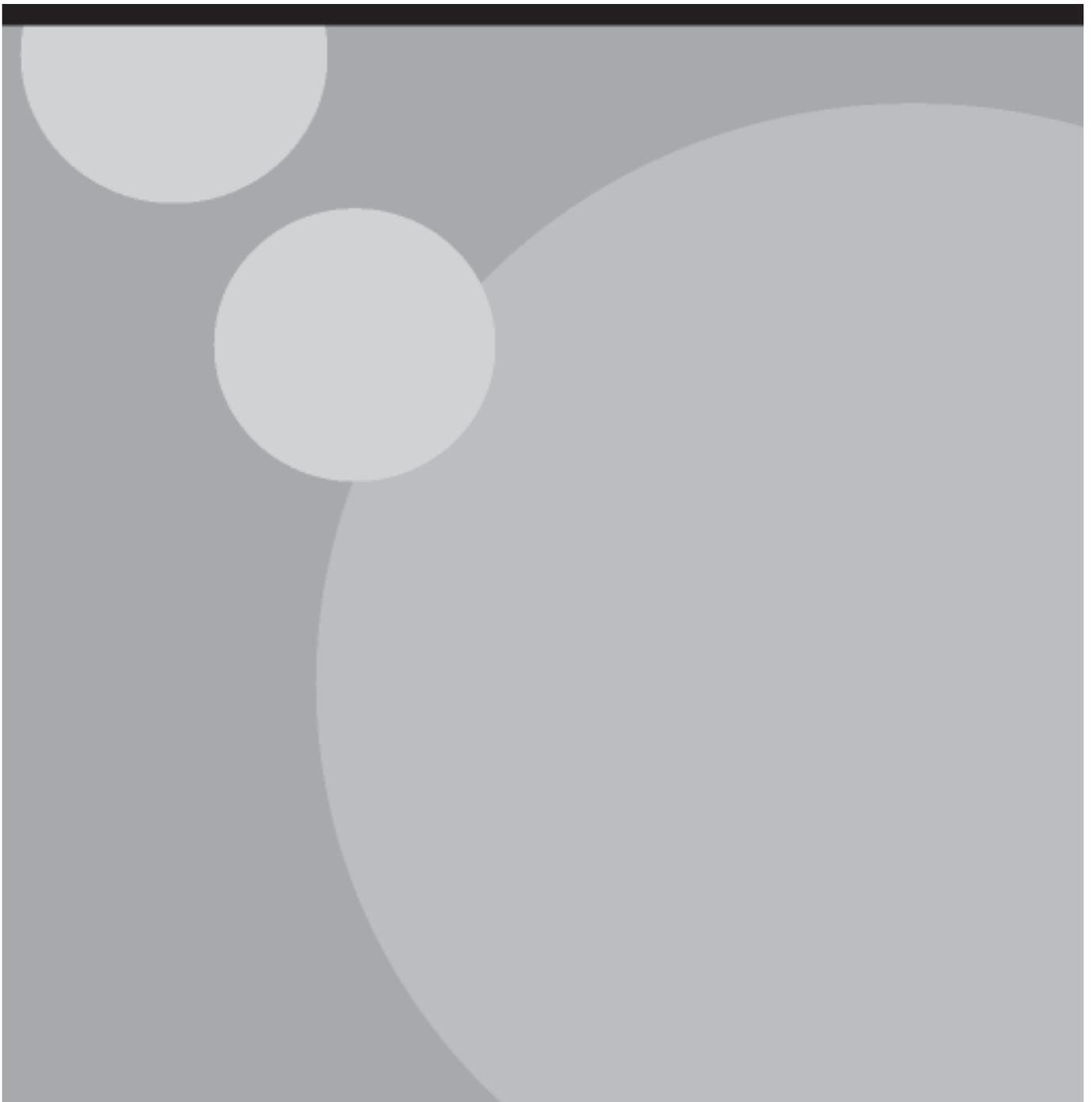




# Changes to Part B (Fire safety) of the Building Regulations in England: Light Diffusers and Wall Coverings

Consultation stage impact assessment





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Consultation stage impact assessment

