

Final stage impact assessment

Title: Removal of national classifications

Type of measure: Statutory Guidance

Department or agency: Ministry of Housing, Communities and Local Government

IA number: N/A

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Date:

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1. Summary of proposal

1. References to national classifications ('Class 0' – supported by BS 476) were removed from the main body of Approved Document B (ADB) in 2019; references to BS 476 are now only included in the annex and relate to tests for reaction to fire and fire resistance. The Government plans to remove the remaining references to the BS 476 series from ADB so that it is withdrawn, in its entirety, as a specification approach within the statutory guidance to Part B of the Building Regulations. The policy will result in a shift from the current dual system of acceptable testing (BS 476 and BS EN 13501), leaving only the European standard in place.
2. BS 476 was identified as having serious potential flaws during the Grenfell Inquiry, particularly when used as a standard for reaction to fire and fire resistance. The aim of this policy is to fully transition to the European standard, which is considered as more up-to-date and rigorous. One of the main strengths of the European Standard is that it is regularly updated, whereas the BS 476 has not been updated for over 20 years.

2. Strategic case for proposed regulation

What is the problem under consideration?

3. Since the early 2000s, England has operated a dual approach to performance classification for reaction to fire and fire resistance of construction products and systems, where either the National Classes (BS 476 series) or European standards (BS EN 13501) could be used. The National Classes tests (e.g., BS 476-6, BS 476-7, or BS 476-20) for construction products are based on the concepts of *reaction to fire* and *fire resistance*. *Reaction to fire* tests how much a material or product contributes to fire and fire growth, and *fire resistance* measures how well a product or system resists the effects of fire. Removing the National Classes tests so that the more rigorous internationally recognised standard (BS EN 13501) remains in place is part of the Government's post-Grenfell building safety programme. The European standard is preferred as it is more rigorous, has a more robust testing procedure, has been developed to be more repeatable, and is periodically reviewed and updated. It is also internationally recognised and widely used. A common classification system will simplify guidance in ADB and compliance with Building Regulations. This work sits alongside the ongoing technical review of ADB and commissioned research that are intended to strengthen coverage of fire safety issues in the Building Regulations regime.
4. A consultation on 'Sprinklers in Care homes, removal of national classes and staircases in residential buildings' ran from December 2022 to March 2023. There was broad support for the proposals to remove national classes, although concerns were raised by the fire door industry relating, in particular, to testing capacity and imposition of additional business overheads during transition to the European standard.

What evidence is there to support the problem statement?

5. The testing standard for BS 476 has been publicly criticised. During the Grenfell Tower Inquiry there was criticism of BS 476 as an outdated and not fit for purpose testing methodology. Comparatively the European standard is periodically reviewed and updated.

6. During the Grenfell Tower Inquiry, the use of the National Classes came under scrutiny, and potential flaws were identified. Criticism focused on the BS 476 series for reaction to fire and why the transition was never concluded. In response to the Inquiry, the Department removed reference to the National Classes for reaction to fire from the main body of Approved Document B in 2019, and now it is only included within the annex. The Department intends to remove the remaining reference to all aspects of the BS 476 series in the next update. A full transition to the European standard would finalise the transition to the updated standards.

Why is government action or intervention necessary?

7. The policy objective of removing the BS 476 tests from ADB entirely so that the more rigorous internationally recognised European standard (BS EN 13501) is fully utilised for all relevant products, and ensures construction products are properly tested and fit for purpose before they can be fitted in a building, while simplifying the specification route set out in ADB. Transition of remaining products to the European standard would enable the full utilisation of the widely used, periodically reviewed, and updated standards, to future-proof the building stock.
8. The more rigorous international testing and classification standard has been in place since the early 2000s. Industry has had time to adapt and move to this more rigorous model for many years, with only a small minority of industries having not done so. Manufacturers most likely to be affected by the policy change are involved with bespoke wooden fire doors, cavity barriers, smoke vents and roofs.

What gaps or harms would occur if government doesn't intervene?

9. Without a change to statutory guidance, some parts of industry will continue to test to the National Classes testing standard. They will not be motivated to invest in product development, nor submit products to the more rigorous fire safety testing standard and reflect developments in product manufacturing and material use. Without changes to the ADB guidance, intended full transition to the more rigorous approach will not take place.

3. SMART objectives for intervention

10. Continue the Department's post-Grenfell building safety measures programme through a considered and gradual evolution of building standards which, when taken with other measures introduced, combine to ensure high levels of safety. This policy will remove the National Classes (BS 476) entirely, simplifying the specification route within Approved Document B and utilising the more rigorous internationally recognised approach. The policy will remove the BS 476 National Classes from ADB, ending the dual system of classification and leading to a single specification route. This will ensure that all of the industry is testing to the same standards by the end of the transition period. Products which have currently only been tested to meet National Classes will need to be retested to the European standard. All relevant construction products will need to retest, if not already tested to the European standard, to meet the specifications as set out within Approved Document B.
11. This change delivers a proportionate improvement in safety when considered against the potential impact on industry. It is expected that the impact on industry will be limited as most businesses currently have their products tested to the international standard, and

only a small subset of the market has not. There is also an extended transition period of 5 years for fire resistance which should allow businesses time to adapt.

4. Description of proposed intervention options and explanation of the logical change process whereby this achieves SMART objectives

12. This impact assessment assesses two different policy options against a baseline position (counterfactual) that extends the status quo policy position (i.e. “do nothing”). Modelled analysis calculates benefits expressed as Net Present Values in a range of different scenarios. Ministers also consider a wider universe of policy considerations including risk to life safety and market reaction.
13. The preferred option is Option 1; this will remove the National Classes (BS 476) from ADB, ending dual classification systems and leaving the European standard in place. This evolution of safety standards will be a strengthening of existing building safety measures which we have already introduced offering a simpler, single specification route.
- **Option 0: Do Nothing (Counterfactual):** Under the Do-Nothing scenario the National Classes (BS 476) will not be removed and therefore a dual system will remain in place. Industry will continue to choose to test to BS 476 or the European standard. **This option is used as the counterfactual.** Under this scenario it is expected that the majority of industry will continue to use the European standard but the National Classes standard will remain current in ADB, and some products will continue to use the National Classes standard.
 - **Option 1 (Preferred):** Withdrawal of BS 476 from ADB, expediting full transition to the European standard. The impact of different transition periods has been assessed.

Transition periods

- **1a.** A two-year transition period.
 - **1b.** A five-year transition period. **(Preferred)**
 - **1c.** A seven-year transition period.
- **Option 2:** Only removing reaction to fire national classification (**not recommended**)

Potential Industry Response under Option 1

14. There are two possible routes for a product to provide assurance of its performance. One is to follow the European testing standard and then receive a classification report by an accredited testing house.
15. The other way is by a technical assessment, which is expected to be supported by the industry developed standard (code of practice) for technical assessments. It would implement a technical standard where multiple products can be assessed using the results of a specific testing programme to streamline the testing requirements for that assessment. A standard may, in some cases, allow extrapolations based on test results, overcoming testing and classification limitations in terms of dimensions, field of

application, etc. Currently, there is no national standard for technical assessments (code of practice) for the European standard.

16. In both cases, the range of products can gain 3rd party certification. A 3rd party certification scheme is a process of testing and verifying a product's design, performance, manufacturing process and quality assurance of procedures and supporting documentation. Certification is typically achieved by having the range of products tested and assessed by an accredited independent testing house to ensure each product meets the required standard. It is assumed that these products with 3rd party certification will test at least every 5 years and that two-thirds of manufacturers are covered under 3rd party certification schemes.
17. Under Policy Option 1, the withdrawal of BS 476 from ADB will mean that developers will need to ensure their products are compliant with the European standard. Developers would therefore only purchase relevant construction products that have been tested and classified/assessed to the European standard and would no longer purchase products tested only to BS 476. The small number of manufacturers who do not already produce products or test their products to the European standard, would need to test their current products to the European standard, or redesign products to meet the requirements of the European standard. Currently, all products must be tested and receive a classification report as proof of performance for the European standard, as there is no national standard for technical assessments (code of practice) for the European standard.
18. It is assumed within this impact assessment that industry will develop a national standard for technical assessments (code of practice) for the European standard. This is assumed to take three years to develop. In this scenario, manufacturers may be able to test up to 75% fewer products when compared to testing under the European Standard for classification purposes as is, since they will be able to reliably verify the performance of the remaining range through technical assessments, thereby reducing impact on costs and timelines. With a national standard for technical assessments, industry could combine the best aspects of both approaches, benefitting from flexibility of current practice and rigorous technical assurance of the European standard.

5. Summary of long-list and alternatives

19. Three main options were considered, with three sub options for Option 1, as shown in above.

Summary of Long-Listing Appraisal

20. The appraisal process involved a thorough analysis of each option's feasibility, potential impact, and alignment with the policy objectives. Option 0 was discarded due to the identified potential flaws in the National Classes. Option 1c was discarded as it is not expected that the seven-year transition period would have significantly different costs at transition and steady-state compared to the five-year and two-year transition periods, outside of pushing the costs further out in time. Industry have also indicated that a minimum of 5-years would be needed to transition to the European standard effectively, meaning that any supply-chain impact from a quick transition would be mitigated under both a 5-year transition period and a 7-year transition period.

SaMBA and Medium-Sized Business Scope

21. An assessment was conducted to determine whether small, micro, and medium-sized businesses should be in scope of this policy. The assessment considered factors such as the potential impact on these businesses, their capacity to adapt to changes, and the overall benefits and risks. The evidence suggested that including these businesses in the scope of the policy would be beneficial, as it would ensure consistency and fairness across the industry.

6. Description of shortlisted policy options carried forward

22. This impact assessment assesses three main options, with two sub options for Policy Option 1. The preferred option is Policy Option 1b.

