[5]

4.21 Table 4.5 shows the hourly rates used in the analysis to calculate regulator time costs.

[5] The estimate of non-employment costs is based on analysis provided by MHCLG and HSE

Table 4.5: Hourly rates – Regulator time costs (£)			
Regulator	Occupation	2023 Salary + oncosts	2023 Hourly Rates (+65% for non-employment costs)
Building Control Body	Building Control expert	40.88	67.45
Building Control Body	Fire Engineer	45.39	74.89
Building Control Body	Structural Engineer	45.39	74.89
Building Control Body	Admin	18.76	30.95
Fire Safety Authority	Fire inspection Staff Watch Manager	39.10	64.51
Fire Safety Authority	Fire inspection staff Station Manager	53.71	88.63
Local Planning Authority	Planning Officer	31.14	51.39

4.22 Details of other assumptions used in the model are set out in the various Assumptions 'tabs'.

Industry Time Costs

4.23 All industry time costs are assumed to comprise a blend of direct employment costs and outsourcing costs (50/50) (as was done in the England appraisal):

- Activities undertaken by employees – these are termed direct cost of employee and are based on salary rates plus 20.6% on-costs;
  - = ASHE (annual survey of hours and earning – ONS) has been used as the source of salary data;
  - = The 20.6% on-costs covers additional employment costs such as pensions etc and is based on ONS data.
  - = Regarding direct employment costs - HMT Green Book advises that to assess the economic cost of industry time the correct approach is to value the opportunity cost of the resource (i.e. labour) (para 6.1).
- Activities that are outsourced - buying in support (rather than using employees) for example from a third party, such as a property management company – are costed as follows:
  - = Hourly charge out rates for a range of relevant occupations/ professions have been used - charge out rates already include productivity, overheads and profit.

4.24 Table 4.6 shows the hourly rates used in the analysis to calculate industry time costs. To reflect the varying industry practice of undertaking activities in-house and subcontracting activities, these blended hourly rates are calculated using the average of employment rates and industry charge out rates. The hourly employment rate is calculated using salary rates published in the ONS Annual Survey of Hours and Earnings publication and applying an uplift of 20.6% based on ONS data to allow for non-salary employment costs (e.g. pensions). The charge out rates for each occupation were collated by the consultants from a small sample of firms.

Table 4.6: Hourly rates used to calculate industry time costs

Organisation	Occupation/Role	2023 Hourly Rates (Blended)
Client	PM	£89.07
Client	Architect	£66.33
Principal Designer	PM	£89.07
Principal Designer	Fire Engineer	£63.87
Principal Designer	Building Control expert	£83.15
Principal Designer	Structural engineer	£65.61
Principal Designer	Clerk of Works	£55.07
Principal Contractor	PM	£89.07
Principal Contractor	Contractors	£53.84
Principal Contractor	Site Manager	£55.07
Building Owner	Responsible Person	£89.07
Building Owner	Safety Manager	£66.09
Building Owner	Legal Advice	£89.07
Building Owner	Health and Safety Expert	£66.09
Building Owner	Building Manager	£63.87

5. Sequence of calculations – example – Planning Gateway 1

5.1 This section shows, as an example, the sequence of calculations and types and sources of assumptions used in the model to cost one strand of policy – fire risk assessment. A similar process is used to cost all other elements of policy.

Sequence of calculations

5.2 The following sequence of calculations is used:

- Cost per building type:
  - = Identification of the nature and type of activities that need to be undertaken, per building, to comply with policy;
  - = Identification of the amount of time required, and by whom;
  - = Monetisation of the time required by applying appropriate hourly rates;
  - = Identification of any specific expenditure/costs;
- Scaling up:
  - = Identifying the number of buildings in scope in Wales;
  - = Estimating the number of buildings to which policy is assumed to apply;
  - = Estimating the counterfactual;
  - = Deducting the counterfactual from the buildings in scope;
  - = Multiplying the remainder by the cost per building.

5.3 The following tables show key steps in/ elements of the calculations.

Time required per building – new HRBs

5.4 Table 5.1 shows assumptions regarding the time required for applicants to prepare a Fire Strategy Statement for Planning Gateway 1 and for the fire service and planning authorities to review and comment.

Table 5.1: Time required for Gateway One for a HRB

Activity	Industry/ Regulator	Who	Time cost of other	Mid Estimate	Type of cost
Prepare Fire Strategy Statement					
Time to prepare Fire Strategy Statement	Industry	Client PM	Days	2.5	Time cost
Proportion of fire statements referred to Statutory Consultee following review by LPA			% of cases	100%	
LPA to review and comment on fire statement	Regulator	Regulator planning officer	Days	0.7	Time cost
LPA to notify statutory consultee that HRB planning application received and share fire statement	Regulator	Regulator planning officer	Days	0.1	Time cost
Proportion of applications which require FRS input			% of cases	100%	
FRS to log application	Regulator	Regulator Local FRS Administrator	Days	0.1	Time cost
FRS professional to review and comment	Regulator	Regulator Local FRS Watch Manager	Days	0.2	Time cost
FRS to send report to LPA	Regulator	Regulator Local FRS Administrator	Days	0.1	Time cost
Proportion of fire statements that require site visit by FRS			% of cases	10%	
FRS to visit site	Regulator	Regulator Local FRS Watch Manager	Days	0.4	Time cost
Proportion of fire statements reviewed by FRS that require QA by station manager			% of cases	3%	
FRS QA of Fire Statement Review	Regulator	Regulator Local FRS Station Manager	Days	0.2	Time cost
Fire Safety Strategy To be Revised					
% of fire safety strategy that need to be revised			% of cases	30%	
Revise Fire Strategy Statement					
LPA time to request revised Fire Statement and amendments based on consultation response	Regulator	Regulator planning officer	Days	0.2	Time cost
Time to revise fire strategy statement	Industry	Client PM	Days	0.5	Time cost

LPA time to log revised Fire Statement and to re-consult on revised Fire Statement	Regulator	Regulator planning officer	Days	0.1	Time cost
Fire professional to review revised fire strategy statement	Regulator	Regulator Local FRS Watch Manager	Days	0.5	Time cost
LPA time to assess revised comments	Regulator	Regulator planning officer	Days	0.2	Time cost
Pre commencement conditions applied					
Pre-commencement conditions based on fire safety placed on planning consent			% of cases	50%	
LPA time to draft and inform applicant of fire safety pre-commencement conditions	Regulator	Regulator planning officer	Days	0.2	Time cost
Inform BCB of decision					
FRS to fulfil data collation and reporting requirements for statutory consultees i.e. The duty to respond to consultation	Regulator	Regulator Local FRS Administrator	Days	0.1	Time cost

Allowing for the counterfactual

5.5 Table 5.2 shows the assumptions made regarding the counterfactual. The assumptions are based on the consultants' industry experience.

Table 5.2:Assumptions used to account for the counterfactual – HRBs			
Proportion of Buildings - counterfactual	Low	Mid	High
% of planning applications already including a Fire Statement	0%	0%	0%

Proportion of buildings to which policy is assumed to apply

5.6 Table 5.3 shows the proportion of buildings to which policy is assumed to apply. The proportions are based on the intentions of the current proposed policy.

Table 5.3: Proportion of Buildings to which Policy is assumed to apply (rows 8 and 9 in the tab)			
	Low	Mid	High
% of buildings required to prepare a fire statement	100%	100%	100%

Scaling up

5.7 Table 5.4 shows how the above assumptions are applied to calculate the cost of complying with policy for HRBs across Wales.