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Any enquiries regarding this document/publication should be sent to us at:

Department for Communities and Local Government  
Eland House  
Bressenden Place  
London  
SW1E 5DU  
Telephone: 030 3444 0000

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|---|--|--|--|
| <b>Title:</b><br><b>Changes to Part B (Fire safety) of the Building Regulations in England: Light Diffusers and Wall Coverings</b><br><br><b>IA No:</b> DCLG/0083<br><br><b>Lead department or agency:</b><br>Department of Communities and Local Government<br><br><b>Other departments or agencies:</b> | <b>Impact Assessment (IA)</b>          |  |  |
|   | Date: 11/08/2011                       |  |  |
|   | Stage: Consultation                    |  |  |
|   | Source of intervention: Domestic       |  |  |
|   | Type of measure: Secondary legislation |  |  |
| Contact for enquiries: Brian Martin   |  |  |  |

|  |                   |
|--|-------------------|
| <b>Summary: Intervention and Options</b> | <b>RPC: AMBER</b> |
|--|-------------------|

| Cost of Preferred (or more likely) Option |                            |   |                              |                      |
|---|----------------------------|---|------------------------------|----------------------|
| Total Net Present Value                   | Business Net Present Value | Net cost to business per year<br>(EANCB on 2009 prices) | In scope of One-In, One-Out? | Measure qualifies as |
| £232.18m                                  | £232.18m                   | £25.44m   | Yes                          | Out                  |

**What is the problem under consideration? Why is government intervention necessary?**  
 Requirement B2 of the Building Regulations restricts the spread of flame and heat release rate of the materials used in lining any partition, wall, ceiling or other internal structure. The guidance in Approved Document B sets reasonable standards by reference to both the European (EN) and British (BS) test and classification systems.

As a result of changes in technology and standards this guidance may be imposing unnecessary costs on industry beyond what is necessary to ensure adequate standards of safety.

**What are the policy objectives and the intended effects?**  
 To simplify and update the guidance supporting Requirement B2 to ensure that unnecessary burdens associate with compliance are avoided whilst maintaining adequate standards of safety.

**What policy options have been considered, including any alternatives to regulation? Please justify preferred option (further details in Evidence Base)**  
 The two policy options considered in detail in this impact assessment are 1) do nothing and 2) simplify the guidance supporting requirement B2.

Two specific provisions have been identified where simplification may result in reduced burdens on industry. These relate to; Clarifying the application of Requirement B2 to decorative wallcoverings, and Updating the guidance on thermoplastic lighting diffusers to reflect modern technology.

For the purposes of this impact assessment both provisions are considered in option 2). However, following consultation and further research, the decision to take forward one or both of these proposals will be made independent of the other.

|   |                  |          |                  |                   |                    |
|---|------------------|----------|------------------|-------------------|--------------------|
| <b>Will the policy be reviewed?</b> It will be reviewed. <b>If applicable, set review date:</b> N/A |                  |          |                  |                   |                    |
| Does implementation go beyond minimum EU requirements?  |                  |          | N/A              |                   |                    |
| Are any of these organisations in scope? If Micros not exempted set out reason in Evidence Base.    | <b>Micro Yes</b> | < 20 Yes | <b>Small Yes</b> | <b>Medium Yes</b> | <b>Large Yes</b>   |
| What is the CO2 equivalent change in greenhouse gas emissions?<br>(Million tonnes CO2 equivalent)   |                  |          | <b>Traded:</b>   |                   | <b>Non-traded:</b> |

***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 by the responsible Minister: \_\_\_\_\_ *Andrew Stunell* Date: 25 November 2011