23. **Option 0: Do Nothing** (Counterfactual): This option would retain the dual approach to testing based on National Classes (BS 476) and the European standard. However, it was identified that the National Classes could potentially have serious flaws for reaction to fire and fire resistance.

24. **Option 1: Full Transition to the European Standard:** Withdrawal of BS 476 from ADB, expediting full transition to the European standard. The impact of different transition periods has been assessed. Three sub-options were considered for transition times:

- 1a. a two-year period,
- 1b. a five-year period (**Preferred**).

25. **Option 2: Only Removing Reaction to Fire National Classification:** This option proposed removing only the reaction to fire national classification.

7. Regulatory scorecard for preferred option

Quantitative estimates and qualitative descriptions of impacts are provided under each heading in the following sections.

The right-hand column includes directional ratings based on the description of impact and the sign of the suggested indicator (NPV, NPSV, all impacts):

Green – positive impact, **red** – negative impact, **amber** – neutral or negligible impact, **blue** – uncertain impact.

Part A: Overall and stakeholder impacts

(1) Overall impacts on total welfare		Directional rating Note: Below are examples only
Description of overall expected impact	<p>The overall impact to society is uncertain.</p> <p>Businesses will face all of the expected costs from the policy. This is estimated at £27.9m.</p> <p>However, the benefits have not been monetised and are subjective. There will be an increase in confidence regarding product safety and the level of fire safety of the affected products in future years, as the European Standards are more up to date and considered more rigorous.</p>	Uncertain Based on all impacts (incl. non-monetised)
Monetised impacts	<p>The total net present social value (NPSV) is estimated at -£27.9m for our preferred option under our central scenario. However, this is dependent on if an industry standard for designing technical assessments, which can reduce the overall cost of testing, can be developed. If no technical assessment standard is developed NPSV could fall further to -£38.6m.</p> <p>The significant monetised costs for the central scenario (£27.9m) are as follows:</p> <ul style="list-style-type: none"> - Costs of Testing or Technical Assessments: -£4.9m (cost saving). - Admin costs for tests and technical assessments: -£0.6m (cost saving). - Relabelling products to the European standard: £8.0m. 	Negative Based on likely £NPSV

	<ul style="list-style-type: none"> - Increased costs of materials to produce timber fire doors compliant to the European Standard: £7.3m. - Cost of redesigning fire doors to fire door sets: £18.1m. <p>No benefits could be monetised.</p>	
<p>Non-monetised impacts</p>	<p>The overall impact of the non-monetised costs and benefits is expected to be positive.</p> <p>The non-monetised benefits include:</p> <ul style="list-style-type: none"> - Improved fire resistance of affected products from moving to the European standard, leading to reduced fire severity. - More consistent fire resistance in affected products, leading to greater confidence in effectiveness for developers and residents. <p>Non-monetised costs include:</p> <ul style="list-style-type: none"> - Disruption to the supply chain may occur if manufacturers cannot retest their products to the European standard to comply with the changes to ADB guidance. This impact is expected to be highly mitigated through a five year transition period. - A reduction in market choice for fire doors. The European standard means fire doors can only be tested as a full fire door set (fire door other components such as hinges/handles). This makes it more difficult to create bespoke fire doors to supply to the market, and so businesses that fill this niche may be impacted negatively. - Knock on economic effects if businesses struggle to transition such as unemployment for effected businesses. 	<p>Positive</p>
<p>Any significant or adverse distributional impacts?</p>	<p>No significant distributional impacts were identified.</p>	<p>Neutral</p>

(2) Expected impacts on businesses		
Description of overall business impact	<p>The overall business impact is expected to be Negative.</p> <p>All monetised costs are expected to fall onto businesses.</p> <p>There are no monetised benefits and there are expected to be limited non-monetised benefits for developers.</p>	Negative
Monetised impacts	<p>The Business Net Present Value (NPV) is estimated at -£27.9m.</p> <p>The Equivalent Annual Net Direct Cost to Business (EANDCB) is estimated at £3.2m.</p> <p>No pass through of costs on to households is expected.</p> <p>Costs are assumed to fall onto either manufacturers or onto developers.</p>	Negative Based on likely business £NPV
Non-monetised impacts	<p>The overall impact of the non-monetised costs and benefits on businesses is expected to be uncertain.</p> <p>The non-monetised benefits include:</p> <ul style="list-style-type: none"> - More consistent fire resistance in affected products, leading to greater confidence in effectiveness for developers. <p>Non-monetised costs include:</p> <ul style="list-style-type: none"> - Disruption to the supply chain may occur if manufacturers cannot retest their products to the European standard to comply with the changes to ADB guidance. This impact is expected to be highly mitigated through a five year transition period. - A reduction in market choice for fire doors. The European standard means fire doors can only be tested as a full fire door set (fire door other components such as hinges/handles). This makes it more difficult to create bespoke fire doors to supply to the market, and so businesses that fill this niche may be impacted negatively. - Knock on economic effects if businesses struggle to transition such as unemployment for effected businesses. 	Uncertain

Any significant or adverse distributional impacts?	<p>Yes, a negative impact is expected on the fire doors industry as they will need to transition from fire door component manufacturers to producing fire door sets. The impact of moving to a single set of European standards is expected to impact fire door manufacturers greater than other affected product manufacturers as a result.</p> <p>No regional impacts or other impacts are expected.</p>	Negative
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(3) Expected impacts on households		
Description of overall household impact	<p>No significant impact on households is expected. Developers are unlikely to be able to pass on any costs to households, as sales of new builds homes compete with existing housing stock.</p>	<p>Neutral</p> <p>Based on likely household £NPV</p>
Monetised impacts	<p>There are no monetised impacts to households. No passthrough of costs is expected.</p>	<p>Neutral</p>
Non-monetised impacts	<p>No non-monetised costs were estimated for households.</p> <p>The non-monetised benefits are provided below:</p> <p>Improved fire resistance of affected products from moving to the European standard, leading to reduced fire severity.</p>	<p>Positive</p>
Any significant or adverse distributional impacts?	<p>No significant or adverse distributional impacts to households are expected.</p>	<p>Neutral</p>

Part B: Impacts on wider government priorities

Category	Description of impact	Directional rating
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<p>Business environment:</p> <p>Does the measure impact on the ease of doing business in the UK?</p>	<p>The overall impact on the business environment is uncertain.</p> <p>An improved perception of the minimum quality of products in the UK by having to meet the European standard. This would encourage investment in the related products produced by UK manufacturers, as there may be less information failure over the quality of products giving developers more confidence when purchasing products. However, this will come at an additional cost to the industry to comply with the European standard.</p> <p>Once businesses have transitioned to the European standard, their products will be suitable for European consumers. This could widen the market opportunity for manufacturers.</p> <p>However, developers requiring products that are tested to the European standards may have a limited choice of products during the transition period, and purchase from European manufacturers.</p> <p>Increased costs to produce timber fire doors as well as producing fire door sets may also represent a greater barrier to entry to the fire doors market, due to the increased cost in materials and equipment required to produce a full fire door set that is compliant with the European standard.</p> <p>A supply chain impact may be caused by the move to the European standard if test houses cannot cope with additional demand. This risk is assumed to be low under the five-year transition period. However, if an increase or shock to demand occurs and test houses do not have enough supply, this may cause a supply chain impact for the affected products, and developers will need to source their products from elsewhere, or delay their construction, incurring additional costs. Similarly, manufacturers requiring tests may choose to test in the EU instead to ensure demand, but this may come with additional costs.</p>	<p>Uncertain</p>
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<p>International Considerations:</p> <p>Does the measure support international trade and investment?</p>	<p>The impact to international trade and investment is uncertain.</p> <p>Under the national classification, British fire door manufacturers produce fire door components, as opposed to a full fire door set. Fire door manufacturers would need to produce fire door sets to comply with the European standard.</p> <p>European manufacturers already manufacture fire door sets to the European standard, as opposed to fire door components as is done in the UK. This may create a competitive or first-mover advantage for them to produce fire door sets which are tested to the European standard versus UK fire door manufacturers.</p> <p>However, the European standard is also a more rigorous testing standard, and so the perceived quality of British fire door products could increase, and receive greater demand.</p>	<p>Uncertain</p>
<p>Natural capital and Decarbonisation:</p> <p>Does the measure support commitments to improve the environment and decarbonise?</p>	<p>No significant environmental impacts are expected under this policy.</p> <p>There will be some short term transitional impacts arising from increased testing, but these are expected to be negligible in the context of the overall construction sector.</p>	<p>Neutral</p>

8. Monitoring and evaluation of preferred option

Monitoring and Evaluation

26. The Building Safety Regulator has a duty to keep the safety and standards of buildings under review.

27. The Department and the Building Safety Regulator will continue to liaise with each other on any reports of unreasonable consequences of this policy.

9. Minimising administrative and compliance costs for preferred option

28. The burden on business will be minimised by allowing an appropriate transition period this will allow smaller organisations the time and opportunity to adjust to new processes to meet the more rigorous standard.

Declaration

Department:

...

Contact details for enquiries:

...

Minister responsible:

...

I have read the Impact Assessment and I am satisfied that, given the available evidence, it represents a reasonable view of the likely costs, benefits and impact of the leading options.

Signed:

Sign here

Date:

Date

Summary: Analysis and evidence

For Final Stage Impact Assessment, please finalise these sections including the full evidence base.