5.8 Table 5.4 is divided into three parts:

- Part 1: Calculates the number of HRBs in scope, allowing for the counterfactual:
  - = Column 1 shows the list of activities that need to be undertaken;
  - = Column 3 shows who bears the cost – industry or the regulator;
  - = Column 4 shows whether the cost is a transition cost or an ongoing cost;
  - = Column 5 shows the % of buildings to which this applies;
  - = Column 6 shows the number of buildings to which this applies in the first year of policy;
  - = Column 7 shows the number of buildings to which this applies in the second year of policy…and so on.
- Part 2: Amount of time required multiplied by the number of buildings:
  - = Column 5 shows the cost per building for each activity;
  - = Column 6 shows the total number of hours per role in the first year of policy;
  - = Column 7 shows the total number of hours per role in the second year of policy…and so on.
- Part 3: Cost per building multiplied by number of buildings:
  - = Column 5 shows the cost per building for each activity;
  - = The remaining columns shows the resulting total policy cost for each year of the 10 year appraisal period.

Table 5.4:Extract from the scaling up calculation for Planning Gateway 1										
Col 1	2	3	4	5	6	7	8			
Activity/Organisation	Role	Industry/ Regulator	Annual/ Transition		Yr 1	Yr 2	Yr 3	……	Yr 9	Yr 10

Number of projects at Gateway Stage				% of new build projects						
Number of projects	Number of planning applications as a proportion of building control applications p.a.			150%	6	7	7		8	8
Hours per role				Average hours per building						
Client	Client PM	Industry	Annual	19.9	129	132	135		155	159
FRS	Regulator Local FRS Administrator	Regulator	Annual	2.3	15	15	15		18	18
FRS	Regulator Local FRS Station Manager	Regulator	Annual	0.05	0.3	0.3	0.3		0.4	0.4
FRS	Regulator Local FRS Watch Manager	Regulator	Annual	8.2	53	54	56		64	65
Local Planning Authority	Regulator planning officer	Regulator	Annual	7.6	50	51	52		59	61
Time Costs per role				Hourly rate						
Client	Client PM	Industry	Annual	£ 89.07	11,505	11,769	12,040		13,800	14,118
FRS	Regulator Local FRS Administrator	Regulator	Annual	£ 30.95	453	463	474		543	555
FRS	Regulator Local FRS Station Manager	Regulator	Annual	£ 88.63	26	27	27		31	32
FRS	Regulator Local FRS Watch Manager	Regulator	Annual	£ 64.51	3,428	3,506	3,587		4,111	4,206
Local Planning Authority	Regulator planning officer	Regulator	Annual	£ 51.39	2,546	2,605	2,665		3,054	3,125
Gateway 1	Total	Industry			11,505	11,769	12,040		13,800	14,118
Gateway 1	Total	Regulator			6,453	6,601	6,753		7,740	7,918
Gateway 1	Total	Total			17,957	18,370	18,793		21,540	22,036

6. Results

6.1 This section summarises the estimated monetised and non-monetised costs and benefits of the proposed policy changes.

6.2 The analysis splits the costs between 'industry', which includes building developers, designers, installers and building owners and 'regulators' which includes local planning authorities, building control bodies and the fire service.

6.3 The analysis also splits costs between 'transition costs', which includes the costs of familiarisation with the proposals, recruitment and training to undertake new functions, and 'annual costs' which include the on-going costs of industry complying with the proposed policy changes and regulators enforcing the additional requirements.

Costs

Estimated 10yr PV costs for Proposed Options (£m)

6.4 Table 6.1 shows the estimated 10yr present value additional costs for the proposed changes including a low and high estimate of costs. The mid estimate monetised policy costs are £107.22m over 10 years (low: £84.42m; high estimate: £130.08m). The analysis estimates that the majority of costs will be annual ongoing costs incurred by industry.

6.5 The total annual costs estimated for non-higher risk buildings is greater than for higher risk buildings because of the difference in number of buildings impacted. Each year the analysis estimates that there will be 4 or 5 new HRB buildings per annum compared with over 6,000 new non-HRB buildings per annum.

Table 6.1: Total 10 Year Costs PV (£million)

		Low	Mid	high
Higher Risk Buildings - Policy Costs				
Industry	Transition	£0.14m	£0.28m	£0.41m
Regulator	Transition	£0.01m	£0.03m	£0.05m
Industry	Annual	£4.75m	£7.27m	£9.84m
Regulator	Annual	£0.90m	£1.36m	£1.84m
Non-Higher Risk Building - Policy Costs				
Industry	Transition	£5.50m	£6.87m	£8.25m
Industry	Annual	£73.13m	£91.41m	£109.70m
Total Costs		**£84.42m**	**£107.22m**	**£130.08m**

6.6 The monetised costs in Table 6.1 include an estimated cost of extending the typical design and construction period for a new build HRB by 4 weeks compared to the counterfactual, to accommodate the proposed policy changes. The analysis assumes that additional time will be required for building designs to be completed prior to building work commencing compared with the counterfactual where some design work is undertaken during the construction phase. The monetised estimate assumes that the transitional arrangements allow for the new requirements to be implemented without the changes resulting in additional delays at key decision points.

Non-Monetised Costs

6.7 However, in the short term, if the policy's introduction proves more difficult, there may be additional costs that have not been assessed in this analysis. For example, these might include:

- Greater delays to projects if it proves more difficult for industry and regulators to become familiar with the new requirements;
- Greater delays projects, if the Gateway process further impacts project delivery timelines and/or results in legal challenges or contractual implications.

Estimated 10yr PV costs for Proposed Options by detailed policy area (£m)

High Risk Buildings – policy costs

6.8 Tables 6.2 and 6.3 show the estimated 10yr PV costs for the proposed options for Higher Risk Buildings.

6.9 Table 6.2 shows the costs broken down by ***Policy Component***:

- The table shows that the mid estimate cost for the proposed changes for higher risk buildings is £8.93m over 10 years (low estimate: £5.79m; high estimate £12.14m);
- The analysis estimates that the majority of the additional costs (£5.57m) will be incurred as a result of the changes to the building design and approval process for higher risk buildings through the Gateway approval process.

Table 6.2: Estimated 10yr PV costs for Higher Risk Buildings (£m)

	Low	Mid	high
Gateways	£3.33m	£5.57m	£7.81m
Mandatory Reporting	£0.03m	£0.04m	£0.05m
Dutyholder requirements	£0.91m	£1.17m	£1.43m
Golden Thread	£0.20m	£0.44m	£0.65m
Sanctions	£0.67m	£0.83m	£1.00m
Residents Voice	£0.32m	£0.45m	£0.68m

Appeals	£0.02m	£0.04m	£0.08m
Refurbishment	£0.31m	£0.38m	£0.44m
Total	**£5.79m**	**£8.93m**	**£12.14m**

6.10 Table 6.3 shows policy costs broken down by ***policy component and organisation***:

- The table shows that the majority of additional costs will be incurred by industry (mid estimate £7.51m) and building control bodies (mid estimate £1.01m) for higher risk buildings.

Table 6.3: Mid Estimate 10 Year PV Costs for Higher Risk Buildings (£m) – by organisation

	Industry	Building Control Bodies (BCB)	Fire and Rescue Authority (FRA)	Local Planning Authority (LPA)	Environmental Health Officers (EHO)	Welsh Government (WG)
Gateways	£4.52	£0.80	£0.16	£0.03	£0.00	£0.00
Mandatory Reporting	£0.01	£0.03	£0.00	£0.00	£0.00	£0.00
Dutyholder requirements	£1.07	£0.02	£0.00	£0.00	£0.00	£0.00
Golden Thread	£0.37	£0.00	£0.00	£0.00	£0.00	£0.00
Sanctions	£0.61	£0.09	£0.10	£0.00	£0.03	£0.00
Residents Voice	£0.36	£0.00	£0.00	£0.00	£0.02	£0.00
Appeals	£0.02	£0.00	£0.00	£0.00	£0.00	£0.01
Refurbishment	£0.30	£0.07	£0.00	£0.00	£0.00	£0.00
Familiarisation and recruitment	£0.25	£0.00	£0.04	£0.00	£0.01	£0.00
Total	**£7.51**	**£1.01**	**£0.30**	**£0.03**	**£0.06**	**£0.01**

Non High Risk Buildings – policy costs

6.11 Tables 6.4 shows the estimated 10yr PV costs for the proposed options for **non-higher risk buildings** (mid estimate £98.29m).