# Summary: Analysis & Evidence

# Policy Option 2

Description: Simplify the Guidance Supporting Requirement B2

## FULL ECONOMIC ASSESSMENT

| Price Base<br>Year 2011 | PV Base<br>Year 2013 | Time Period<br>Years 10 | Net Benefit (Present Value (PV)) (£m) |               |                        |
|-------------------------|----------------------|-------------------------|---------------------------------------|---------------|------------------------|
|                         |                      |                         | Low: 111.33m                          | High: 433.60m | Best Estimate: 232.18m |

| COSTS (£m)    | Total Transition<br>(Constant Price)<br>Years | Average Annual<br>(excl. Transition)<br>(Constant Price) | Total Cost<br>(Present Value) |
|---------------|---|--|-------------------------------|
| Low           | Optional                                      | Optional   | Optional                      |
| High          | Optional                                      | Optional   | Optional                      |
| Best Estimate | 0.22m   |  | 0.22m                         |

### Description and scale of key monetised costs by 'main affected groups'

One off transition cost for building control officers and lighting professionals of £174,000 (30 minutes per professional at £60 per hour for 5,800 professionals) and to businesses of £50,000 (100 business affected at £500 each).

### Other key non-monetised costs by 'main affected groups'

Potential costs associated with the wall coverings change to be estimated for final IA through forthcoming research and based on information provided during the consultation.

| BENEFITS (£m) | Total Transition<br>(Constant Price)<br>Years | Average Annual<br>(excl. Transition)<br>(Constant Price) | Total Benefit<br>(Present Value) |
|---------------|---|--|----------------------------------|
| Low           | Optional                                      | 12.96m   | £111.56m                         |
| High          | Optional                                      | 50.40m   | £433.83m                         |
| Best Estimate |   | 27.00m   | £232.41m                         |

### Description and scale of key monetised benefits by 'main affected groups'

15% estimated reduction required for 5m units at a cost of £45 per unit with 80% of savings realised. This amounts to £27m per annum, to give a discounted present value benefit of £232.41m over 10 years.

### Other key non-monetised benefits by 'main affected groups'

Potential benefits associated with the wall coverings change to be estimated for final IA through forthcoming research and based on information provided during the consultation.

|  |                          |      |
|--|--------------------------|------|
| <b>Key assumptions/sensitivities/risks</b> | <b>Discount rate (%)</b> | 3.5% |
|--|--------------------------|------|

Ranges for lighting diffusers based on varying % reduction of units due to the change (High: 20% and Low: 10%) and estimates of the number of sales of this type of light fitting (High: 7m, Low: 3m).

## BUSINESS ASSESSMENT (Option 1)

|   |                   |              |                   |                      |
|---|-------------------|--------------|-------------------|----------------------|
| Direct impact on business (Equivalent Annual) £m: |                   |              | In scope of OIOO? | Measure qualifies as |
| Costs: £0.03m                                     | Benefits: £27.00m | Net: £26.97m | Yes               | OUT                  |

# Evidence Base (for summary sheets)

## Problem under consideration

### Background on the Building Regulations

1. The Building Regulations control certain building work - principally to protect the health, safety and welfare of people in or around buildings. Part B of Schedule 1 of the regulations relates to fire safety aspects of building design and construction and Approved Document B contains statutory guidance that demonstrates how the provisions can be complied with.
2. The regulations themselves are expressed in “functional” terms and do not dictate how the desired level of performance *must* be achieved. However, for the benefit of both industry and building control bodies, advice on how the requirements of the Building Regulations *may* be met are contained in guidance approved by the Secretary of State. This covers some of the more common building situations, but there may well be alternative ways of achieving compliance with the provisions. However, if followed, the guidance may be relied upon in any proceedings as tending to indicate compliance with the Building Regulations.
3. Requirement B2 of the Building Regulations restricts the spread of flame and heat release rate of the materials used in lining any partition, wall, ceiling or other internal structure. The guidance in Approved Document B sets reasonable standards by reference to both the European (EN) and British (BS) test and classification systems. The appropriate classification varies in the guidance depending on the location of the wall lining and either system of classification can be used. These design standards provide a baseline set of technical performance requirements for fire safety, but are not exclusive of other options being used to show compliance.

### *Thermoplastic Lighting Diffusers*

4. The existing guidance in Approved Document B covering the application of requirement B2 to lighting diffusers was developed some time ago. Since then lighting technology has changed considerably and requirements for energy efficiency have become more stringent. This presents a growing conflict between the provisions for fire safety and those for energy efficiency. The Lighting Industry Federation has asked us to look again at this guidance to see if this conflict can be resolved.