Price base year:

...2023

PV base year:

...2025

<p>This table may be reformatted provided the side-by-side comparison of options is retained</p>	<p>Option 0: Do Nothing / Counterfactual (baseline) The Do-nothing option with retention of national standards (i.e. BS 476) in ADB</p>	<p>Option 1a. Full transition to the European standard with variable transition times between moving reaction to fire classification and fire resistance classification - 2 year transition</p>	<p>Option 1b. Preferred way forward Full transition to the European standard with variable transition times between moving reaction to fire classification and fire resistance classification - 5 year transition</p>	<p>Option 2: Only removing reaction to fire national classification</p>
<p>Net present social value fi(with brief description, including ranges, of individual costs and benefits)</p>	<p>Not applicable</p>	<p>The total net present social value (NPSV) is estimated at -£38.6m under the central scenario. However, this is dependent on whether an industry standard for designing technical assessments, which can reduce the overall cost of testing can be developed. If no technical assessment standard is developed NPSV could fall further to -£65.9m.</p>	<p>The total net present social value (NPSV) is estimated at -£27.9m for our preferred option under our central scenario. However, this is dependent on whether an industry standard for designing technical assessments, which can reduce the overall cost of testing can be developed. If no technical assessment standard is developed NPSV could fall further to -£38.6m.</p>	<p>No expected cost change. It is assumed that the reaction to fire national classification would have no impacts, as the industry are no longer expected to use the national classification.</p>

Public sector financial costs (with brief description, including ranges)	Not applicable	No change	No change	No change.
Significant un-quantified benefits and costs (description, with scale where possible)	Not applicable	<p>The non-monetised benefits include:</p> <p>Improved fire resistance of effected products from moving to the European standard, leading to reduced fire severity.</p> <p>More consistent fire resistance in effected products, leading to greater confidence in effectiveness for developers.</p> <p>Non-monetised costs include:</p> <p>Disruption to the supply chain may occur if manufacturers cannot retest their products to the European standard to comply with the changes to ADB guidance. This impact is highly expected under the two-year transition period.</p> <p>A reduction in market choice for fire doors. The European standard means fire doors can only be tested as a full fire door set (fire door other components such as hinges/handles). This makes it more difficult to create bespoke fire doors to supply to the market, and so businesses that fill this niche may be impacted negatively.</p> <p>Knock on economic effects if businesses struggle to transition such as unemployment for effected businesses.</p>	Same as Policy Option 1a.	No change.

<p>Key risks (and risk costs, and optimism bias, where relevant)</p>	<p>Not applicable</p>	<p>The number of physical tests that will be needed is uncertain. The industry's ability to successfully create a technical assessment alternative to physical tests will determine the success of Option 1. This scenario has been assessed and will have a minor impact under Option 1a.</p> <p>Testing capacity and growth in the industry is uncertain. If it is unable to match demand there is a risk of manufacturers being unable to transition and compete in the market, as well as knock on effects to the housing supply chain. This risk is high for a two-year transition period under Option 1a.</p>	<p>The number of physical tests that will be needed is uncertain. The Industry's ability to successfully create a technical assessment alternative to physical tests will determine the success of Option 1. This scenario has been assessed and will have a significant impact under Option 1b.</p> <p>Testing capacity and growth in the industry is uncertain. If it is unable to match demand there is a risk of manufacturers being unable to transition and compete in the market, as well as knock on effects to the housing supply chain. This risk is considered low for a five-year transition period under Option 1b.</p>	<p>No change</p>
<p>Results of sensitivity analysis</p>		<p>The main sensitivity for Option 1a is if a technical assessment standard cannot be developed, as mentioned in the first row.</p> <p>Another sensitivity was run to understand the implication if the number of tests performed was low or high.</p> <p>This resulted in a net present value range of -£37.8m to -£111.1m, assuming no technical assessment standard can be developed.</p>	<p>The main sensitivity for Option 1b is if a technical assessment standard cannot be developed, as mentioned in the first row.</p> <p>Another sensitivity was run to understand the implication if the number of tests performed was low or high.</p> <p>This resulted in a net present value range of -£9.3m to -£64.5m, assuming the technical assessment standard can be developed.</p>	<p>N/A, due to no monetised costs and benefits.</p>

Evidence base

Policy objective

29. The policy will remove National Classes (BS 476) as a route to compliance within Approved Document B (ADB).

Main Rationale and Aims

30. The main rationale behind this policy is to follow and use a single suite of standards within Approved Document B. The European standard is chosen to be used as it is more rigorous, considering that the testing procedure is more robust, has been developed to be more repeatable, and is periodically reviewed and updated. It is internationally recognised and widely used. This change aims to enhance fire protection by simplifying the specification route within ADB and completely transitioning to the European standard.

Changes to the Policy

31. The policy proposes a shift from the current dual system, which includes both the National Classes (BS 476) and the British Standards version of the European classification. The proposed change would remove the remaining references to the BS 476 series from ADB so that it is withdrawn, in its entirety, as a specification route within Part B of the Building Regulations. The policy will effect a shift from the current dual system of acceptable testing (both BS 476 and BS EN 13501) to a simplified single specification route which utilises only the European standard.

Description of options considered

32. This impact assessment assesses three different policy options against a baseline position (counterfactual) that extends the status quo policy position (i.e. “do nothing”). The costs have been monetised; however, benefits could not be monetised. Ministers will also take into account a wider universe of policy considerations including risk to life safety and market reaction.

33. The preferred option is Option 1b; this will remove National Classes (BS 476) from ADB leaving only the European standard in place. This evolution of safety standards will be a helpful addition to existing building safety measures which we have already introduced and will move away from a dual system to a single, simpler specification route.

- **Option 0: Do Nothing (Counterfactual):** Under the Do-Nothing scenario the National Classes (BS 476) will not be removed and therefore a dual system will remain in place. Industry will continue to choose to test to BS 476 or the European standard. **This option is used as the counterfactual.** Under this scenario it is expected that the majority of industry will continue to use the European standard, but the National Classes standard will remain current in ADB, even though weaknesses have been identified with regard to reaction to fire and fire resistance.
- **Option 1 (Preferred):** Withdrawal of BS 476 from ADB, expediting full transition to the European standard. The impact of different transition periods has been assessed. For fire testing, Industry is expected to develop a standard for technical assessments

which will reduce the amount of testing needed and alleviate the impact on the sector. This impact assessment will also consider different transition periods:

- **1a.** A two-year transition period.
- **1b.** A five-year transition period. **(Preferred)**

- **Option 2: Only removing reaction to fire national classification (not recommended or quantified).**

Evidence from the public consultation and primary research is that very few BS 476 reaction to fire tests are undertaken in the UK due to limitations about the usefulness of the test in determining a product's performance. This means current industry expenditure on BS 476 reaction to fire tests is very low given that its performance classification is not used in ADB recommendations anymore and the complete removal of the BS 476 reaction to fire test from Approved Document B would lead to very little change in industry test costs. **Therefore, this impact assessment considers the cost of Policy Option 2 to be zero.**

34. Option 1a and 1b assumes that as well as tests, technical assessments will be used to certify products to the European Standard. By industry developing a national standard for technical assessments (code of practice) manufacturers could test key assemblies in a range of products and verify the performance of selected products within the range through technical assessments. This is assumed to be the case under the central scenario assessed in this impact assessment. A No Technical Assessments Scenario has been considered for Options 1a and 1b and will contrast how it may look if a national standard for technical assessments is not developed.

35. In some cases, extrapolations could be allowed based on test results, overcoming limitations of some testing standards in terms of dimensions, field of application, etc. By creating this option, it is expected that manufacturers will have to test around 75% fewer products, since they will be able to verify the performance of the remaining range through technical assessments. This will significantly reduce the impact on costs for transition timelines that extend beyond 2 years. It allows the industry to keep the best aspects of both approaches (flexibility of the national standard and the technical rigour of the European standard).

Summary and preferred option with description of implementation plan

36. The preferred option is to remove the National Classes (BS 476) and to use the European standard, moving away from dual testing towards a single approach allowing more streamlined specification route within Approved Document B. The preferred transition period of 5 years will enable industry to transition to the European standard with minimal impact to supply chains, if any. A five-year transition period aligns with the testing frequency for the European standard and those of third-party certification schemes, enabling the regularity of testing to be brought into line. It is expected that there is enough capacity among businesses to be able to retest within the five-year transition period.

37. Approved Document B provides practical guidance on how the Building Regulations can be satisfied in some common situations. Industry tends to adopt Approved Documents guidance as a default minimum standard. Government anticipates that when Approved

Document B is updated, use of the European standard will become the industry norm for those outlier industries still making use of the National Classes.

38. For products tested during the transition period it is possible that manufacturers will continue to use the BS 476 National Classes instead of the European standard to test their products. Once the transition period is over it is expected that all manufacturers will move over to the European standard of testing.

Problem under consideration, with business as usual, and rationale for intervention

39. If the industry continues as it is, it will not fully embrace a more stringent, updated, and globally recognized standard for fire safety materials or products.
40. The present and future risk is that the statutory technical guidance retains multiple and complex specification routes. The introduction of a more robust testing standard will also enhance the minimum standards of a product in this area.
41. At present, only a subset of fire door manufacturers test to the European Standard for fire resistance. Manufacturers who only operate to BS 476, rather than the European standard, will incur costs to retest their products to the European standard and ensure they meet the required safety levels. Many manufacturers have third-party certification, which means they likely test more frequently. Manufacturers without third-party certification will be required to test more frequently under the BS EN 1364 and BS EN 1301 testing standard. During the transition period, testing houses will likely face increased demand.
42. In a free market, manufacturers would have minimal incentive to incur additional overheads by testing beyond BS 476. For them, relying on a historical testing result would be more cost-effective. Government intervention to withdraw BS 476 will lead to manufacturers incurring additional costs to ensure their products meet the European standard (if they haven't already done so), retesting, and familiarisation costs.
43. To ensure uniformity and that all firms test to the European standard, government intervention is necessary to establish a fair standard across the entire industry and benefit those manufacturers and testers who previously tested to a high standard. Otherwise, stakeholders will continue operating as they are now without adjusting to the more technically rigorous standard.

Analytical Approach

Rationale and evidence to justify the level of analysis used in the impact assessment

44. This impact assessment includes a discussion of the main analytical assumptions, monetised costs and non-monetised costs, non-monetised benefits, net present value, and sensitivity analysis. It also considers impacts to the business environment, trade implications, environment, small and micro businesses, and other wider impacts. Risks and assumptions and how they impact the analysis are included at the end of the impact assessment.