6.12 The analysis estimates that the most significant costs will be incurred by principal designers to collate the additional information required to demonstrate compliance (mid estimate: £65.23m) and principal contractors to determine how to demonstrate compliance (mid estimate: £13.05m) with the building regulations.

Table 6.4: Estimated 10yr PV costs for **non-Higher Risk Buildings** (£m)

	Low	Mid	high
Familiarisation with new requirements	£5.50m	£6.87m	£8.25m

All firms - amend processes, scope of services and contracts	£1.13m	£1.41m	£1.69m
Principal Designers – collate additional compliance information	£52.19m	£65.23m	£78.28m
Designers - provide information to Principal Designer	£3.89m	£4.86m	£5.83m
Principal Contractors – determine how to demonstrate compliance for projects	£10.44m	£13.05m	£15.66m
Contractors - provide information to the Principal Contractor	£1.58m	£1.97m	£2.37m
Client – competency checks	£3.91m	£4.89m	£5.87m
Total	**£78.63m**	**£98.29m**	**£117.94m**

Policy Costs broken down by building type

6.13 Table 6.4 shows the estimated Additional Policy Cost per Building and per dwelling. The analysis suggests that the proposed policy will add costs to a new build higher-risk building of £143,000 per building, or an average of £2,300 per flat. For non-higher risk buildings, the additional policy costs are estimated at £500 per dwelling. The majority of the additional costs are expected to be incurred by developers and housebuilders. The costs are unlikely to get passed directly onto home buyers because house prices are typically set relative to prices in the local market.

Table 6.4: Average Additional Policy Cost per Building and per dwelling

	Estimated additional cost per development	Estimated additional cost per dwelling
HRB (63 dwellings) - new build	£143,200	£2,300
HRB (63 dwellings) - refurbishment	£28,400	£500
Non-HRB Residential development (20 dwellings) - new build	£9,200	£500
Non-domestic buildings (offices, retail, hotels etc) – new build	£5,800	n/a

Benefits

6.14 The policy proposals will introduce changes to the design and construction for HRBs and other building works that will result in:

- Stronger oversight of building work;
- Increased duties and clearer accountability for those designing and constructing buildings, and
- Stronger enforcement against non-compliant works.

6.15 The benefits of these changes are expected to include:

- Safer buildings that will reduce the risk of fire spread and structural incidents;

- Reducing the risk of another systemic issue occurring, of a similar magnitude to the defective external cladding issue, thus avoiding the cost of resolving the issue e.g. remediation;
- Encouraging greater oversight of building works will also have benefits for the construction industry and building owners in terms of improved quality of construction.

Reducing the risk of fire spread and structural incidents

6.16 The proposals covering design and construction complement the proposals introduced to improve safety within occupied buildings. Reducing the risk of fire spread and structural incidents will reduce the impact of these in terms of casualties, property damage and mental health impacts. In addition, the reduced risk will reassure residents and make them feel safer in their homes.

Reducing the cost of resolving future systemic issues

6.17 The proposals will reduce the likelihood of defective and dangerous materials being installed systematically across buildings in Wales in the future which will avoid the costs of the remediation of these and the associated disruption. The current building remediation programme in Wales has been required because the cladding that was installed on multiple buildings was defective and presents a risk to residents. The reasons why defective cladding was installed are multifaceted but could have been prevented by stronger oversight during the design and work to install the cladding. The cladding remediation costs are substantial:

- There are over 450 buildings in Wales that have been identified as having a safety risk and needing to be remediated at a cost of over £200m;
- For a typical HRB, the average cost of remediating 3,000sqm of cladding is estimated at £4.5m per building[6].

6.18 The policy will help prevent future systemic issues occurring.

Indirect benefits to the construction industry

6.19 Encouraging building safety to be considered earlier and more fully in the design process is also expected to reduce the amount of redesign work that will need to be undertaken further on in the build programme.

6.20 The increase in information collection and sharing will mean that building owners will have much more information about what is installed in their building which will reduce the requirement for future intrusive surveys. The large number of costly and disruptive intrusive surveys currently being undertaken is partly a result of the lack of information about what products and materials were used in the construction of the building.

6.21 The increased level of oversight and checking that will be undertaken during the design and construction of a building is expected to result in cost savings through reducing the number of defects that occur during and at the end of the construction process. Research has identified that typically between 5 and 21% of the cost

[6] Cladding remediation unit costs: analysis of high-rise non-ACM buildings - GOV.UK

of current building work because of having to correct errors. This includes costs incurred redoing works that were not installed correctly and also costs of addressing latent construction defects that are only identified during occupation[7]. The increased checking related to safety is expected to help reduce the amount of defective work undertaken.

Monetised benefits - HRBs

6.22 The analysis estimates that 80 higher risk building will be built or refurbished in Wales under the new regime during the 10 year policy period:

- The analysis estimates the value of rework costs that could be avoided as a result of both safety changes and increased oversight during construction of these. Together the proposals are estimated to achieve savings from **avoided rework costs of £1.08m over the 10 year policy period**;
- Also, on the assumption that the policy helps avoid the occurrence of a similar scale systemic building material issue, to that of defective ACM cladding, the cost savings will be substantial. 3% of buildings in England had defective ACM cladding installed. If it is assumed that the policy will reduce the risk of a similar scale defective building material being used in Wales in the future by, for example, 50%, then the avoided remediation costs in Wales would be in the region of **£2.89m.**

HRBs - Non-monetised benefits

6.23 The objective of the proposals, alongside other measures, is to ensure that another catastrophic disaster similar to the Grenfell Tower fire, never happens again. The full loss/cost of the Grenfell Tower fire is estimated to be over £1 billion. In addition, there are also the wider costs to society in the aftermath of the fire in terms of increased anxiety associated with a risk of it happening again. The anxiety applies to all high rise residents, it is constant and will affect different people in different ways. These proposals in combination with other building safety measures help to reduce the level of concern/anxiety, making the lives of thousands of residents considerably better. The recent Hong Kong disaster, although different in nature and with different causes, only serves to heighten the level of concern/anxiety of high rise residents across the work. For residents in Wales, to know that a range of measures are in place that will prevent such an similar scale tragedy happening to them, is of very major value, which although difficult to formally monetise, is never the less very significant.