### *Decorative Wall Coverings*

5. The existing guidance in Approved Document B covering the application of requirement B2 to wall linings does not clearly differentiate between decorative wall coverings and wall linings that form part of the construction. As a result there is uncertainty as to how decorative coverings should be addressed. This is particularly pertinent at this time as a mandatory requirement to use the European classification system for fire performance which takes effect in 2013 has the potential to introduce unintended consequences and increased costs in for certain types of wall coverings.

## Rationale for intervention

6. Building Regulations apply to “building work” (typically the erection or extension of a building) and seek to ensure buildings meet certain minimum health, safety, welfare and sustainability standards. Part B seeks to ensure that a building is safe in the event of a fire.

7. As the legislative provision is “functional”, statutory guidance contained in the Approved Documents sets some of the ways, for the more common buildings, of ensuring basic minimum health, safety and welfare standards are achieved when constructing buildings. This provides certainty for building control bodies and industry alike as it sets out what is sufficient (whilst providing flexibility to provide alternative building approaches where beneficial). Importantly, it also ensures that a proper cost/benefit assessment and consultation with industry has been undertaken by Government to assess what reasonable minimum standards are appropriate (and avoids the risk of unnecessarily onerous and costly standards being imposed on business).
8. DCLG undertook an exercise in the latter half of 2010 to determine what changes were necessary to the Building Regulations to ensure they remained fit-for-purpose, with a particular emphasis on identifying measures to reduce the cost of regulation to business and any other “must do” regulatory changes.
9. There were 248 responses from our external partners to this exercise. In addition, DCLG drew upon ideas and suggestions submitted to the Cabinet Office’s *Your Freedom* and DCLG’s own website. A summary and analysis of responses and details of the work being considered in advance of the consultation this proposal forms a part of is contained in *Future changes to the Building regulation – next steps*<sup>1</sup>. As set out in this document:
 

*“Few responses questioned the principle of regulations setting national standards that ensure buildings are built to baseline standards, although there was some comment that they were on firmest grounds in relation to health and safety (rather than wider sustainability objectives). Many specifically recognised the positive role Building Regulations played and welcomed the fact that there was a nationally applied set of minimum requirements.”*
10. There were 54 responses relating to the fire safety provisions in Part B. A significant proportion of these included calls for greater regulation and the wider use of fire suppression systems. However, this exercise did not produce any significant new evidence on the health and safety benefits of greater sprinkler provision that would alter the cost/benefit analysis and the basis of the current approach.

#### *Thermoplastic Lighting Diffusers*

11. The Lighting Industry Federation, however, did submit a request seeking clarification of the provisions in Approved Document B that affect the specification of thermoplastic lighting diffusers. Subsequent to this request supporting evidence was submitted to the Department by Zumtobel Lighting Ltd<sup>2</sup> that supports a change in these provisions.

#### *Decorative Wall Coverings*

12. In addition to the comments made to the Department in response to specific calls for evidence, we have also identified a need to clarify how the provisions in relation to Requirement B2 relate to decorative wall coverings. As it stands the guidance does not clearly differentiate between decorative wall coverings and wall linings. As a result there is uncertainty as to how decorative wall coverings should be addressed.
13. The guidance in Approved Document B sets reasonable standards by reference to both the European (EN) and British (BS) test and classification systems. The appropriate classification varies in the guidance depending on the location of the wall lining and either system of classification can be used.

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<sup>1</sup> Future changes to the Building regulation – next steps. Published by DCLG in December 2010. Available at [www.communities.gov.uk/publications/planningandbuilding/buildingregsnextsteps](http://www.communities.gov.uk/publications/planningandbuilding/buildingregsnextsteps)

<sup>2</sup> Client Report No 127687. Building Research Establishment Ltd 31 March 2011.