45. The main section runs through the differences in costs and benefits of the three implementation methods according to Policy Option 1 for the two transition periods: 2, and 5 years, denoted by a and b respectively.
46. The preferred option is Option 1b, which is a full 5-year transition to the European standard resistance to fire classification. A six-month transition to transition to the European standard for reaction to fire will also take place. However, the removal of the national classification for reaction to fire will not be monetised due to this national classification not being used. See the costs and benefits explanation of Policy Option 2 below.
47. Under the counterfactual, products are either tested and classified to the European Standard via BS EN 1634 test standards and BS EN 13501 classification standards, or the lesser used and outdated BS 476 testing and classification standard known as the National Classes.
48. Under Option 1, products will be tested and classified solely to the European Standard. Under the central scenario it is assumed that industry will develop a new standard (code of practice) for technical assessments. It is assumed that this standard will take 3 years to develop.
49. Alongside this, the “Option 1 No Technical Assessments Scenario” models the scenario of Policy Option 1 if the industry’s development of a new standard (code of practice) for technical assessments is unsuccessful. In this case, technical assessments cannot be reliably used as a complement to test by manufacturers and only the use of standard testing is modelled in this scenario.
50. Policy Option 2 is solely removing the reaction to fire classification as explained in the ‘Description of Options’ section. This policy option is expected to not result in any costs or benefits, as it is expected that the industry has moved away from BS 476 for reaction to fire. This option is not discussed further in this impact assessment.
51. For analytical purposes, the impact assessment assesses Policy Option 1 alongside the Option 1 - No Technical Assessments Scenario for transition periods a and b.

Main analytical assumptions

52. The analysis within this impact assessment is based on estimates prepared by the Adroit Consortium, which comprises economics expertise from Adroit Economics, combined with industry expertise from PRP Architects with input from MHCLG and the Building Safety Regulator. All estimates are for England only. Estimates for policy options 1a, 1b and the Option 1 - No Technical Assessments Scenario are relative to the Do Nothing (counterfactual).
53. The analysis is based on a 10-year appraisal period starting from 2025 until 2034. This will capture the entire transition period and associated transition costs for options a and b, as well as the annual costs thereafter.
54. Monetised costs and benefits are presented in 2023 prices and are in discounted terms unless specified otherwise. Impacts are discounted by 3.5% per year to present value terms based on the HMT Green Book, using a 2025 base year.

55. All estimates are assumed to stay constant in real terms, assuming costs and benefits will increase in line with the GDP deflator throughout the appraisal period.
56. The four products in scope of the preferred option are:
- Cavity barriers
 - Fire doors
 - Smoke vents
 - Roofs
57. Therefore, manufacturers and developers who produce and use these products will be affected.

NPSV: monetised and non-monetised costs and benefits of each shortlist option (including administrative burden)

Monetised costs and benefits

58. Benefits have not been monetised in this impact assessment. The extent to which the European standard will improve health and safety over and above the national classes could not be confidently quantified using the limited evidence available. Therefore, only costs have been monetised. The non-monetised costs and benefits are detailed in the next section.
59. The monetised costs associated with the policy change are on product testing costs, relabelling and updating marketing materials costs, the increase in costs of fire doorsets and the costs of transitioning from separate components to producing doorsets. Fire doors were identified as products which for a small amount of manufacturers would require modifications, and have additional costs.
60. The monetised costs are a combination of annual costs and transitional costs. It is expected that the cost at steady-state is expected to be similar to the counterfactual overall due to the industry standard reducing testing costs and minor cost implications for the timber fire doors industry.
61. The monetised costs cover a range of different costs, grouped into costs of testing and technical assessments, and costs of redesigning timber fire doors:

Costs of Testing and Technical Assessments:

- Costs of Testing or Technical Assessments
 - Testing can be performed for individual products to receive a classification report, or a Technical Assessment can be performed to assess multiple products, replacing 75% of testing at once. It is assumed only 50% of products will use a technical assessment, as sufficient test data is needed for a Technical Assessment. These classification reports or technical assessments will evidence the performance of the product and can be retained as long as the design of the product has not changed.
 - The standard for performing a technical assessment is assumed to take at least 3 years to develop, meaning these technical assessments can only be

- performed from Year 4 of the policy. A separate scenario has been assessed where a technical assessment standard is not developed by industry.
- Third-party certification may require manufacturers to continually retest their product or receive a technical assessment to ensure product performance, it is assumed these tests or technical assessments would be needed on a 5 year cycle.
- Similar to BS 476, it is not mandatory to retest products under the European system. Manufacturers based on test results, can receive a classification report or technical assessment to evidence the performance of their product, would be able to retain this as proof of performance as long as the product design does not change.
- Admin costs for Tests and Technical assessments
 - There will be staffing costs of arranging tests or technical assessments, and additional invoicing.
- Relabelling products to the European Standard
 - Each product will need to be relabelled to the European Standard that has been tested to, as well as a change to marketing materials.

Costs of redesigning timber fire door products:

- Increased costs to produce timber fire doors compliant with the European standard
 - Timber fire doors will need to use more expensive materials to ensure that they can comply with the higher fire resistance requirements under the European standard compared to the previous national standard. Only 5% of timber fire door products are expected to fail this requirement currently and require more expensive and resistant materials to comply.
- Redesigning fire doors to fire door sets to comply with the European Standard:
 - Transitioning to fire doorsets will be more expensive in the first three years of the appraisal period, as manufacturers redesign products to become fire doorsets. Due to competition, it is expected that the overall cost will return to the same cost as under the counterfactual.

Costs of testing and assessments

62. There are 2 possible routes for a product to provide assurance of its performance. One is to follow the European testing standard and then receive a classification report by an accredited testing house.
63. The other way is by a technical assessment, which is expected to be supported by the industry developed standard (code of practice) for technical assessments. It would implement a technical standard where multiple products can be assessed using the results of a specific testing programme to streamline the testing requirements for that assessment. As mentioned earlier, it is assumed in the central case that this standard would only come into fruition after 3 years from the start of the transition period.
64. In both cases the range of products can gain 3rd party certification. A 3rd party certification scheme is a process of testing and verifying a product's design, performance, manufacturing process and quality assurance of procedures and supporting documentation. Certification is typically achieved by having the range of products tested and assessed by an accredited independent testing house to ensure each product meets the required standard. It is assumed that these products with 3rd party certification will test at least every 5 years and that two-thirds of manufacturers are covered under 3rd party certification schemes.

65. The number of manufacturers not currently testing to the European standards is based on research of major manufacturers testing standards by PRP on the four products in scope of the preferred option.
66. The number of manufacturers not currently testing to the European standards for these products are detailed in **Table 1** below, and applies to all scenarios as it looks at the assumptions of those currently testing to the standard.
67. It summarises the split of manufacturers who currently retest to BS 476, based on whether they test regularly to a cycle under 5 years or less frequently. This is based on whether a manufacturer is covered by a 3rd party certification scheme.
68. Some manufacturing sectors are expected to have transitioned to the European standard more than others under the counterfactual. 424 manufacturers of the four product types are expected to be impacted. Fire door manufacturers are most impacted by the policy change, making up 400 out of 424 manufacturers who do not currently test to the European standard.

Table 1: Number of manufacturers not testing to the European standard by product type under the counterfactual and split by 3rd-party certification

Number of manufacturers by product type	Total manufacturers not testing to the European standards	Of which 3rd-party certified manufacturers	Of which, Manufacturers not third-party certified.
Cavity barriers	8.0	5.3	2.7
Fire doors - medium/large manufacturers	25.0	16.5	8.5
Fire doors - small manufacturers	375.0	247.5	127.5
Smoke vents	4.0	2.6	1.4
Roofs/sky lights	12.0	7.9	4.1
Total	424	280	144

69. **Table 2** summarises the split of manufacturers who would continue to retest to BS 476 under the counterfactual over a 10-year cycle, which matches the appraisal period. It is assumed that of the 1/3rd (144) of manufacturers not covered by 3rd party certification schemes, half (72) are still testing products on an irregular basis, assumed at every 10 years. The other half (72) are assumed to not retest at all.

Table 2: Split of the number of manufacturers not covered by a third-party certification scheme, by whether they test irregularly (every 10 years) or do not retest at all. Counterfactual assumption

	Manufacturers retesting products to BS 476 under 10 year cycle	Manufacturers who do not retest to BS 476
Cavity barriers	1.36	1.36

Fire doors - medium/large manufacturers	4.25	4.25
Fire doors - small manufacturers	63.75	63.75
Smoke vents	0.68	0.68
Roofs	2.04	2.04
Total	72	72

70. The number of products per manufacturer is displayed in **Table 3**. It is based on market knowledge by Adroit, exploring the number of products provided by major manufacturers, and downrated to consider smaller manufacturers will have less products.

71. Medium / large fire door manufacturers are assumed to produce the most products per manufacturer at 30, and small fire door manufacturers had the second most at 5. Therefore, the majority of those testing to BS 476 are fire door manufacturers.

72. As two-thirds of manufacturers are assumed to test under 5 years, the majority of tests are expected to be under those manufacturers.

Table 3: Number of tests to European Standard needed for products currently tested to BS 476 every 5 years, Counterfactual, Option 1 - No Technical Assessments Scenario and Option 1 (Central Scenario)

Total number of products needing testing	Manufacturers retesting products to BS 476 under 5 year cycle	Products per manufacturer	Total tests per manufacturer
Cavity barriers	5.3	3.0	15.8
Fire doors - medium/large manufacturers	16.5	30.0	495.0
Fire doors - small manufacturers	247.5	5.0	1,237.5
Smoke vents	2.6	1.0	2.6
Roofs	7.9	2.0	15.8
Total	280	41	1,767

73. The number of tests from the remaining manufacturers that do not test as regularly is laid out in **Table 4**.

74. The vast majority of tests required for manufacturers adapting to the European Standard will therefore need to be for fire door products as both **Table 3** and **Table 4** show.