6.24 There are several reasons why it is difficult to attribute all the benefits of avoiding another similar incident to these proposals:

- The typical appraisal approach to estimating benefits of this nature is to calculate the frequency at which incidents occur without an intervention and estimate the reduction in the scale or frequency of an incident as a result of the proposals. However, we do not know the likelihood of an incident of the scale of Grenfell happening again without intervention. Applying assumptions previously made about frequency[8] to the £1 billion cost suggests an annual value of the risk of

[7] Home | Get It Right Initiative

[8] Because Grenfell is the only incidents of this scale to occur in the UK it is difficult to estimate the likelihood of another similar incident occurring. One approach has been to assume that this frequency represents the likely risk of the incident happening again without intervention. Analysis undertaken for the occupation phase assessment suggests that this risk could range from a

£2,000 – £27,000 per building per annum. Hence the likelihood of a similar incident occurring in the policy appraisal period is small, meaning that only a proportion of the benefit of avoiding such an incident can be taken into account in the benefit analysis. Such is the nature of probability methodology. But, even though the probability of a similar event happing in the policy appraisal period is small, it could do, and if it did happen because of the absence of these proposals and other measures, then all of the £1 billion would have been avoided. But, formal evaluation methodology only permits the assessment to take account of a fraction of this, as explained above

- Secondly, evaluation methodology requires that a high proportion of the value of any future avoided losses from preventing a major incident occurring, if it did occur within the policy appraisal period, will be attributed to the range of other building safety measures that have been introduced in addition to those related to these proposals (namely the ***design and construction phase*** proposals). These other measures apply to the ***occupation phase of the building*** (rather than to the construction phase) and include for example preparation of safety cases, changed FRS evacuation policy, interim measures such as waking watch and removal of flammable cladding. Together, these measures will play a significant part in preventing a future event happing and hence evaluation methodology requires that a signification proportion of the value of a future avoided loss is attributed to these occupation phase measures. This does not make the construction phase measures in this proposal any less important, but in strict accounting terms, the benefits are shared out across all measures.

- And, as just noted, all of these measures will significantly reduce the level of fear of residents, resulting in significant improved wellbeing (irrespective of whether a fire happens in their building or not). But, at this point, it has not been possible to put a specific value on this as it has not been possible to obtain a sufficiently accurate estimate regarding the extent to which people value feeling safer in their own homes as a result of the proposed changes to the design and construction phase.

Non HRBs – (all building work on residential and commercial buildings) – non monetized benefits

6.25 The proposed changes for building work on all other building types are expected to result in additional time being spent ensuring compliance with building regulations and the adoption of improved working practices that could help reduce rework, latent defects, intrusive surveys —both during construction and in occupation phases. For example:

- Clients spending more time checking the competency of the team that are appointed to do design and construction works, and

- Designers and contractors spending more time checking and collating evidence that the design and works will be compliant with building regulations.

6.26 The additional time spent checking and compiling evidence of compliance with building regulations is expected to identify and rectify instances of non-compliance in designs and plans prior to the work commencing. This is expected to prevent non-compliant works from being undertaken, which may result either in the work having to be redone if identified during construction or remedial work undertaken to repair defects at a later date once the building is occupied. As a result, the

1 in 40 year incident (the period during which the majority of HRBs have been occupied) to a 1 in 3 year incident (based on a Poisson distribution analysis). Across England and Wales (c. 12,500 HRBs), the average risk of an incident based on these assumptions is estimated at between 2.0 $x10^{-6}$ and 3.8 x 10^{-4} per building per annum.

analysis expects that the level of rework required to rectify non-compliant building work will be reduced. In addition, the analysis anticipates that designers and contractors will be more competent and also less likely to use lower quality products in case these result in non-compliance, and that the overall quality of construction work will increase (e.g. fewer problems with inadequate insulation or poor window installation).

6.27 There is research that enables the analysis to calculate the total value if all errors/reworking could be avoided. The research estimates that the proportion of construction costs related to errors ranges from 5% (the amount of cost that is recorded by contractors) to 21% (estimated to include indirect costs, unrecorded costs and latent defects) [9] – but – there isn't sufficient evidence available to say what proportion of this is attributable to these proposals.

Switching values

6.28 Therefore a 'switching value' approach has been used. This approach calculates the value of avoided rework costs that would have to be achieved for the policy to be cost neutral (i.e. for the value of benefits to equal the policy costs).

6.29 Based on the estimated annual value of construction activity used in the analysis (£2.4bn) and the estimated proportion of costs that comprise errors (5% to 21%), the analysis estimates that the policy will need to reduce the total amount of waste and errors on construction projects by between 2.2% and 9.3% for the benefits of the proposals to exceed the costs over a 10 year appraisal period.

- The analysis has calculated an indicative value of avoided error that will need to be achieved. Assuming that 20% of project will achieve a reduction in errors, the average value of avoided costs per project would need to be £7,400, equivalent to 3.6% of the cost of a typical dwelling[10].

[9] Research Report | Get It Right Initiative

[10] The cost of a typical new build dwelling is estimated to be £205,000.

7. Annex A: Planning Gateway 1

The requirement

7.1 The Gateway 1 requirement for a Fire Statement to be submitted at planning stage.

Assumed activities

- Clients to prepare a Fire Statement
- Fire service and local planning authority to review the fire statement

7.2 Table 7.1 sets out details of the common assumptions used to cost the activities required to comply with Fire Safety Position requirement:

Table 7.1: Common assumptions used to cost the activities required to comply with the Gateway 1 requirements

Function	#	Regulator/ Industry	Assumption Type	Element	Assumption	Source of information	Existing Regime used as proxy	Narrative explaining the rationale to the overall assumption	RAG
Gateway 1	A009	Regulator	Resourcing	Time per application	Total Time required per new building application: **12 hours**	PRP experience of working with building control bodies	Building Control (Local Authority)		
Gateway 1	A010	Regulator	Resourcing	Split between different regulators	LPA - 5hr BCB - 5hr FRA - 2hr	PRP / Home Office / NFCC	Planning	Average hours per regulator based on tasks assumed by consultants/home office to undertake role	

Gateway 1	A011	Regulator	Resourcing	Permitted Developments	Office conversions and permitted developments required to proceed through Gateway 1 will require 100% of the time (and cost) of a new build	Consultant / planning statistics	Planning	Consultant judgement about time; planning statistics and new development statistics used to estimate volume	
Gateway 1	A012	Regulator	Resourcing	Refurbishment timings	Refurbishments required to proceed through Gateway 1 will require 25% of the time (and costs) of a new build.	Consultants' judgement	Building Control (Local Authority)		
Gateway 1	A013	Industry	Resourcing	Time to prepare fire statement	0% counterfactual – projects already voluntarily producing fire statements 2.5 days (19 hours) 0.5 days (4 hours) to revise fire statement (30% of applications will require this)	PRP Industry Experience and Home office Estimate based on experience of working with Building Control, and the specification of the fire statement	Building Control (Local Authority)	Cost to produce fire statement at planning stage will involve producing information that is currently typically produced later in the process of preparing building control application. Therefore the cost of preparing this information is reasonably well know from current experience.	
Gateway 1	A014	Industry	Resourcing	Activities	Fire Engineer to produce fire statement	Policy requirement	Building Control (Local Authority)		

Gateway 1	A015	Industry	Resourcing	Split between occupations	Fire Engineer: Proportion of time: 100%	See A014	Building Control (Local Authority)		
Gateway 1	A016	Industry	Resourcing	Permitted Developments	Office conversions and permitted developments required to proceed through Gateway 1 will require 100% of the time (and cost) of a new build	See A011	Building Control (Local Authority)		
Gateway 1	A017	Industry	Resourcing	Refurbishment timings	Refurbishments required to proceed through Gateway 1 will require 25% of the time (and costs) of a new build.	See A012	Building Control (Local Authority)		

8. Annex B: Gateway 2

The requirement

8.1 To submit a Gateway 2 application before building commencement

Buildings in scope

8.2 Only applies to High Risk Buildings

Assumed activities

8.3 Table 8.1 sets out details of the common assumptions used to cost activities required to comply with the Gateway 2 requirement.