14. However the main provisions of the EU Construction Products Regulation (305/2011) will take effect from 1 July 2013 in the UK. From this date, manufacturers of wall coverings will have to test and label their products in accordance with harmonised European standards and classification systems before they place them on the market. The primary objective of this is to establish a “common language” for specifying the essential characteristics of construction products it is not intended to restrict the use of any particular products.
15. The Guidance in Approved Document B currently calls for wall linings in the corridors and other circulation spaces of non domestic buildings to be rated as either “Class O” under the British Standard classification system or “Class B” under the European system.
16. At present most decorative wall coverings for use in non domestic applications are rated as “Class O” under the British Standard classification system and would be acceptable for use in corridors and other circulation spaces. However the same products tend to be rated as “Class C” or worse under the European classification system and, under the current guidance in Approved Document B, would not be permitted in those locations. This is a problem peculiar to thin wallcoverings such as wall papers and does not manifest itself for other lining products subject to the same guidance.
17. This has not been a problem to date, as use of the European standards and CE marking labelling system has been voluntary in the UK. However intervention is required, therefore, to avoid the unintended consequences and increased costs for decorative wall coverings before CE marking of these products becomes mandatory in 2013.
18. It should be noted that the proposed amendments are not intended to reduce standards of safety and would not change the need or otherwise to CE mark products in accordance with the Construction Products Regulation. However it is possible to mitigate some of the unintended consequences of imposing the European classification system by amending our own national provisions.

### **Policy objective**

19. To simplify and update the guidance supporting Requirement B2 to ensure that unnecessary burdens associate with compliance are avoided whilst maintaining adequate standards of safety

### **Description of options considered (including do nothing)**

20. Two options are considered in detail in this Impact Assessment:

Option 1 - do nothing.

Option 2 – Simplify the guidance for Lighting Diffusers and Wall Coverings

### **Monetised and non-monetised costs and benefits of each option (including administrative burden)**

#### **Option 1) Do nothing**

21. There are no direct costs associated with option 1) but the potential savings from option 2) would not be realised and there is a risk that changes in the classification system for wall linings may have a disproportionate effect on decorative wall coverings

## Option 2) Simplify the guidance for Lighting Diffusers and Wall Coverings

### Costs

#### *Transitional Costs*

22. As with any change to Building Regulations Guidance there will be some transitional costs associated with users of the guidance familiarising themselves with the changes. Given the very limited nature of these proposals we do not consider that any additional training would be required and it is most likely that professionals will familiarise themselves with the changes when they come to use it for the first time. The charge-out rates used to calculate transitional costs come from a range of sources including advice from our independent contractors, EC Harris. These figures are used as a proportionate approach to calculating these costs to business
23. For the purposes of this consultation stage impact assessment we have assumed that professionals working in Building Control and Lighting Specialists would need to familiarise themselves with the revised guidance in year one. There are approximately 3800 Building Control Professionals in England and the Society of Light and Lighting (a specialist group within CIBSE) has 2000 members. We have calculated transitional costs for professionals as 30 minutes at £60 per hour. This gives a total one-off cost of £174,000.
24. The impact of these proposals on lighting Manufacturers is also considered to be limited. There is likely to be a change in the market in terms of the proportion diffuser materials used (less TPb, More TPa). However, these are readily interchangeable and there should not be a need to modify the manufacturing process. However there may well be some costs associated with familiarisation and with changes in marketing literature. The Lighting Industry Federation represents 71 members which they estimate is 80% market. For the purposes of this consultation stage impact assessment we have assumed that there are 100 businesses affected at a cost of £500 per business. This gives a one-off total of £50,000. The total transitional cost is therefore **£224,000**.

#### *Lighting Diffusers*

25. We have not identified any appreciable costs associated with these proposals which are supported by representatives of the lighting manufacturing industry. We would welcome comments during the consultation on any potential costs that we have failed to identify.

#### *Wall Coverings*

26. The proposed amendments to the guidance are designed to ensure that those products which are currently used will remain acceptable; as such the worst case would be that administrative costs associated with compliance will remain the same. The Department has commissioned research to investigate this further and is seeking further comment on the potential costs associated with these proposals as part of this consultation.