Table 4: Number of tests to European Standard needed for products not currently tested to BS 476 every 5 years, Option 1 - No Technical Assessments Scenario and Option 1 (Central Scenario)

Total number of products needing testing	Manufacturers not retesting products to BS 476 under 5 year cycle	Products per manufacturer	Total tests per manufacturer
Cavity barriers	2.7	3.0	8.2
Fire doors - medium/large manufacturers	8.5	30.0	255.0
Fire doors - small manufacturers	127.5	5.0	637.5
Smoke vents	1.4	1.0	1.4
Roofs	4.1	2.0	8.2
Total	144	41	910

75. It is assumed that manufacturers who don't test at least every 10 years, do not test enough (or at all) to be included in the 10 year appraisal period under the counterfactual. Therefore, the total number of products captured in the counterfactual that are expected to be tested over the 10 year period are those testing to a 5 and 10 year cycle as in **Table 5**. Those that do not end up retesting at all, will be captured under Policy Option 1 as they will need to test to the European standard at least once.

Table 5: Number of products testing to BS 476, Counterfactual

Total products retesting to BS 476 under the counterfactual	Under 5 year cycle	Once every 10 years	Total number of products being retested to BS 476	Total number of BS 476 products not retesting at all
Cavity barriers	15.8	4.1	19.9	4.1
Fire doors - medium/large manufacturers	495.0	127.5	622.5	127.5
Fire doors - small manufacturers	1,237.5	318.8	1,556.3	318.8
Smoke vents	2.6	0.7	3.3	0.7
Roofs	15.8	4.1	19.9	4.1
Total	1,767	455	2,222	455

76. Under the central scenario for Policy Option 1, it is expected that industry will develop a new standard (code of practice) for technical assessments, which will reduce the number of physical tests needed overall. From testing house feedback, each technical assessment is assumed to reduce the number of physical tests by up to 75%, or rather, 4 products can be captured under 1 technical assessment. Therefore, cost-effectiveness will motivate some physical tests to be complemented with technical assessments. However, some products will require physical testing in order to produce the data for the technical assessments. It is therefore assumed that only half of products will undertake technical assessments, and the other half will undertake physical tests. This is represented as in **Table 6**.

Table 6: Total number of products undertaking European Standard technical assessments and physical tests, Option 1 - No Technical Assessments Scenario and Option 1 (Central Scenario)

Total number of products needing testing	Option 1 - No Technical Assessments Scenario	Policy Option 1 (Central Scenario)	
	Products undergoing physical tests	Products undergoing physical tests	Products using technical assessments
Cavity barriers	24	12	12
Fire doors - medium/large manufacturers	750	375	375
Fire doors - small manufacturers	1875	938	938
Smoke vents	4	2	2
Roofs	24	12	12
Total	2,677	1,339	1,339

77. As most 3rd party certificates are only valid for 5 years on average, the assumption is that manufacturers will retest every 5 years. For the Option 1 - No Technical Assessments Scenario the total number of tests remains the same as there is no technical assessment alternative, therefore all products will require re-testing to the European standard. For the Option 1 Central Scenario, the number of tests varies depending on the transition to technical assessments, as in Option 1a, all manufacturers will be required to complete a test in the first 2 years. This is lower for Option 1b where they can transition to technical assessments, and transition at a slower pace.

78. The counterfactual has less tests than the Option 1 - No Technical Assessments Scenario, and Policy Option 1a as some manufacturers will not retest at all. Whereas all products will have to test to the European Standard at least once to transition.

Table 7: Total number of tests conducted over 10-year period, Counterfactual, Option 1 - No Technical Assessments Scenario and Option 1 Central Scenario

Total number of tests per product	Counter-factual	Option 1 (No Technical Assessment Scenario)	Option 1 (Central Scenario)	
			a	b
Cavity barriers	36	40	32	26
Fire doors - medium/large manufacturers	1118	1245	998	809
Fire doors - small manufacturers	2794	3113	2494	2023
Smoke vents	6	7	5	4
Roofs	36	40	32	26

Total	3,989	4,444	3,560	2,888
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79. The total number of technical assessments is much lower than the tests, as each technical assessment is assumed to be equivalent to 4 tests. Similar to physical testing, the majority of technical assessments will be for fire doors.

Table 8: Total number of technical assessments conducted over 10 year period, Option 1 Central Scenario

Total number of technical assessments per product	Option 1 (Central Scenario)	
	a	b
Cavity barriers	2	3
Fire doors - medium/large manufacturers	62	109
Fire doors - small manufacturers	155	272
Smoke vents	0	1
Roofs	2	3
Total	221	389

80. **Table 9** shows the impact on reducing the total number of tests and technical assessments, by technical assessments replacing some tests. Option 1a, the two-year transition period sees less of an effect with a reduction of 660, compared to Option 1b where there would be 1,160 fewer tests or technical assessments overall.

Table 9: Difference between total tests and technical assessments, Option 1 - No Technical Assessments Scenario and Option 1 (Central Scenario)

	Option 1 (No Technical Assessments Scenario)	Option 1 (Central Scenario)	
		a	b
Total Tests	4,440	3,560	2,890
Total Technical Assessments	-	220	390
Total Tests and Technical Assessments	4,440	3,780	3,280
Change in total tests and technical assessments		- 660	- 1,160

Figures are rounded to the nearest 10

81. Whilst technical assessments would reduce the number of tests, they are likely to require higher skill levels from staff. Therefore, it is assumed that each technical assessment will be approximately 25% more expensive than a test, as in **Table 10**.

82. Smoke vents have the highest costs but will have a lower overall impact on costs, as only 4 products will need testing. Fire doors will be the most impacted with approximately 2,625 products requiring tests as earlier in **Table 6**.

83. Test costs are based on market research and expected to be the same for both BS 476 and the European standard. This is reflected under all options and scenarios, the counterfactual, Policy Option 1 - No Technical Assessments Scenario and Policy Option 1 (Central Scenario).

Table 10: Costs of tests or technical assessments per product, Counterfactual, Option 1 - No Technical Assessments Scenario and Option 1 (Central Scenario)

Cost of tests or technical assessments per product	Test	Technical Assessment
Cavity barriers	£16,070	£20,090
Fire doors	£10,710	£13,390
Smoke vents	£80,340	£100,430
Roofs	£10,710	£13,390

84. As the majority of technical assessments and tests will be required for Fire doors, the majority of testing or technical assessment costs are for Fire doors in both the Option 1 - No Technical Assessments Scenario and Option 1 (Central Scenario).

85. The overall testing costs are lower for Option 1b than Option 1a, as some tests will be replaced by assessments once the industry standard is implemented. As the industry standard will take approximately 3 years to develop, with a transition period of 2 years, under Option 1a, the first round of testing would not allow for technical assessments to be used. Option 1b allows for technical assessments to be used during the transition period, and therefore can be used for both rounds of testing (first tests and any retests), leading to lower overall testing costs across the 10-year appraisal period.

86. As some manufacturers are not expected to retest, the overall testing costs under the counterfactual are also lower than the Option 1 - No Technical Assessments Scenario.

Table 11: Total 10 year Testing costs, Counterfactual, Option 1 - No Technical Assessments Scenario and Option 1 (Central Scenario)

Testing cost breakdown (discounted)	Counter-factual	Option 1 - No Technical Assessments Scenario		Option 1 (Central Scenario)	
		a	b	a	b
Cavity barriers	£0.5m	£0.6m	£0.6m	£0.5m	£0.4m
Fire doors	£36.1m	£43.0m	£40.7m	£35.3m	£27.1m
Smoke vents	£0.4m	£0.5m	£0.5m	£0.4m	£0.3m
Roofs	£0.3m	£0.4m	£0.4m	£0.3m	£0.2m
Total	£37.3m	£44.5m	£42.0m	£36.5m	£28.0m
Figures above are provided in 2023 prices, with all costs shown after discounting. Discount rate is based on 3.5% as per HMT Green Book guidance.					

87. For technical assessments in Option 1, the costs again predominantly fall under fire doors which are expected to be the most impacted. The main differences between Option 1a and 1b are driven by the three-year period to develop a technical assessment, where under Option 1a, only one round of technical assessments can be completed due to physical tests having to take place before an technical assessment process can be

developed. The total technical assessment cost over the 10-year appraisal period is therefore less than Option 1b at £2.5m. Option 1b has two rounds of testing which include technical assessments in the 10-year appraisal period, and therefore is costed the highest at £4.4m.

Table 12: Total 10 year technical assessment costs, Option 1 (Central Scenario)

Technical assessment cost breakdown (discounted)	Option 1 (Central Scenario)	
	a	b
Cavity barriers	£0.03 m	£0.06 m
Fire doors	£2.4 m	£4.2 m
Smoke vents	£0.03 m	£0.05 m
Roofs	£0.02 m	£0.04 m
Total	£2.5 m	£4.4 m
Figures above are provided in 2023 prices, with all costs shown after discounting. Discount rate is based on 3.5% as per HMT Green Book guidance.		

88. Each technical assessment is estimated to reduce tests by 75%, based on test house engagement. As admin costs are incurred on a per test or technical assessment basis, there will be lower admin costs under Policy Option 1b compared to all other scenarios, around £3.1m across the appraisal period. This is shown in **Table 13**.

Table 13: Total 10 year Admin costs for testing, Counterfactual, Option 1 - No Technical Assessments Scenario and Option 1 (Central Scenario)

Admin costs for testing (discounted)	Counter-factual	Option 1 (No Technical Assessments Scenario)		Option 1 (Central Scenario)	
		a	b	a	b
Admin costs	£3.7m	£4.4m	£4.1m	£3.8m	£3.1m
Figures above are provided in 2023 prices, with all costs shown after discounting. Discount rate is based on 3.5% as per HMT Green Book guidance.					