Table 8.1: Common assumptions used to cost the activities required to comply with the Gateway 2 requirements

Function	#	Regulator/ Industry	Assumption Type	Element	Assumption	Source of information	Existing Regime used as proxy	Narrative explaining the rationale to the overall assumption	RAG
Gateway 1-2 pre-application meeting	A018	Both	Profile	Delivery Volumes	New Build estimated at 2.3% of total stock per annum 100% of new buildings assumed to request meeting 0% of refurbishments assumed to request meeting	See A005 for volume; PRP industry experience	Building Control (Local Authority)	PRP experience of working with building control for % of projects requesting meetings	
Gateway 1-2 pre-application meeting	A019	Both	Resourcing	Attendance at meeting	Industry 2 days for Principal designer to attend meeting, correspond and assemble submission Regulator 1.6 days to log application and contact FRS	PRP experience of working with building control bodies and similar meetings ; estimate of time for BCB to log application and inform FRS	Building Control (Local Authority)		

					2 days to attend, correspond and prepare feedback of pre-meetings split between regulators				
Gateway 2	A022	Both	Profile	Delivery volumes	New Build estimated at 2.3% of total stock per annum Refurbishments estimated at 3% of stock per annum Refurbishments that are regarded as "major" and need to go through Gateways: Assumed as 35% of all refurbishments per annum.	See A009; A010; A011	Building Control (Local Authority)		
Gateway 2	A023	Both	Profile	Duration of design and build	Design duration: 6 months Build duration: 24 months Total design and build duration: 30 months	PRP experience of typical HRB design and construction projects	Building Control (Local Authority)		
Gateway 2	A024	Regulator	Resourcing	Time per application	Total additional time for regulator per new building: 293 hrs	See A027	Building Control (Local Authority)		
Gateway 2	A025	Regulator	Resourcing	Time per application - refurbishment	Total additional time for regulator per refurbishment: 25% of new build time for checking full plans submissions 10% of new build time reviewing safety changes and checks during construction Total additional time for regulator per refurbishment: 40hr	PRP estimate based on experience of difference between new build and refurbishment projects	Building Control (Local Authority)		
Gateway 2	A026	Regulator	Resourcing		Counterfactual time for local BC officer per new building: 346hr	New build based on estimates of time			

				Counterfactual building control time	Counterfactual time for local BC officer per refurbishment: 104hr	provided by Building Control Officers in England and Wales	Building Control (Local Authority)		
Gateway 2	A027	Regulator	Resourcing	Additional Regulator Activities – new building	Review additional elements of full planning application and prepare report for BCB officer: 28 hr Site inspections and audits during construction: Total 265 hr 19 additional / extended visits by building control officer (0.5 days per visit including report) 6 additional /extended visits by building control officer (1 day per visit including report); 13 additional /extended visits by specialist engineers (1 day per visit including report) Safety change notices – 8 safety changes, 5.8hr per notice - total of: 46hr	PRP estimated time - input from former building control officers and discussion with 3 local authorities in Wales	Building Control (Local Authority)	Based on consultants estimate of frequency of site visits to meet new requirements/number of different elements of building/stages of project that should ideally be inspected; knowledge of counterfactual activities; and estimate of number of safety changes	
Gateway 2	A030	Regulator	Resourcing	Gateway 2 – 3 (Refurbishments) Site Inspections & major safety changes	Time and costs assessed as necessary for site inspections and major safety changes between Gateway 2 & 3: 10% of the time of a new build.	PRP estimate based on experience of difference between new build and refurbishment projects	Building Control (Local Authority)		
Gateway 2	A031	Both	Profile	Delivery volumes	New Build estimated at 2.3% of total stock per annum Refurbishments estimated at 3% of stock per annum	See A009; A010; A011			

					Refurbishments that are regarded as "major" and need to go through Gateways: Assumed as 35% of all refurbishments per annum.				
Gateway 2	A032	Both	Profile	Duration of design and build	Design duration: 6 months Build duration: 24 months Total design and build duration: 30 months	see A023			
Gateway 2	A033	Industry	Resourcing	Time per application	Total additional industry time per application 1,070 hours (143 days)	see A035			
Gateway 2	A034	Industry	Resourcing	Time per application - refurbishment	Total additional time for industry per refurbishment: 138 hours (19 days) (25% of new build – application 10% of new build – safety changes and site inspections)	see A025			
Gateway 2	A035	Industry	Resourcing	Additional Activities – new building – key assumptions	Preparing Gateway 2 application – 2.5 days Review of full plans (all parts of building regs) – 15 days Produce Fire and emergency plan - 10 days Change Control Plan – 1 days construction control plan - 1 day mandatory reporting plan - 0.5 day 1 day additional site visit per week by PD/Contractor site inspector (on top of 2.5 days counterfactual) - 104 days	PRP experience based on current practice and specification of policy requirements	Building Control (Local Authority)	Two types of assumptions are made - firstly estimating the time it takes to undertake tasks - such as prepare / review additional documents; secondly assumptions about additional site visits and reviews based on estimate of how industry will react to additional	

					Safety change notices – 8 safety changes, 10.5hr per notice - total of: 84hr (11 days)			dutyholder liability to ensure work is compliant	
Gateway 2	A036	Industry	Resourcing	Split between different occupations		N/a			

9. Annex C: Gateway 3

The requirement

9.1 The requirement to complete the Gateway 3 process before occupation.

Buildings in scope

9.2 High Risk Buildings

Assumed activities

9.3 Table 9.1 sets out details of the common assumptions used to cost activities required to comply with the Gateway 3 requirement.

Table 9.1: Common assumptions used to cost the activities required to comply with the Gateway 3 requirements

Function	#	Regulator/ Industry	Assumption Type	Element	Assumption	Source of information	Existing Regime used as proxy	Narrative explaining the rationale to the overall assumption	RAG
Gateway 3	A038	Regulator	Resourcing	Time per application	Total additional time for regulator per new building: 52 hours	see A039			
Gateway 3	A039	Regulator	Resourcing	Activities (new build)	Apartment inspections – 23 hrs Golden thread review – 8 hrs Full building handover inspection – 15 hrs Fire and emergency plan review – 4 hrs	PRP experience (including input from former building control officers)	Building Control (Local Authority)		
Registration		Regulator	Resourcing		registration checks, reviews and Gateway 3 approval certificate issued – 5 hrs				

Gateway 3	A040	Regulator	Resourcing			N/a	Building Control (Local Authority)		
Gateway 3	A043	Industry	Resourcing	Time per application	Total additional time for developer per new building: 319 hours (43 days)	see A045	Based on direct experience of former building control inspectors that work within the practice; also direct experience based on numerous multi occupancy design and construction projects		
Gateway 3	A044	Industry	Resourcing	Time per application	Total additional time for regulator per refurbishment: 0 hrs	PRP experience	Building Control (Local Authority)		
Gateway 3	A045	Industry	Resourcing	Activities	Completion certificates – 1 per flat @ 3hrs each = 27 days Completion certificates for communal areas – 5 per development @ 5hrs each = 3 days Preparing change control log – 2 days Adding enhanced information to as built plans – 3 days	PRP experience	Building Control (Local Authority)	Similar to A035 - assumptions made about time to complete certificates etc based on experience of similar activities under counterfactual - number of additional certificates based on interpretation	

								of policy requirement	

10. Annex D: Refurbishment (HRB)

The requirement

10.1 To ensure oversight of refurbishment works in HRB that are not required to go through the Gateway Process

Buildings in scope

10.2 Applies to notifiable works in HRB

Assumed activities

- Notifiable works to be recorded by building manager and additional inspections by building control body.

10.3 Table 10.1 sets out details of the common assumptions used to cost activities required to comply with the Refurbishment requirement.

