

<b>Title: Part R of the Building Regulations - Broadband Cost Reduction Directive</b>  <b>IA No:</b>  <b>Lead department or agency:</b> Department for Communities and Local Government  <b>Other departments or agencies:</b> Department for Culture, Media and Sport	<b>Impact Assessment (IA)</b>			
	<b>Date:</b> 19/11/2015			
	<b>Stage:</b> Consultation			
	<b>Source of intervention:</b> Domestic			
	<b>Type of measure:</b> Secondary Legislation			
<b>Contact for enquiries:</b> Gabrielle Melvin, gabrielle.melvin@communities.gsi.gov.uk 0303 444 3780				
<b>Summary: Intervention and Options</b>			<b>RPC Opinion:</b> Awaiting scrutiny	

Cost of Preferred (or more likely) Option				
Total Net Present Value	Business Net Present Value	Net cost to business per year (EANCB on 2014 prices)	In scope of One-In, One-Out?	Measure qualifies as
-£598k	-£598k	£68k	No	

**What is the problem under consideration? Why is government intervention necessary?**  
 The European Commission has introduced a legally binding Directive requiring Member States to ensure that new buildings and major renovations are constructed with the necessary in-building infrastructure to enable connection to broadband speeds of no less than 30 Mbit/s.

**What are the policy objectives and the intended effects?**  
 The policy objective is to transpose the European requirement for in-building infrastructure into the UK system of Building Regulations. The European requirement is triggered by the submission of a "building permit", which is already a feature of the UK's approach under Building Regulations in the form of a full plans submission or building notice made to a Building Control Body.  
  
 All new housing developments, commercial buildings, schools, retail and other buildings will be required to have in-building infrastructure to enable connections to broadband speeds in excess of 30 Mbit/s.

**What policy options have been considered, including any alternatives to regulation? Please justify preferred option (further details in Evidence Base)**  
 The requirements of the Directive have to be implemented by "laws, regulations and administrative provisions". Under current Government arrangements for dealing with European requirements, implementation must be done at minimum cost and with no gold-plating.  
  
 Our view is that this is best achieved through the Building Regulations, as enforcement or compliance checking will be undertaken by Building Control Bodies as part of their normal functions. No additional primary powers will be needed as the Building Act 1984 can be used to set Regulations that relate to broadband. The Regulations can be used to transpose the Directive requirements. Statutory guidance can then be issued (via an Approved Document) that sets out some of the approaches that developers could take to meet the regulatory requirements.

<b>Will the policy be reviewed? If applicable, set review date:</b>					
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</b> YES	<b>&lt; 20</b> YES	<b>Small</b> YES	<b>Medium</b> YES	<b>Large</b> YES
What is the CO <sub>2</sub> equivalent change in greenhouse gas emissions? (Million tonnes CO <sub>2</sub> equivalent)			<b>Traded:</b>		<b>Non-traded:</b>

***I have read the Impact Assessment and I am satisfied that (a) it represents a fair and reasonable view of the expected costs, benefits and impact of the policy, and (b) that the benefits justify the costs.***

Signed by the responsible Minister: \_\_\_\_\_ James Wharton \_\_\_\_\_ Date: 26/11/15

## FULL ECONOMIC ASSESSMENT

Price Base Year 2015	PV Base Year 2015	Time Period Years 10	Net Benefit (Present Value (PV)) (£k)		
			Low: -	High: -	Best Estimate: 598

COSTS (£k)	Total Transition (Constant Price) Years	Average Annual (excl. Transition) (Constant Price)	Total Cost (Present Value)
Low	-	-	-
High	-	-	-
Best Estimate	40	66	558

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

Small builders, particularly in rural areas, where even the most basic copper telephone technology to enable broadband connection may not be part of the development, would be the main affected groups. They will be required to include the basic internet connection infrastructure and this represents a cost to business. This may be passed on to end user via increased building prices.

There is also a small familiarisation cost even though the vast majority of new homes are built to regardless.

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

This cost to business may get passed on to buyer and owners even though they may not have wanted a telephone line or internet connection in their home

BENEFITS (£k)	Total Transition (Constant Price) Years	Average Annual (excl. Transition) (Constant Price)	Total Benefit (Present Value)
Low	-	-	-
High	-	-	-
Best Estimate	-	0	0

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

There are no monetised benefits due to the implementation of the EU Directive.

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

Buildings would marginally become better connected to the internet.