Relabelling costs

89. Products will require relabelling and adjustments to marketing materials when they are either redesigned or tested to the European standard rather than the national standard.

90. The relabelling costs were estimated to be around £3,200 per product tested (either physically or using the technical assessment) based on previous industry research being adjusted for latest costs.

91. Under the counterfactual, products do not need to adjust to the European standard. There are therefore no requirements for relabelling under the counterfactual.

92. As in **Table 14**, the transition period is the only differentiator in relabelling costs for Policy Option 1 (No Technical Assessment Scenario) and Policy Option 1 (Central Scenario). This is because the number of products that need to be relabelled are the same in both

scenarios, the only difference is in the years in which new products are introduced. Therefore, only the discounting of the relabelling costs has an impact on the cost difference.

Table 14: Relabelling (marketing materials) cost, Option 1 - No Technical Assessments Scenario and Option 1 (Central Scenario)

Testing cost breakdown (discounted)	Transition period	
	a	b
Cavity barriers	£0.1 m	£0.1 m
Fire doors	£8.3 m	£7.8 m
Smoke vents	£0.0 m	£0.0 m
Roofs	£0.1 m	£0.1 m
Total	£8.5 m	£8.0 m
Figures above are provided in 2023 prices, with all costs shown after discounting. Discount rate is based on 3.5% as per HMT Green Book guidance.		

Cost of redesigning fire doors to increase fire resistance to the European Standard

93. Based on British Woodworking Federation data¹, 2.25 million timber fire doors will be installed per year. An internal study showed that most fire doors which meet BS 476 will meet, or almost meet, the European standard. Therefore, the assumption is that only 5% of timber fire doors will need to be redesigned to meet the new standard. These timber fire doors will need costlier materials to enhance the fire resistance to meet the European standard. Therefore, this cost will be annual and will not solely be transitional. The only differential between the options for the number of timber fire doors needing to be redesigned is the transition period. The longer the transition period, the slower manufacturers are anticipated to complete the transition of ensuring timber fire doors meet the European standard.

94. Given this cost is based on the design of a product as opposed to testing, there are no costs differences between Option 1 - No Technical Assessments Scenario and Policy Option 1 (Central Scenario). The cost will only vary by transition periods a and b.

95. A 5% increase in cost of timber fire doors due to additional material costs needed to meet the European test standard cost per fire door is assumed, based on an internal study showing that the change is likely to be small. With market research in fire door costs suggesting £200 is an approximate average price, this results in the additional cost per redesigned timber fire door to be £10.

96. The results in **Table 15** show that the longer the transition period, the lower the cost.

Table 15: Number and cost of timber fire doors that have to be redesigned to meet new standard across the 10-year appraisal period.

	Transition periods	
	a	b

¹ BWF-CERTIFIRE (2015), BWF-CERTIFIRE Fire Door and Doorset Scheme Manual [bwf-fdas-manual- v7_170315.pdf](http://www.bwf-certifire.com/wp-content/uploads/2015/07/bwf-fdas-manual-v7-170315.pdf)

Number of timber fire doors being redesigned (millions)	1.0m	0.9m
Present cost of timber fire doors redesigns (£ millions)	£8.6m	£7.3m
Figures above are provided in 2023 prices, with all costs shown after discounting. Discount rate is based on 3.5% as per HMT Green Book guidance.		

Cost of redesigning timber fire door components to fire doorsets

97. It is assumed that 25% of timber fire doors are currently purchased as separate components. This is based on knowledge of the specification and procurement of fire doors within construction projects. Multiplying this by the estimated 2.25 million timber fire doors expected to be produced each year estimates 562,500 timber fire doors per year, previously purchased as separate components, which will now be purchased as fire doorsets.

98. Slower transition periods see less timber fire doorsets being manufactured over the 10 years as in **Table 16**.

99. Based on market data, it is estimated that the cost increase from moving from fire doors as separate components to selling as doorsets is 25%. This is £50 extra per timber fire door when assuming they originally cost £200. This cost could be passed through to developers from manufacturers.

100. It is assumed that over 3 years the cost of door sets will fall back to £200 due to increased competition and as manufacturers become more efficient as they adapt to the new policy requirement.

101. **Table 16** shows the resulting cost increases, with a quick transition resulting in the costs resulting in much higher costs as manufacturers have less time to adapt.

Table 16: Net increase in cost of fire doors that have to be redesigned to meet new standard

Net increase in doorsets purchased	Transition periods	
	a	b
Separate components number	5.3m	4.5m
Cost increase (discounted)	£40.9m	£18.1m

Total and Net Present Cost of each policy option

102. In the counterfactual, the model estimates costs of £41m will be incurred in the absence of ADB setting provisions to meet the European standard.

103. The scale of the total costs will vary depending on the presence of a technical assessment. This difference is significantly more pronounced under

Due to the lack of savings from technical assessments in the Option 1 - No Technical Assessments scenario, this scenario incurs the greatest cost. Option 1 - No Technical Assessments scenario a, with the 2-year transition period has the highest total cost of £106.8m.

104. For Option 1 Central Scenario, Option 1b has the smaller equivalent annual net direct cost to business (EANDCB), at £8.0m. This suggests that using technical assessments and a longer transition period should minimise any costs related to testing.
105. Comparatively, Option 1a has a higher EANDCB of £11.7m, as the benefits of technical assessments are limited in the shorter transition. The extra cost to businesses of not having an technical assessment option is clear as the EANDCB of the No Technical Assessments Scenario's range from £9.2m-£12.4m.

Table 17: Total cost relating to testing, Counterfactual, Option 1 - No Technical Assessments Scenario and Option 1 (Central Scenario)

	Counter-factual	No Technical Assessments Scenario		Option 1 (Central Scenario)	
		a	b	a	b
Assessment/Testing costs	£37.3 m	£44.5 m	£42.0 m	£39.0 m	£32.4 m
Admin costs	£3.7 m	£4.4 m	£4.1 m	£3.8 m	£3.1 m
Relabelling costs	£0.0 m	£8.5 m	£8.0 m	£8.5 m	£8.0 m
Cost of redesigning timber fire doors	£0.0 m	£8.6 m	£7.3 m	£8.6 m	£7.3 m
Cost of redesigning fire doors to fire door sets	£0.0 m	£40.9 m	£18.1 m	£40.9 m	£18.1 m
Total Present Cost	£41.0 m	£106.8 m	£79.6 m	£100.8 m	£68.9 m
Equivalent annual net direct cost to business (EANDCB)	£4.8 m	£12.4 m	£9.2 m	£11.7 m	£8.0 m

Figures above are provided in 2023 prices, with all costs shown after discounting. Discount rate is based on 3.5% as per HMT Green Book guidance.

106. **Table 18** shows the costs of the policy, when removing the costs of the counterfactual. The preferred Policy Option 1b has the lowest Net Present Cost (NPC) and Equivalent annual net direct cost to business (EANDCB) at £27.9m and £3.2m respectively. This increases to £38.6m and £4.5m respectively if no technical assessment standard is developed. For Policy Option 1a, this cost is over double the central scenario for Policy Option 1b, with an NPC of £59.8m and EANDCB of £6.9m. Under the No Technical Assessment Scenario for Policy Option 1a, this slightly increases to an NPC of £65.9m and EANDCB of £7.7m.

Table 18: Net Present Cost for Option 1 - No Technical Assessments Scenario and Option 1 (Central Scenario), split by each cost

	Option 1 (No Technical Assessments Scenario)	Option 1 (Central Scenario)
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	a	b	a	b
Technical assessment/Testing costs	£7.2 m	£4.7 m	£1.7 m	-£4.9 m
Admin costs	£0.7 m	£0.5 m	£0.1 m	-£0.6 m
Relabelling costs	£8.5 m	£8.0 m	£8.5 m	£8.0 m
Cost of redesigning timber fire doors	£8.6 m	£7.3 m	£8.6 m	£7.3 m
Cost of redesigning fire doors to fire door sets	£40.9 m	£18.1 m	£40.9 m	£18.1 m
Net Present Cost	£65.9 m	£38.6 m	£59.8 m	£27.9 m
Equivalent annual net direct cost to business (EANDCB)	£7.7 m	£4.5 m	£6.9 m	£3.2 m
Figures above are provided in 2023 prices, with all costs shown after discounting. Discount rate is based on 3.5% as per HMT Green Book guidance.				

Sensitivity Analysis

Number of tests

107. Sensitivity analysis was undertaken to consider how the number of products manufacturers choose to test could differ in reaction to the move to the European Standard. This was deemed to be an assumption with low confidence and high impact.

108. **Table 19** shows the variation in number of tests considered. The high and low scenarios are based on various engagements within the fire door industry, and applied to the other products impacted under the policy. The high scenario of tests doubled from the central, and the low scenario was approximately half depending on the product.

Table 19: Number of tests sensitivity

Total number of products needing testing	Low	Central	High
Cavity barriers	2	3	6
Fire doors - medium/large manufacturers	15	30	60
Fire doors - small manufacturers	3	5	10
Smoke vents	0.5	1	2
Roofs	1	2	4
Total	21.5	41.0	82.0

109. **Table 20** shows the costs when varying the number of tests under the central scenario. In a low number of tests, estimated the net present cost at £9.3m, with the EANDCB estimated at £1.1m. The high test scenario is over double the cost of the central test scenario, with a net present cost of £64.5m, compared to £27.9m. The EANDCBs were £7.5m and £3.2m respectively for the high test scenario and central scenario. Under Policy Option 1a the costs are much higher for each test scenario as less technical assessments can take place compared to the preferred Policy Option 1b.