Table 10.1: Common assumptions used to cost the activities required to comply with the other refurbishment requirements in HRB

Function	#	Regulator/ Industry	Assumption Type	Element	Assumption	Source of information	Existing Regime used as proxy	Narrative explaining the rationale to the overall assumption	RAG
Refurbishment	A047	Both	Volumes	Major Refurbishments: Notifiable work - delivery profile	Total Refurbishments: 3% of annual stock Refurbishments classified as notifiable work (but not required to go through Gateways): 65% of total refurbishments	see A006 and A007			
Refurbishment	A048	Regulator	Resourcing - Regulator	Major Refurbishment: notifiable work – regulator requirements	10% of notifiable works involve a site visit by building control officer of 19hr (2.5 days)	PRP experience	Building Control (Local Authority)	Estimated based on proportion of works that are likely to be significant works - wide range of notifiable works	
Refurbishment	A049	Regulator	Volumes	Refurbishments:	Assume 2% of buildings p.a. undertake notifiable works that do	Estimate assumes that buildings have a major refurbishment every			

					not go through a process similar to Gateways	30 years and 35% will go through a Gateway process			
				Competent persons scheme: delivery profile	Refurbishments which are subject to competent persons scheme: 8.5 per building of existing stock per annum	Estimate based on analysis of competent person scheme notification	Competent Person Schemes		
Refurbishment	A050	Regulator	Resourcing	Refurbishments:	The regulator time requirements for all notifiable works is estimated at 13.5 hours to log the notification, prepare a report and make a decision. Also assume 10% of works also involve additional inspections at 2.5 days for each works.	PRP experience	Building Control (Local Authority)		
				Competent persons scheme – Regulator Resourcing requirements	BCB time to log notification: 0.1 hours				
Refurbishment	A051	Industry	Resourcing - Industry	Refurbishment: notifiable work – Industry requirements	Building Safety Manager: Required to submit information to the BCB	PRP Experience	Building Control (Local Authority)		
					Time assumed: 0.5 hours per refurbishment (notifiable works)				
Refurbishment	A052	Industry	Resourcing	Refurbishments:	The industry time requirements for all competent scheme refurbishments (irrespective of whether or not they require formal oversight) is 0.5hrs to submit information to the BCB	PRP Experience	Building Control (Local Authority)		
				Competent persons scheme: Industry and Regulator requirements	Contractor time to submit information to the Building control body and building manager: 0.25 hours				

11. Annex E: Residents Engagement

The requirement

11.1 To engage with residents before, during and after major refurbishment works

Buildings in scope

11.2 Applies to major refurbishment works in HRB

Assumed activities

- Undertake engagement with residents.

11.3 Table 11.1 sets out details of the common assumptions used to cost activities required to comply with the residents' engagement requirements.

Table 11.1: Common assumptions used to cost the activities required to comply with the other refurbishment requirements in HRB

Function	#	Regulator/ Industry	Assumption Type	Element	Assumption	Source of information	Existing Regime used as proxy	Narrative explaining the rationale to the overall assumption	RAG
Residents Engagement	A108	Industry	Resourcing	Additional engagement time during refurbishment	10 days per building	as A099			
Residents Engagement	A109	Regulator	resourcing	Responding to complaints about refurbishment works	1 day per building	as A099			

12. Annex F: Sanctions

The requirement

12.1 Regulators to undertake more enforcement activity to ensure compliance with the policy requirements.

Buildings in scope

12.2 Applies to HRB.

Assumed activities

- Undertake engagement with residents.

12.3 Table 12.1 sets out details of the common assumptions used to cost activities related to enforcement and sanctions activity.

Table 12.1: Common assumptions used to cost the activities under enforcement and sanctions activity

Function	#	Regulator/ Industry	Assumption Type	Element	Assumption	Source of information	Existing Regime used as proxy	Narrative explaining the rationale to the overall assumption	RAG
Sanctions	A112	Both	Profile	Proportion of buildings where issues of non-compliance identified	Proportion of building sites where issues of non-compliance raised (yr 1) New Build High Risk 15% Medium 30% Minor 60% Refurb - major High Risk 15% Medium 23% Minor 30% Refurb - medium High Risk 6%	Consultants' judgement		Estimates of proportion of refurbishment works that have issues of non-compliance identified based on consultants' project experience	

					Medium 30% Minor 60% Refurb - minor High Risk 3% Medium 30% Minor 60%				
Sanctions	A113	Both	Resourcing		Escalation process and rates for a "steady state year" Incident = Informal notice Major incident 80% Medium incident 70% Minor incident 60% Informal notice = formal notice Major incident 100% Medium incident 10% Minor incident 5% Formal notice = legal proceedings Major incident 5% Medium incident 2% Minor incident 0% Legal proceedings = prosecution Major incident 5% Medium incident 0% Minor incident 0%	Consultants' judgement based on review of FRS audits	FRS RRO audits		
Sanctions	A114	Both	Profile		Weighting of number of incidents identified per annum	Consultants' judgement	Weighting outlines the number of issues	Weighting reflects assumption that	REG

					Yr 1 – 300% Yr 2 – 275% Yr 3 – 250% Yr 4 – 200% Yr 5 – 150% Yr 6 – 100% Yr 7 – 75% Yr 8 onwards – 50%		identified relative to the steady state year	more issues will be raised in early years	
Sanctions	A115	Regulator	Resourcing		Note: does not include legal proceedings time/costs for court and criminal cases. Does not include time for chasing non-payment of fines	Consultants' judgement based on review of FRS audit statistics	FRS RRO audits		
Sanctions	A116	Regulator	Resourcing		New Build Major incident Investigate incident – 19.5hr Informal notice – n/a Formal Notice – 19hr Legal Proceedings – 16hr Prosecution – 12hr Legal proceedings (legal) – 3.75hr Prosecution (legal)– 150hr Medium incident Investigate incident – 4hr Informal notice – 6hr Formal Notice – 7.5hr Legal Proceedings – 13hr Legal proceedings (legal) – 1hr	Consultants			

					Minor incident Investigate incident – 1.7hr Informal notice – 2hr Formal Notice – 4hr				
Sanctions	A117	Regulator	Resourcing		Refurbishment Major incident Investigate incident – 22.5hr Informal notice – n/a Formal Notice – 19hr Legal Proceedings – 16hr Prosecution – 12hr Legal proceedings (legal) – 3.75hr Prosecution (legal)– 150hr Medium incident Investigate incident – 4.75hr Informal notice – 4.5hr Formal Notice – 6hr Legal Proceedings – 13hr Legal proceedings (legal) – 1hr Minor incident Investigate incident – 1.3hr Informal notice – 1.5hr Formal Notice – 3.5hr	n/a			
Sanctions	A118	Industry	Resourcing		New Build Major incident Investigate incident – 33hr Informal notice – n/a Formal Notice – 25hr Legal Proceedings – 27hr Prosecution – 12hr Legal proceedings (legal) – 11.25hr Prosecution (legal)– 675hr	PRP professional experience		Does not include time for chasing non-payment of fines Note: does not include legal proceedings time/costs for court and criminal cases.	

					Medium incident Investigate incident – 6.4hr Informal notice – 14hr Formal Notice – 7hr Legal Proceedings – 17.5hr Legal proceedings (legal) – 6hr Minor incident Investigate incident – 3.3hr Informal notice – 7hr Formal Notice – 4hr				
Sanctions	A119	Regulator	Activities	Appeals	Assume average of 5% of decision appealed for internal review by Building Control Body – but weighted as in table below to reflect more appeals in early years	Consultants' judgement			
Sanctions	A120	Regulator	Resourcing	Appeals	Appeals that go to internal review by BSA assumed to take place at the following decision points: All Gateway 1 projects (determination of buildings in scope): 5.5hr per review All Gateway 2 projects (determination of buildings in scope): 8.5hr per review All Gateway 2 projects (confirmation that build can start): 8.5hr per review All Gateway 2 projects (application for change): 6.5hr per review	PRP professional experience			

13. Annex G: Dutyholder (HRB)

The requirement

13.1 Dutyholders requirement to check competency across the delivery team.

Buildings in scope

13.2 Applies to HRB.

Assumed activities

- Clients to check competency through interviews, information submitted.