Key assumptions/sensitivities/risks	Discount rate (%)	3.5
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This policy is to comply with an EU directive. Failure to do so in good time may risk infraction proceedings. The standards set is generally followed, and in many cases exceeded, regardless of the EU Directive. So the policy is judged to be low-risk.

## BUSINESS ASSESSMENT (Option 2)

Direct impact on business (Equivalent Annual) £k: (2015 Prices)			In scope of OITO?	Measure qualifies as
Costs: 69	Benefits: -	Net: 69	No	

## **Evidence Base (for summary sheets)**

### **Problem under consideration**

Small builders, especially when building for a particular client, may not have an incentive to fit telecoms infrastructure even though future occupants may require it and the government is committed to increasing access to broadband.

The European Commission has introduced a legally binding Directive requiring Member States to ensure that new buildings and major renovations are constructed with the necessary in-building infrastructure to enable connection to broadband speeds of no less than 30 Mbit/s. This requirement is in Article 8 of the Directive at <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32014L0061>

### **Policy objective**

The policy intention is to transpose the European requirement for in-building infrastructure into the UK system of Building Regulations. The European requirement is triggered by the submission of a “building permit”, which is already a feature of the UK’s approach under Building Regulations in the form of a full plans submission or building notice made to a Building Control Body.

The effect will be that potentially all new single tenant and multi-tenanted buildings, and major renovations of those buildings, will be caught by the requirements to install in-building infrastructure. So all new housing developments, commercial buildings, schools, retail and other buildings will be required to have in-building infrastructure to enable connections to broadband speeds in excess of 30 Mbit/s.

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

**Option 1:** To do nothing, not implement the EU Directive and risk infraction proceedings.

**Option 2:** To set Building Regulations, through the Building Act 1984, which will require new buildings and major renovations to be constructed with the necessary in-building infrastructure to enable connection to broadband speeds of no less than 30 Mbit/s.

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

#### **Benefits**

##### **Option 1**

There are no benefits associated with option 1 as it is the baseline which option 2 is compared against.

##### **Option 2**

The small minority that do not have planned super-fast broadband connection would now be required to have one. Affected builders would likely pass on this extra cost.

There will be non-monetised benefits as the implementation of the EU Directive on broadband would mean the country will become even better connected to the internet.

## Costs

### Option 1

There are no direct costs associated with option 1 as there would be no changes to the current requirements. However, there is the risk of infraction. Option 1 is also the baseline against which option 2 is compared.

### Option 2

#### Familiarisation cost

There will be a familiarisation cost with implementing the EU Directive. The know-how of installing the necessary infrastructure is well-established knowledge in the building industry. The only familiarisation cost is to know about the requirement. This will be learned through the Department's updated website, seminars run by various industry bodies, articles in trade magazines, and the building control bodies. We have estimated the costs as follows.

Architects, building control surveyors and building surveyors are the main professions that would have to be aware of this new part of the Building Regulations. After discussions with industry professionals, we're confident that this is a simple requirement and would take about 5 minutes for each profession to familiarise. Their blended hourly rates and industry totals are shown in table 1 below, reflecting:

	Familiarisation time	Blended hourly rate	Estimated number of professionals	Industry total
Architect	5 minutes	£53	5,681	£24,987
Building Control Surveyor	5 minutes	£47	230	£895
Building Surveyor	5 minutes	£47	3,787	£14,735
Total	N/A	N/A	9,698	£40,616

Source: EC Harris Cost Report<sup>1</sup>.

In line with previous Impact Assessments, including the Housing Standards Review – Security<sup>2</sup>, we have spread out the familiarisation cost into three years, 70% of the nominal total in the first year, 20% in the second, and 10% in the third. This puts the present value of this one-off familiarisation cost at £40,072, and the equivalent annual cost to business is £4,655.

<sup>1</sup> Updated to 2015. See Table 2 under section 2.8.1 of the EC Harris Cost Report, available at: [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/353387/021c\\_Cost\\_Report\\_11th\\_Sept\\_2014\\_FL\\_NAL.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/353387/021c_Cost_Report_11th_Sept_2014_FL_NAL.pdf)

<sup>2</sup> <https://www.gov.uk/government/publications/housing-standards-review-security-final-implementation-impact-assessment>

## **Build cost**

There are several ways to build the required infrastructure. For residential and small commercial buildings, they include:

- Broadband provided over networks originally deployed for cable television – via a combination of fibre and coaxial cable. These can deliver speeds of up to 152 Mbit/s.
- A combination of fibre and copper technology. This is where fibre is provided between an exchange and a cabinet, and then the existing copper phone line is used to deliver higher speeds of up to 76 Mbit/s.
- Fibre only technology. These networks rely entirely on fibre to connect buildings to the exchange. This delivers speeds of up to 1 Gbit/s.