Table 20: Number of tests sensitivity - net costs

Net testing costs (£m)	Policy Option 1a (Central)			Policy Option 1b (Central)		
	Low test scenario	Central test scenario	High test scenario	Low test scenario	Central test scenario	High test scenario
Total costs	£37.8 m	£59.8 m	£111.1 m	£9.3 m	£27.9 m	£64.5 m
Equivalent annual net direct cost to business (EANDCB)	£4.4 m	£6.9 m	£12.9 m	£1.1 m	£3.2 m	£7.5 m
Figures above are provided in 2023 prices, with all costs shown after discounting. Discount rate is based on 3.5% as per HMT Green Book guidance.						

Extreme case sensitivity testing

110. There are multiple different ways that Policy Option 1 could be affected. This includes the transition period selected, whether a technical assessment standard is designed, and the number of products that manufacturers decide to test. These sensitivities have been combined to provide an extreme High NPC scenario and Low NPC scenario. These are categorised as below:

- **High NPC Scenario:** 2 year transition period (Option 1a), a technical assessment is not designed, and a high number of products are tested.
- **Central NPC Scenario:** 5 year transition period (Option 1b), a technical assessment is designed, and a central number of products are tested.
- **Low NPC Scenario:** 5 year transition period (Option 1b), a technical assessment is designed, and a low number of products are tested.

111. **Table 21** shows the variation in net costs in the 2 extreme cases assessed, which would maximise or minimise the costs from the assessed tests. The High NPC scenario is where there is an technical assessment standard and a high number of tests under a 2 year transition. The Low NPC scenario is where there is an technical assessment standard and less testing required under a 5 year transition. The NPC varies significantly from £123.2m to £9.3m, with the central scenario at £27.9m. The EANDCB varies from £14.3m to £1.1m, with the central scenario at £3.2m.

Table 21: Extreme case sensitivity - net costs

Net testing costs (£m, discounted)	High NPC scenario	Central Policy Option 1a	Central Policy Option 1b	Low NPC Scenario
Net Present Cost	£123.2m	£59.8 m	£27.9m	£9.3m
Equivalent annual net direct cost to business (EANDCB)	£14.3m	£6.9 m	£3.2m	£1.1m
Figures above are provided in 2023 prices, with all costs shown after discounting. Discount rate is based on 3.5% as per HMT Green Book guidance.				

Rationale for no monetised benefits

112. No benefits have been monetised due to the lack of quantitative evidence in the area which has led to significant uncertainty surrounding the potentially beneficial impacts generated by transitioning to the European standards. It is important, however, to acknowledge the possible benefits that might arise.
113. The overall difference between the testing requirements for each product is small, with the European testing standard being slightly more onerous, thus more rigorous. There is limited research into the different safety benefits provided by each testing regime.
114. Thus, given the lack of available research on the efficiency and safety improvements generated by using a single set of standards, it was not possible to accurately monetise benefits in this impact assessment.

Non-monetised benefits

115. As above, benefits for this policy could not be monetised due to limited quantifiable evidence on the improvement in fire safety standards from moving from BS 476 to the European standard. This section sets out the potential non-monetised benefits as a result of the policy.
116. With more rigorous testing from adjusting to the European standards and a sole classification, the level of fire resistance for products in-scope will be more consistent and to a higher standard. This will result in these products being safer across the market, and therefore the likelihood of severe impacts from a fire should become lower. This will be a long-term benefit as the European standards are periodically reviewed and expected to be updated if needed to ensure products provide the safety required.
117. The new standard will also provide clarity, certainty, and confidence to developers regarding the performance of products in the market as they all become regularly tested to the same standard, and removes uncertainty as to how a product performs and the level of safety each product will provide.

Non-monetised costs

118. A non-monetised cost is disruption and confusion to the supply chain. Manufacturers may struggle to adapt quickly enough and produce products to meet the new standards. If the supply cannot meet the demand this could impact developers and cause delays to construction projects where the products required are not available. The 5-year transition period is expected to mitigate this impact, allowing those slower manufacturers to continue selling previous products whilst transitioning.
119. However, with the new safety expectations of products tested to the European standards, developers may now have a preference to those products due to the importance of safety improvements and supply may not be able to meet demand initially. Developer demand for these products may be further encouraged through insurers, as insurers are likely to consider the safety of the products when insuring a project, as it reduces their risk and may further encourage demand for European standard compliant items. Disruption to supply of fire doors could result in developers buying from the European market, where the supply is likely readily available due to already testing to the European standard, and damaging the UK market. However, European manufacturers

will still need to classify to the British Standard adoption of the European Standard in order to be sell on the UK market (e.g: BS EN 13501 series).

120. With products being required to meet a single set of standards, previous existing products may no longer be available and reduce variation in the market. An example of this is timber fire doors, which in some cases would lead to the redesigning of products in order to pass the European standard. This would result in previous products being removed from the market, giving less choice to buyers. Similarly, the transition from selling fire door components to fire doorsets will mean fewer bespoke products can be made.
121. These difficulties could result in businesses struggling, and some may not be able to face the hike in costs from the transition. In this case they may have to leave the market. This will have two further knock-on effects by negatively impacting supply of fire doors, and may also result in unemployment for those working in businesses that leave the market.

Costs and benefits to business calculations

122. All of the costs modelled are direct costs to businesses. This is because the manufacturers impacted by additional costs are expected to be price takers. Most costs are assumed to not be transferrable from manufacturers to developers. Manufacturers will take all of the monetised costs with the exception of the transitional cost of redesign of fire doors to fire doorsets which will fall onto developers.
123. This is because the cost of fire door sets is assumed to be greater than the cost of fire door components to build on site at current. Once manufacturers transition, it is anticipated that competition will allow for the overall cost to return to normal.
124. Costs will also not be passed down to residents, as developers of new builds must be price takers in order to compete with existing homes.
125. Therefore, the BNPV is the same as the NPSV for the preferred option at: £27.9m, and an EANDCB of £3.2m.

Impact on small and micro businesses (SMBs)

126. Removing co-existing national standards for Approved Document B and transitioning to European standards might have an impact on small and micro businesses which manufacture fire doors. There is a subtle difference between the two testing standards, however the change may have a sizeable impact on costs for British fire door manufacturers. Within the analysis, it is assumed there are 375 small fire door manufacturers, and 25 medium or large fire door manufacturers that would not already test to the European Standard, based on assumptions from the Adroit Consortium.
127. While the test cost itself is relatively low, manufacturing costs are expected to rise by around £10 per timber fire door for costlier materials to raise the fire resistance of the timber fire door. Manufacturers of fire doors will also need to transition to fire door sets, which will raise costs in the short-run. As manufacturers of fire doors are assumed to be price takers due to competition in the market, small and micro businesses may find it more difficult to transition to producing more fire-resistant timber fire door sets. This cost may

be easier to absorb by larger manufacturers who can make use of economies of scale to reduce their costs, as well as having greater financial capital to do so.

128. From stakeholder engagement, it was indicated that a minimum period of a 5-year transition period is necessary to transition to the European standard. This duration would lessen the impact on SMBs by giving them more time to plan, adapt, and spread the cost and benefits as late movers in the market. With this transition period being the preferred option, SMBs will have the opportunity to adjust accordingly.
129. Despite the impact, there is no clear rationale for exempting small business from this regulatory change. While it is likely that small businesses might be impacted more disproportionately, many businesses will also be impacted by the policy change and removing the inclusion of a subset of developers could undermine the policy objective. Likewise, if small businesses are excluded, this could limit or even potentially remove some of the benefits that might arise as a result of the policy, such as improved safety standards related to fire doors which should take precedence.

Costs and benefits to households' calculations

130. This policy is not expected to have any costs or impacts to households. There are also no wider impacts to individuals.
131. Costs incurred by manufacturers are not expected to be passed through to developers as the majority of manufacturers will not be impacted, and the manufacturers who suffer high costs will need to keep their prices competitive with the rest of the market.
132. Even if costs are passed to developers, in the new build housing market they are expected to be price takers as they compete with sales of existing homes. Therefore, it is unlikely that any costs they incur will be able to be passed on through increased house prices.

Business environment

133. The overall impact to the business environment is uncertain in the UK.
134. Similar to the trade implications section, there is the benefit of an improved perception of the minimum quality of products in the UK by having to meet the European standard. This would encourage investment in the related products produced by UK manufacturers, as there may be less information failure over the quality of products giving developers more confidence when purchasing products. However, this will come at an additional cost to the industry to comply with the European standard.
135. Firms that have adopted the European standard will also be more able to sell to European consumers. For instance, manufacturers of fire door components, would not have been able to sell their products to the EU as a fire door set must be tested to comply with the European Standard. Therefore, the move from fire door components to fire door sets could widen the market opportunity for manufacturers.
136. Increased costs to produce timber fire doors as well as producing fire door sets may also represent a greater barrier to entry to the fire doors market. Manufacturers will need

to produce a full fire door set and have the equipment and labour to do so, as opposed to producing a fire door component. Similarly, the increased costs to ensure timber fire doors can comply with the European standard may also be difficult for new entrants to the market. These two changes would therefore represent an increased barrier to entry.

137. A supply chain impact may be caused by the move to the European standard. More products will need to be tested by test houses under the transition period. Test houses are expected to be able to cope with the additional demand under the five-year transition period. However, if an increase or shock to demand occurs and test houses do not have enough supply, this may cause a supply chain impact for the effected products, and developers will need to source their products from elsewhere, or delay their construction, incurring additional costs. Similarly, manufacturers requiring tests may choose to test in the EU instead to ensure demand, but this may come with additional costs.

Trade implications

138. There is the potential for trade impacts from the proposed measures to remove the national classification for resistance to fire and reaction to fire, particularly with regards to fire doors. The magnitude and directional impact of these is uncertain, however.

139. The current statutory guidance in Approved Document B includes provisions for doors to be tested and assessed to BS 476 or to the European Standard. The preferred option of this policy is to transition to all fire doors being tested under European standard. Research from our external consultants at the Adroit Consortium and PRP Architects has identified that some major manufacturers and potentially some residual smaller firms still test to BS 476.