13.3 Table 13.1 sets out details of the common assumptions used to cost activities related to dutyholder requirements.

Table 13.1: Common assumptions used to cost the activities required to comply with the other refurbishment requirements in HRB

Function	#	Regulator/ Industry	Assumption Type	Element	Assumption	Source of information	Existing Regime used as proxy	Narrative explaining the rationale to the overall assumption	RAG
Dutyholder	A121	Industry	Profile	Competency check by client on design and construction team	Building work including: All new build Refurbishment	MHCLG policy			
Dutyholder	A122	Industry	Resourcing	Competency check by client on design and construction team	The client to undertake competency checks to ensure that the design and construction team including the following have the right skills, knowledge, experience and behaviours for the work they are engaged to undertake: -Designers -Contractors	PRP experience of project management and interviewing / selecting tenders			

					-Principal designers -Principal contractors The assumed number of checks required per design and construction team is as follows: -1 principal designer -8 consultant team -2-5 principal contractors tendering per project				
Dutyholder	A123	Industry	Resourcing	Competency check by client on design and construction team	Competency checks before project commences – 224hrs Update information during construction – 44 hours	as A122			
Dutyholder	A124	Industry	Activities	Competency check by client on design and construction team	Client to request information before project commences New Consultants, PC and PD to provide competency information PC to provide competency information for subcontractors Retained Consultants, PC and PD to update competency information All consultants, PC and PD to update competency information in Year 2 of build	as A122			
Dutyholder	A128	Industry	Profile	Building Handover – buildings in scope	All completed projects	WG policy			
Dutyholder	A129	Industry	Resourcing			PRP experience			

				Building Handover	5 hours per building - handover from the client/PAP to AP				
Dutyholder	A130	Industry	Activities	Building Handover	Building completion handover of information to landlord	WG policy			

14. Annex H: Dutyholder (non HRB)

The requirement

14.1 Dutyholder's requirement to demonstrate compliance with the building regulations

Buildings in scope

14.2 Applies to non-HRB building works

Assumed activities

- Dutyholders to collect information to ensure building work complies with building regulations

14.3 Table 14.1 sets out details of the common assumptions used to cost activities related to non-HRB dutyholder requirements.

Table 14.1: Common assumptions used to cost the activities required to comply with the other refurbishment requirements in HRB

Function	#	Regulator/ Industry	Assumption Type	Element	Assumption	Source of information	Existing Regime used as proxy	Narrative explaining the rationale to the overall assumption	RAG
Wider Dutyholder	A131	Industry	Profile	Number of other construction projects	2,500 p.a.	Based on pro rata England building stock data			
Wider Dutyholder	A132	Industry	Resourcing	Additional time per project	Gather the relevant information to demonstrate work complies with building regulations Principal designer – 10 days Designer – 1 day Principal contractor – 2 days Contractor – 0.5 days Clients – 0.75 days	PRP experience		Estimated based on a small block of flats	

Wider Dutyholder		Industry	Resourcing	Additional time per project	Ratio of time for other types of development (relative to block of flats) Single dwelling – 10% Housing development – 100% Retail / industrial units – 67% Offices – 50% Food and drink – 58% Hotel - 100% Education – 67% Medical – 58% Other – 83%	PRP experience			
Wider Dutyholder	A133	Industry	Resourcing	Familiarisation	Number of firms – 10,000 (85% of all construction firms) 1hr per firm	ONS data for number of firms and consultants' estimate for time			
Wider Dutyholder	A134	Industry	Resourcing	Changing working practices	Amend scope of services and contracts – 10% of construction firms- 3.5hr Improve processes to ensure compliance – 85% of construction firms - 6hrs	PRP experience			

15. Annex I: Golden Thread

The requirement

15.1 Dutyholders' requirement to maintain a Golden Thread of information throughout construction

Buildings in scope

15.2 Applies to HRB building works

Assumed activities

- Dutyholders to maintain a common data environment and create a digital record of the building

15.3 Table 15.1 sets out details of the common assumptions used to cost activities related to Golden Thread requirements.

Table 15.1: Common assumptions used to cost the activities required to comply with the Golden Thread requirements in HRB

Function	#	Regulator/ Industry	Assumption Type	Element	Assumption	Source of information	Existing Regime used as proxy	Narrative explaining the rationale to the overall assumption	RAG
Golden Thread	A135	Industry	Profile	Start date	Start in 2027	WG policy			
Golden Thread	A136	Industry	Profile	New build - Create digital record	Numbers – based on number of new build projects p.a.	see A005			
Golden Thread	A137	Industry	Counterfactual	New build - Create digital record	42% counterfactual in yr 1 – increasing by 1% p.a. to 51% by yr10	Based on published report on BIM usage			
Golden Thread	A138	Industry	Resourcing	New build - Create digital record	Creation of golden thread procedure document - 3 days	PRP experience			
	A139	Industry	Profile			see A005			

Golden Thread				New build - Maintain a Common Data Environment (CDE)	Numbers – based on number of new build projects p.a.				
Golden Thread	A140	Industry	Counterfactual	New build - Maintain a Common Data Environment (CDE)	49% counterfactual increasing by 5% p.a.	as A0137			
Golden Thread	A141	Industry	Resourcing	New build - Maintain a Common Data Environment (CDE)	3 persons trained to use CDE 0.5hr for training each plus trainer time	PRP experience			
Golden Thread	A142	Industry	Other costs	New build - Maintain a Common Data Environment (CDE)	£21,000 for software licence Based in industry data	based on industry quotes			
Golden Thread	A143	Industry	Profile	Start date	Start in 2027	MHCLG policy			
Golden Thread	A144	Industry	Profile	Refurbishment - Create digital record	Numbers – based on number of refurbishment projects p.a.	see A006			
Golden Thread	A145	Industry	Counterfactual	Refurbishment - Create digital record	42% counterfactual in yr 1 – increasing by 1% p.a. to 51% by yr10	Based on published report on BIM usage			
Golden Thread	A146	Industry	Resourcing	Refurbishment - Create digital record	Creation of golden thread procedure document - 3 days	PRP experience			
Golden Thread	A147	Industry	Profile	Refurbishment - Maintain a Common Data	Numbers – based on number of refurbishment projects p.a.	see A006			

				Environment (CDE)					
Golden Thread	A148	Industry	Counterfactual	Refurbishment - Maintain a Common Data Environment (CDE)	49% counterfactual increasing by 5% p.a.	Based on published report on BIM usage			
Golden Thread	A149	Industry	Resourcing	Refurbishment - Maintain a Common Data Environment (CDE)	3 persons trained to use CDE 0.5hr for training each plus trainer time	PRP experience			
Golden Thread	A150	Industry	Other costs	Refurbishment - Maintain a Common Data Environment (CDE)	£6,900 for software licence Based in industry data	Based on quotes from IT providers			

16. Annex J: Mandatory Reporting

The requirement

16.1 The requirement will be to report certain fire and structural issues ('safety occurrences') to the building control team at the local authority.

Buildings in scope

16.2 Applies to HRB building works

Assumed activities

- Dutyholders to issue a report for each safety occurrence
- Building Control body to log and analyse reports
- Building control body to undertake a site visit for a proportion of safety occurrences

16.3 Table 16.1 sets out details of the common assumptions used to cost activities related to the mandatory reporting requirements.