This has been discussed with the Building Regulations Advisory Committee (BRAC). The Committee is a statutory body that the Government is required to consult whenever it is proposing changes to the Building Regulations. It is made up of industry experts appointed by the Secretary of State who are able to give impartial views on how policy proposals would impact on the domestic and commercial development sectors, construction products and building control bodies.

Based on these solutions, the view of the Building Regulations Advisory Committee is that the market is already meeting the requirements of the Directive for new dwellings, as even the most basic in-building infrastructure designed for copper technology would be capable of transmitting broadband speeds of up to 76 Mbit/s. It is the existence of wider infrastructure beyond the building that determines the actual speeds.

One of these main solutions would be provided for in the vast majority of new homes. Their view was that up to 5% of all new housing developments may not be intending to provide any in-building infrastructure. They envisaged there will be some single build homes (particularly in rural areas), where even the most basic copper telephone technology to enable broadband may not be part of the development.

For larger commercial buildings, BRAC's advice is that the necessary in-building infrastructure required by the Directive to deliver speeds of at least 30 Mbit/s is universally provided for in new commercial buildings. There would simply not be a market for any kind of commercial building without access to broadband, and therefore there would always be the necessary in-building infrastructure in place to enable super-fast speeds if the wider infrastructure is in place locally.

The European Regulation imposes specific requirements for multi-dwelling buildings (i.e. blocks of flats). Under the Directive, developers of flats are required to provide an access point and ducting to each individual dwelling, up to the network termination points. Industry feedback, for instance from BRAC, suggested that there will not be any additional costs. Modern blocks of flats will already make provision for the technological requirements in the Directive, and have to include vertical and horizontal distribution space for utilities such as water, electricity and gas which can easily accommodate telecom provision. The alternative would be to have wires

running externally, which would make those properties difficult to market. And in the self-build and custom-build market, any builder constructing home for an unidentified client would be strongly motivated to put in the necessary infrastructure in order to ensure the home/dwelling is marketable.

For major renovations, industry interpretation of the Directive is that in-building physical infrastructure to enable connections to super-fast broadband will only be a requirement where there is existing infrastructure related to the provision of broadband within the building, and where the major renovation involves the removal or alteration of those elements. Where no such infrastructure exists, the regulation will not apply. Most major renovations, even where there is no broadband infrastructure, will automatically exceed directive requirements where they meet industry basic specifications. This will be particularly true of older commercial buildings and for major renovations of historic buildings, for example, where there will be no regulatory requirement.

Industry feedback above suggested that regulation in this area will not impose any additional costs on the majority of new developments in the United Kingdom, as in-building physical infrastructure that enables a connection to super-fast broadband will already be provided. The in-building infrastructure costs outlined below are therefore already being met in the vast majority of cases.

This feedback also applies to commercial buildings, major-renovations and flats. They are not built (or renovated) without the necessary in-building infrastructure to enable connections to super-fast broadband. These types of buildings do not feature in the following analysis.

We have therefore focussed on housing development, where it was noted by industry that there will be limited occasions where no in-building infrastructure would be provided. We have used this as the basis for the analysis.

The total number of estimated house completions in England for 2016-2025 is consistent with estimates published as part of the recent Housing Standards Review.<sup>3</sup> Only the total for houses and not flats is relevant for the purposes of this impact assessment. As with the Housing Standards Review estimates, these are indicative for the appraisal in the impact assessment only, and do not represent an official forecast of future build expectations or a housing target.

Self-builds include single dwellings, and the estimate takes account of overall Government policy to increase the delivery of single dwellings as a proportion of total delivery. For custom-builds, there might be customers who would not opt for the necessary infrastructure for super-fast broadband in the absence of the EU Directive. But that would be a customised cost saving for the client not for the business.

We have made an indicative estimate of the number of self-build for the purposes of this appraisal only, based on a Parliamentary paper projected up using the same trend as housing delivery.<sup>4</sup> As with new build estimates, this is indicative for this

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<sup>3</sup> <https://www.gov.uk/government/publications/housing-standards-review-final-implementation-impact-assessment>. See Paragraph 72.