### Benefits

#### *Lighting Diffusers*

27. There are two classes of diffuser material; TPa and TPb. Current guidance on the spacing of TPb lighting diffusers tends to drive designers to use TPa materials which perform better in fire but worse than TPb in terms of lighting efficiency. As a result more light fittings are used to deliver the required degree of illumination. The proposed changes to the guidance on spacing of TPb diffusers will allow designers to achieve the desired light level with slightly less units. (These would typically be further apart than the TPa diffusers which are currently widely used but closer together than is currently allowed for TPb diffusers).

28. It is estimated that around 15% less fittings would be necessary if the more efficient TPb materials could be more widely used. However it may not always be possible realise this benefit, where new light fittings are installed in existing ceilings or where the geometry of the building does not lend itself to delivering the full saving. The functional nature of the Building Regulations also allows for alternative approaches to be proposed by designers and it is likely that some projects will not have adhered to the current guidance.
29. The annual sales of this type of light fitting are estimated to be around 5m units per annum at an average installed cost of £45. There is uncertainty over the annual sales of this type of light fitting and we have therefore adopted a high estimate of 7m units and a Low estimate of 3m units. For the purposes of this consultation stage impact assessment we have assumed that only 80% of the potential savings would be realised. We have commissioned further work to improve the robustness of these figures and would welcome comments from consultees.
30. This amounts to a year 1 benefit of £27m (High: £50.4m, Low: £13.0m), which discounted over 10 years results in a present value benefit of **£232.40m** (High: £433.6m, Low: £111.6m).

#### *Wall Coverings*

31. The proposed amendments to the guidance are designed to ensure that those products which are currently acceptable for use will remain acceptable without modification. However if the proposed changes are not taken forward then it may no longer be possible to use certain products and a more expensive alternatives may need to be used instead. The British Coatings Federation has estimated that the value of sales of commercial wall coverings is between £25 to £28 million a year and that manufacturing costs could increase by between 10% and 20% if these changes are not taken forward.
32. We have commissioned research and are seeking information from industry in order to quantify in detail the impact of current guidance on wall linings on wall covering manufacturers and how this might change in response to the construction products regulation coming into effect in 2013. This research will also be used to ensure that the proposed amendments maintain existing levels of safety.

#### **Net Present Value**

33. A present value benefit of £232.40m minus a present value cost of £0.22m gives a net present value for the policy of **£232.18m**.

#### **Risks and assumptions**

34. The data that has been used to develop this impact assessment was sourced from industry bodies and we have not been able to verify it independently. As such we have adopted broad ranges when monetising the potential benefits of the proposed changes.
35. As part of the consultation process we would be happy to hear from any affected parties who may be able to improve the robustness of the impact assessment.

#### **Direct costs and benefits to business calculations (following “One In One Out” methodology);**

36. There is a cost saving from Option 2 which amounts to an annual equivalent net benefit to business of £26.97m (2011 prices) which can be converted to **£25.44m at 2009 prices** using the GDP deflator.

## **Wider impacts**

### *Equalities Impact Test*

37. An initial equalities screening of the proposed policy was carried out and determined that a full equalities impact test was not required as the proposal does not adversely affect any minority groups.

### *Competition Assessment*

38. The proposed policy updates the standards that buildings should generally be constructed to. As such it does not make any significant change to how the UK market will operate.
39. On that basis, it is considered that the proposals to change the guidance apply in a proportional and equitable way.

### *Environmental Impact Tests*

40. It has been determined that this policy will not result in additional greenhouse gasses being emitted and have no impact on the wider environment. The changes to guidance on Lighting Diffusers will facilitate the wider use of more energy efficient lighting systems. Carbon savings from more efficient lighting has not been considered in this Impact Assessment as minimum standards of efficiency for lighting systems are already addressed by Building Regulations and there is a risk of double counting. We intend to develop a more sophisticated analysis for inclusion in the final impact assessment.

### *Social Impact Tests*

41. We do not expect the proposal to have any social implications.

### *Sustainable Development*

42. We do not expect the proposal to have any sustainable development implications.

## **Summary and preferred option.**

43. Option 2 is preferred as it provides reductions in regulatory burdens and facilitates the use of more energy efficient lighting systems without having a detrimental effect on fire safety.