Table 16.1: Common assumptions used to cost the activities required to comply with the Mandatory Reporting Requirement

Function	#	Regulator/ Industry	Assumption Type	Element	Assumption	Source of information	Existing Regime used as proxy	Narrative explaining the rationale to the overall assumption	RAG

Mandatory Reporting	A166	Both	Profile	Issues that are reported	**safety occurrences per new HRB building**: Design related – 63% Product specification – 19% Construction related – 44%	PRP estimates		Estimates are based on a list of issues that need to be reported - PRP estimated the frequency that each type of incident would occur	
Mandatory Reporting	A167	Both	Profile	Number of reports issued per occurrence	Single report – 22% Initial report and closure report – 52% Initial report, update report, closure report – 24%	PRP estimates		PRP estimated which incidents could be addressed immediately, and which issues may take longer to rectify and therefore require a follow up report to close out	
Mandatory Reporting	A168	Both	Profile	Volume of mandatory reports submitted	New build/refurb – 15 p.a.	n/a			
Mandatory Reporting	A169	Regulator	Profile	Reporting requiring site visit	5%	PRP estimate			
Mandatory Reporting	A170	Regulator	Resourcing	Activities	Logging & analysing mandatory reports – 0.5hr per report Site visits – 7.5 hr per report and write up	PRP industry experience		Estimate of how long it would take consultants to do the task	

Mandatory Reporting	A171	Regulator	Resourcing	Split by Regulator	100% BCB	Consultants estimate			
Mandatory Reporting	A174	Industry	Resourcing	Activities – during construction	Time per report 0.5hr for contractor to report issue to Dutyholder 1 hr for dutyholder to report to BCB	PRP industry experience		Estimate of how long it would take consultants to do the task	

17. Annex K: Familiarisation Costs

17.1 This annex sets out the assumptions used in the analysis of the cost of familiarisation with the proposed policy requirements. This includes the time to read guidance, undertake inhouse training and attend training courses.

Table 17.1: Common assumptions used to cost the activities required to comply with the other refurbishment requirements in HRB

Function	#	Regulator/ Industry	Assumption Type	Element	Assumption	Source of information	Existing Regime used as proxy	Narrative explaining the rationale to the overall assumption	RAG
Familiarisation	A187	Both	Resourcing	Awareness Raising	Awareness Raising in Firms – general requirement - 1hr per person per policy area Awareness Raising in organisation – policy specific – 0.5hr per person per policy area	PRP industry experience	Industry average cost and time per course		
Familiarisation	A188	Both	Volume	Number of persons that need to familiarise with policy	Policy areas Gateways – 114 persons Dutyholder (HRB), 170 persons Golden thread – 111 persons Dutyholder non HRB - 10,000 persons	Consultants estimate based on ONS employee data	n/a	ONS data on number of persons in professions used as starting point - then applied assumptions about % that need to be aware of each function	
Familiarisation	A189	Both	Resourcing	External Training	External Events – 0.5 – 1 day per person per policy area Training courses - £125 per attendee	PRP industry experience	Industry average cost and time per course		

18. Annex L: Aggregating the Cost per Building

18.1 The costs are aggregated to the level of local authorities and then to the national level using the estimated number of buildings that best match the reference buildings that the costs have been assessed for.

Number of buildings

18.2 Table 18.1 shows the estimated number of buildings in scope in 2024, broken down by reference building type.

Table 18.1: Estimated number of buildings in scope in 2024, broken down by reference building type.

Reference buildings	Estimated number buildings (2024)
Residential building at least 18m	180

18.3 Table 18.2 shows the projected building numbers in scope, from 2027 to 2036 (the appraisal period), broken down by reference building type.

Table 18.2 Projected building numbers in scope, from 2027 to 2036, broken down by reference building type

	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036
Higher Risk Buildings										
Higher Risk Buildings – total stock	188	193	197	202	206	211	216	221	226	231
Building Numbers - New Completions	4	4	5	5	5	5	5	5	5	5
Building Numbers – Major Refurbishments	2	2	2	2	2	2	2	2	2	2
Building Numbers – Other notifiable works		4	4	4	4	4	4	4	4	5
Competent Person Scheme Works in HRB		1,638	1,676	1,714	1,754	1,794	1,835	1,877	1,921	1,965
Non High Risk Buildings										
Full plan applications	2,568	2,568	2,568	2,568	2,568	2,568	2,568	2,568	2,568	2,568

18.4 Table 18.3 shows the projected annual number of new non HRB buildings and developments that will be subject to the new dutyholder requirements

Table 18.3: New Building Non-Higher Risk Buildings (per annum)

	number of new buildings	units per development	number of developments
Apartment blocks	117	1	117
Single dwellings/holiday lets/HMO (assume 20% of all new dwellings)	1,145	1	1,145
Residential developments (assume 20 units per development)	4,129	20	206
Retail	303	1	303
Industrial Premises	291	1	291
Office and Public Buildings	237	1	237
Food and Drink	79	1	79
Entertainment Culture and Sport	55	1	55
Hotel	14	1	14
Education	30	1	30
Medical (Not Hospital)	21	1	21
Other	69	1	69
Total	**6,490**		**2,568**

19. Annex M: Monetised Benefits of Policy Proposals

19.1 This annex sets out the assumptions used to monetise the benefits of the policy proposals for HRBs.

Table 19.1: Monetised Benefits of proposed policy for HRB

Function	#	Regulator / Industry	Assumption Type	Element	Assumption	Source of information	Existing Regime used as proxy	Narrative explaining the rationale to the overall assumption	RAG
Gateway 1 - Fire Strategy Review		Industry	reduced design rework costs	Improved certainty of compliance from an early stage	10% of HRB projects saving 10 days of design time	Consultants assumption	Based on current practice	Reduced design rework during detailed design stage	
Gateway 2 - Safety Change Approval		Industry	reduced construction rework costs	Approval of change work before it commences; minimises rework costs	15% of HRB projects save an average of £80,000 in rework costs (range £10k-£150k)	Consultants assumption	Based on current practice	This relates to the installation (or delivery to site) of products or systems on a building which were not approved at Gateway 2 and have not been approved by a major change application. The costs relate to removing the product and replacing it with an approved product, assuming that the Regulator will not approve the product through a retrospective major change application, because the product is not compliant. Such products could be any fire safety or structural component and the costs could range from a few thousand pounds to millions of pounds depending on the extent of the products use and its cost. We deem that such incidents would be rare given the	

								Gateway 2 approval process, dutyholder and regulator site inspections as well as sanctions.	
Cumulative Gateways impact		Industry	reduced defects remediation costs during construction	Defects captured and rectified during construction	100% of HRB save an average of £63,000 (£1000 per flat) in repairing defects	Consultants assumption	Based in industry consultation	This figure is based on a residential developer/contractor reporting that they set aside up to £1500 per dwelling for repairing defects prior to the handover and during the initial defect period during occupation. Assuming that the additional oversight and inspection process as well as improved contractor competency, will reduce defects by approximately 66% we have allowed for a £1000 cost reduction per apartment.	
Cumulative Gateways impact		Industry	reduced latent defects (identified during occupation)	latent defects only identified at later date during occupation	10% of HRB avoid costs of £50,000	Consultants assumption	Based on industry experience	We are aware of latent defects claims ranging from £50,000 to £2m relating to issues such as missing thermal insulation, leaking roofs, broken glass balustrades, water ingress around windows, leaking plumbing and heating systems etc. The proposed oversight and inspection process, improved contractor competency and product certification will reduce latent defects.	
Cumulative Gateways impact		Industry	Reduced risk of systemic installing unsafe products such as ACM which lead to future crisis	Costs Avoided by Preventing a similar crisis as ACM cladding	50% reduction in risk of a one-in-20 year event affecting 3% of stock experiencing major remediation work £4.5m	Consultants assumption	Based on ACM prevalence and remediation costs	cost of current cladding remediation works ranges significantly, but a midpoint estimate provided by MHCLG suggest 3000 sqm @ £1500 per sqm	