140. The trade implications arise from the subtle differences between the two testing standards. BS 476 tests provides flexibility through technical assessments to combine a variety of components (that have been through a door test) into a fire door and, as such, Adroit Consortium consultants estimate between one-quarter and one-half of British fire door manufacturers tend to build components on site. Tests to the European Standard are more onerous however, requiring the testing of all door components together as a doorset.

141. European manufacturers are already aligned to this standard, and so when the requirement to move to a single set of standards is introduced it is possible that they will have a competitive advantage in producing fire doors which meet the new standard due to the likelihood of a time-lag for British manufacturers. Indeed, research conducted by the Adroit Consortium identified that small manufacturers, who are more likely to produce just fire doors, as opposed to fire doorsets (a door, frame, hinges, ironmongery etc.) are most at risk. This is because if these manufacturers are unable to produce entire fire doorsets, they will lose market share to (larger) competitors (including those in the EU) who can produce entire fire doorsets.

142. Equally, however, the European Standard is considered a more rigorous testing standard, so by installing this as the primary standard across British fire door

manufacturers, the perceived quality improvement could lead to an increase in demand for fire doors from British manufacturers.

143. Thus, while there is the potential for trade impacts from the proposed measure of moving to a single set of standards, it is difficult to definitively assess the magnitude and direction of these.

Environment: Natural capital impact and decarbonisation

144. No significant environmental impacts are expected under this policy. There will be some short term transitional impacts arising from increased testing, but these are expected to be minimal in the context of the overall construction sector.

Other wider impacts (consider the impacts of your proposals)

145. No wider impacts are expected from this policy.

Risks and assumptions

Key risks:

Transition period

146. The transition period is a risk, as firms will need time to adjust. In option a where firms only have 2 years to adjust, the model assumes that not all firms will be able to transition in that time frame. Stakeholder engagement indicated that firms required a minimum of 5 years to adapt, so Policy Option 1b is expected to enable this.

147. If firms needed longer than the option selected, then there would be a risk of UK firms struggling to adapt and not being able to sell products in the meantime whilst they wait for products to be developed and tested. This would harm UK manufacturers who may lose market share to European manufacturers who can readily supply items that meet the European standard. This will likely predominantly impact SMBs who have fewer resources to transition quickly. Similarly, UK developers may suffer higher prices with a limited supply on the market during the transitioning years.

Testing capacity

148. Based on stakeholder engagement, UK test houses are expected to increase their fire test capacity in the coming years. However, there is still uncertainty around how much testing capacity will grow in the coming years, and if testing houses will be able to meet the markets increased demand resulting from the policy. It is expected that there will be capacity for retesting, but especially with a transition period of 2 years, there is a risk that the number of tests will be greater than capacity as they must be completed within the first 2 years. A shorter transition period would also create long-term spikes in retesting demand over time, as products might be retested after five years. Furthermore, testing capacity is expected to grow over time so is less of a risk for longer transitions.

149. The central scenario for Option 1 with technical assessments alongside tests will reduce the strain on testing capacity further. It is estimated that the industry standard will be developed for technical assessments to take place from 2028, and therefore testing capacity remains a risk in the short term.

150. The number of technical assessments and tests in all transition periods are far below the retesting capacity. **Table 22: Forecasted testing capacity** shows where the number of tests are spread across the transition period that the risk of the testing capacity being too low to meet demand is very low.

151. Retesting capacity focuses on tests that are devoted to retesting affected products, which was found to be approximately 50%. The assumptions to predict this capacity are from industry engagement, and adjusted to apply to the overall industry. These would need to be considerably inaccurate to make capacity a significant risk.

Table 22: Forecasted testing capacity

Year	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Forecast Testing capacity	4,725	4,961	5,209	5,470	5,743	6,030	6,332	6,649	6,981	7,330
Forecast Retesting capacity	2,363	2,481	2,605	2,735	2,872	3,015	3,166	3,324	3,490	3,665
Assessment and tests under Option 1 (Central Scenario)	444	444	444	420	420	221	221	221	221	221

Number of tests that each technical assessment can replace

152. The impact assessment assumes that, on average, each technical assessment can replace four tests. However, there is a risk that the actual number of tests a technical assessment can replace may differ, as it is based on limited engagement with test houses. As the more tests each technical assessment can replace, the lower the testing costs (and vice-versa), this is an important assumption. The Option 1 - No Technical Assessments Scenario illustrates the higher costs that would occur if assessments are either not introduced or fail to reduce the number of tests required.

153. The Option 1 - No Technical Assessments Scenario illustrates the maximum costs that would occur if technical assessments are either not introduced or fail to reduce the number of tests, this range in costs is around £12.6m over our preferred option (an increase of around 50%). This suggests a significant change in cost and reflects the potential difference that there may be from adjusting this assumption. The result from this sensitivity highlights the risk of inaccuracies in the assumed number of tests each technical assessment can replace, as more/less tests may be required and can have a large impact on costs.

Assumptions Table

154. The data and assumptions used in the analysis have been sourced from a variety of sources including the Adroit Consortium (an external consultancy), and PRP Architects.

155. Each assumption used in the model and subsequent analysis has been outlined below and divided into four categories; the assumption itself, its scope, the year it was collected, and the quality of the information informing it. The most important category is quality, with each assumption given a rating ranging from high to low:

High	Published data from a respectable statistical authority e.g., ONS
Medium	Internal data from within MHCLG, Adroit etc.
Low	All other data not published, from internal databases, or judgement calls

Table 23: Assumptions

Assumption	Scope	Timing	Quality
Pace of policy implementation	The rate at which businesses in scope will be able to transition to the requirements of the policy (e.g., 100% in year 1)	2024	Medium (Estimated rate at which industry will be able to respond to the change in scope based on Adroit's experience of similar changes and engagement with various industry stakeholders by Adroit and BSR)
Number of manufacturers not currently testing to European standards.	The number of manufacturers, as identified by research from Adroit/PRP, who are currently not testing to the European standards.	2024	Medium (Based on Adroit market knowledge/PRP industry analysis checked against published data on the size and profile of the sector)
Number of products requiring (re)testing per manufacturer.	The number of products, as identified by research from Adroit/PRP, which are currently not being tested to the European standards.	2024	Low/Medium (Based on Adroit market knowledge/PRP industry analysis of the number of products not meeting the European standards by larger manufacturers, and reduced to consider smaller manufacturers too)
Number of variants of products per manufacturer.	The number of variations of products, as identified by research from Adroit/PRP, which are currently not being	2024	Low/Medium (Based on research of the number of variants of products not meeting the European

	tested to the European standards.		standards within the market conducted by Adroit/PRP)
Cost per test	The cost to manufacturers of conducting a European standard test for their product	2024	Medium (Based on a combination of previous research conducted by Adroit and data from the CPA on test costs for different products, adjusted for inflation).
Cost per technical assessment	The cost to manufacturers of conducting a technical assessment based on test data from the European standard for their dooset	2024	Low (Adroit assumption that technical assessment are 25% more expensive than physical tests due to skill levels of staff who undertake technical assessments).
Retesting - admin costs	The administration costs incurred by manufacturers as a result of switching to the European standards (e.g., staff time arranging, invoicing etc.)	2024	Medium (Adroit's estimate for time it takes to prepare materials etc for testing based on industry experience).
Relabelling and updating marketing materials - per product per manufacturer costs	The product relabelling and marketing costs incurred by manufacturers as a result of switching to the European standards (e.g., redoing marketing materials, printing and affixing labels etc.)	2024	Medium (Based on a combination of previous Adroit research and Campden BRI research, adjusted for inflation).
Timber fire door installations And, Timber fire door installations per year resulting in a test requirement	The number of timber fire door installations per annum And, The number of timber fire door installations per year resulting in a test requirement.	2024	Medium (Based on BWF data that 3m fire doors are installed per annum, 75% of which are timber, with total market value of £320m.). Reduced based on estimate of fire doors not requiring a test
Percentage of fire door installations falling under general refurbishment	The percentage of timber fire doors falling under general	2024	Low (Adroit/PRP estimate).

	refurbishment and so not in scope for a new test		
Timber fire door cost	The cost of a timber fire door	2024	Medium (Adroit previous market research found costs of timber fire doors ranges from £50-£600. Given BWF estimates of size of market, we have narrowed this range to £100-£200)
Percentage of timber fire doors which need to be redesigned to meet the European standards And, Increase in cost of timber fire doors due to additional material costs needed to meet the European test standard	The percentage of fire doors that will not meet the European standards, and will result in an additional cost	2024	Low/Medium (Adroit assumption based on an internal study finding. The internal study noted that most fire doors which meet BS 476 meet or almost meet the European standard, and achieving that performance would not be unduly onerous.)
Number of fire test laboratories in UK	The amount of fire test labs in the UK able to test in the transition to the new standard.	2024	Medium (Test body consultation, Adroit research)
Average furnaces per lab	The average furnaces that each lab has available that will be used for testing.	2024	Medium (Consultation with a test body and research)
Tests per furnace per year	The number of tests that each furnace will be able to conduct each year	2024	Medium (Test body consultation suggested 65-80 tests per year per furnace is possible)
Year on year increase in testing capacity	The estimate for how the industry will increase testing capacity which will support an increase in testing demand from the policy	2024	Low/Medium (Test body consultation suggested a growth ambition. Adroit assumptions estimated a growth increase to represent the industry)
Testing capacity devoted to retesting (%)	The estimate for how much testing capacity will be available for manufacturers requiring retesting	2024	Low (Adroit assumption. Test body consultation mentioned some new product R&D testing work and demands this creates)

Time to develop new Industry standard	The time taken to create new Industry standard (code of practice) for technical assessments	2024	High/Medium (BSR recommendation - 2.5 years to develop, 0.5yrs to go live)
Reduction in number of tests due to technical assessment option	An estimate of the number of tests that will not need to be completed as they can be replaced by a technical assessment	2024	Low/Medium (Adroit assumption based on test house consultation)