<sup>4</sup> <http://researchbriefings.files.parliament.uk/documents/SN06784/SN06784.pdf>

impact assessment only and is not a government forecast or target of future self-build expectations. We consulted with BRAC to consider how many of these anticipated self-builds will be built without any in-building infrastructure necessary to connect to super-fast broadband. BRAC's estimate was that up to 5% of total housing delivery could be in this category. Initial analysis suggests that it is likely to be significantly lower than 5% - as follows.

There were 25 million UK residential fixed landlines in 2014<sup>5</sup>, compared to 26.7 million households in the UK in 2014<sup>6</sup>. This means that 94% of homes in the UK have a landline. It has already been established that a basic copper phone line is capable of supporting super-fast broadband.

It is not clear why those homes don't have a landline. There may be some that don't have the necessary in-building infrastructure, but it is more likely that they have been disconnected but still have the infrastructure in place.

It is then reasonable to assume that at least 94% of self-build homes in England would be constructed with the necessary in-building infrastructure for at least a basic phone line. It could be more than 94% if a proportion of those without a landline were constructed with the necessary infrastructure but have been disconnected.

This leaves us with the following projected percentage number of houses that may not be built with the necessary in-building infrastructure, but that may be required to under the EU requirements. This represents less than 1% of total housing delivered.

2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
673	727	785	847	915	988	1,068	1,153	1,245	1,345

To understand the potential costs to business, at this point it is necessary to look at the infrastructure costs for in-building infrastructure.

On the unit cost side, a European Commission report<sup>7</sup> to support the preparation of impact assessments for Member States provides such industry estimates. Figure 7.3 of the report estimates that ducting and wiring together will cost €250 per flat or £181. But the EU Directive only necessitates the ducting, not the wiring. For Spain, it is approximated that ducting costs are about 75% of total cost of ducting and wiring. Applying that cost-split to the case in England, the unit cost for flats would be £136.

For single dwellings, the ducting is not a necessary part of the in-building infrastructure. Instead, a hole in the wall connecting an external access point to the network termination point inside the house is required. After discussion with the house building industry, the unit cost for houses is expected to be half of that for flats, or £68.

<sup>5</sup> <http://media.ofcom.org.uk/facts/>

<sup>6</sup> <http://www.ons.gov.uk/ons/rel/family-demography/families-and-households/2014/families-and-households-in-the-uk--2014.html>

<sup>7</sup> Support for the preparation of an impact assessment to accompany an EU initiative on reducing the costs of high-speed broadband infrastructure deployment – Final Report. Available from [here](#).

Applying that cost to the number of single dwellings we consider will be affected by the EU Directive in England, there is an average of £66k regulatory cost each year in the 10-year appraisal period. Table 3 below shows the regulatory burdens on new single dwellings each year in the 10-year appraisal period:

2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
£45,704	£49,360	£53,309	£57,574	£62,180	£67,154	£72,526	£78,328	£84,595	£91,362

Using the costs for houses measured against the number of self-build house projections gives us a present value cost of £558k. Taking into account of the one-off familiarisation present value cost of £40,072, the net present value cost of implementing the EU Directive is **£598k**. The equivalent annual gross (and net) cost to business is **£69k**, discounted to the year 2015, in 2015 prices. The balance for the purpose of One-In Two-Out, discounted to year 2015, in 2014 prices, is therefore **£68k**.

In order for this policy to exceed the £1m gross cost threshold the assumption would have to increase to 8% of total housing delivery, or 15% of total house completions, or 93% of self-build completions. This would be many times higher than our estimate.

As such, even allowing for a significant margin of error, based on the information we have available and our stakeholder consultation we are confident that the gross costs of this policy are less than £1m.

It is our intention to test all of these key assumptions and evidence further at consultation alongside views on the potential for exemptions (see section below).

## **Specific Impacts Tests**

### *Statutory equality duties*

We have considered whether the statutorily protected groups would be impacted and concluded that for the proposed changes there would be no impact.

### **Economic impacts**

The main specific group affected by the proposed change are micro-and small businesses as the basic nature of the requirement suggests. The effect would be small in the industry.

### **Environmental impacts**

No impact.

### **Social impacts and sustainable development**

No impact.



## **Summary (including preferred option and implementation plan)**

The Department therefore proposes to proceed with Option 2, to implement the EU Directive through the Building Regulations so that all new builds and buildings with major renovation would be required to have super-fast broadband infrastructure at an equivalent annual net cost to business of **£69k (2015 Prices)**.

The proposed regulations are likely to come into force in January 2016.

The Department will publish Approved Documents to coincide with the EU Directive coming into force.