

Title: Part R of the Building Regulations - Broadband Cost Reduction Directive IA No: RPC-3323(1)-CLG Lead department or agency: Department for Communities and Local Government Other departments or agencies: Department for Culture, Media and Sport	Impact Assessment (IA)			
	Date: 13/04/16			
	Stage: Final			
	Source of intervention: EU			
	Type of measure: Secondary Legislation			
Contact for enquiries: Gabrielle Melvin, gabrielle.melvin@communities.gsi.gov.uk 0303 444 3780				
Summary: Intervention and Options			RPC Opinion: GREEN	

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
-£1,900k	-£1,900k	£218k	No	N/A

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 in a way to enable connection to broadband internet with 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 physical 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 buildings will be required to have in-building physical infrastructure to enable connections to broadband speeds of above 30 Mbit/s. This does not require installation of cabling, but requires an access point for necessary cabling.

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.

Will the policy be reviewed? If applicable, set review date: 2021					
Does implementation go beyond minimum EU requirements?			No		
Are any of these organisations in scope? If Micros not exempted set out reason in Evidence Base.	Micro YES	< 20 YES	Small YES	Medium YES	Large YES
What is the CO ₂ equivalent change in greenhouse gas emissions? (Million tonnes CO ₂ equivalent)			Traded:		Non-traded:

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: 11/4/2016 _____

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: £1,900k

COSTS (£k)	Total Transition (Constant Price) Years	Average Annual (excl. Transition) (Constant Price)	Total Cost (Present Value)
Low	-	-	-
High	-	-	-
Best Estimate	£423k	£182k	£1,900k

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

Small builders of single dwellings, particularly of custom built houses in rural areas, where even basic copper telephone cables that could meet the requirements may not be part of the development, would be the main affected group. Although an exception has been introduced to mitigate the impact for these groups, there may still be costs to business.

There is also a familiarisation cost. Even though the vast majority of new homes are currently built with in-building physical infrastructure that meet the requirements of this directive, Building Control Bodies, surveyors and architects will need to become familiar with the new requirement and update internal procedures.

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

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

A small number of buildings would become better prepared to be connected to superfast broadband.

Key assumptions/sensitivities/risks

This policy is to comply with an EU directive. Failure to do so in good time may risk infraction proceedings. The standard set is generally followed, and in many cases exceeded, regardless of the EU Directive. So the policy is judged to be low-risk.

Discount rate (%) 3.5

BUSINESS ASSESSMENT (Option 2)

Direct impact on business (Equivalent Annual) £k: (2015 Prices)			In scope of OITO?	Measure qualifies as
Costs: £221k	Benefits: -	Net: £221k	No	N/A

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 physical infrastructure to enable connections 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> This Impact Assessment only covers the building infrastructure element of the Directive and the change to building regulations. Other elements will be covered in a separate Impact Assessment to be published by DCMS.

Policy objective

The policy intention is to transpose the European requirement for in-building physical 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 buildings and multi-dwelling buildings, and major renovations of those buildings, will be caught by the requirements to install in-building physical infrastructure to enable connections to superfast broadband. So all new housing developments, commercial buildings, schools, retail and other buildings will be required to have in-building physical 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 equipped with the necessary in-building physical 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 of new buildings that do not have planned superfast broadband connections infrastructure would now be required to have an access point to facilitate a broadband connection.

There will be non-monetised benefits as the implementation of the EU Directive on broadband would mean the country has the building infrastructure needed to enable wider connection 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

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 200 Mbit/s.
- Copper technology to the building. 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 physical 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. This is outside the scope of this policy.

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 physical infrastructure. They envisaged there will be a small number of 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.

An exemption has been included within the regulations for buildings situated in isolated areas where the prospect of high-speed connection is considered too remote to justify equipping the building with high-speed-ready in-building physical infrastructure or an access point. However, there may still be costs to business.

For larger commercial buildings, BRAC's advice is that the necessary in-building physical 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 physical infrastructure in place to enable superfast 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 superfast 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. In general, 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.

This feedback also applies to commercial buildings. They are not built (or renovated) without the necessary in-building physical infrastructure to enable connections to superfast broadband. Commercial buildings and major renovations therefore do not feature in the following analysis.

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

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

Number of Housing Units Affected

The total number of estimated house completions in England for 2016-2025 is consistent with estimates published as part of the recent Housing Standards Review¹, updated to include the latest housing completions statistics². As with the Housing Standards Review estimates, this is indicative for the appraisal in this impact assessment only, and does not represent an official forecast of future build expectations or a housing target.

For custom-builds, there might be customers who would not opt for the necessary physical infrastructure for superfast broadband in the absence of the EU Directive. We have made an indicative estimate of the number of self-build for the purposes of this appraisal only, based on a Parliamentary paper³ projected up, using the same trend as housing delivery. This is indicative for this impact assessment only and does not represent an official forecast or target. We consulted with BRAC to consider how many of these anticipated self-builds would be built without any in-building physical 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 2014⁴, compared to 26.7 million households in the UK in 2014⁵. 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 physical infrastructure, but it is more likely that they have been disconnected but still have the infrastructure in place.

Based on the previously outlined advice from BRAC, only self-build houses are expected to be affected, and it is reasonable to assume that at least 94% of self-build homes in England would already be constructed with the necessary in-building physical infrastructure for at least a copper phone line. On this basis, Table 1 shows the projected number of houses that may not be built with the necessary in-building infrastructure, but would 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
618	649	682	716	751	789	828	870	913	959

¹ <https://www.gov.uk/government/publications/housing-standards-review-final-implementation-impact-assessment>. See Paragraph 72.

² Live Table 244 <https://www.gov.uk/government/statistical-data-sets/live-tables-on-house-building>

³ <http://researchbriefings.files.parliament.uk/documents/SN06784/SN06784.pdf>

⁴ <http://media.ofcom.org.uk/facts/>

⁵ <http://www.ons.gov.uk/ons/rel/family-demography/families-and-households/2014/families-and-households-in-the-uk--2014.html>

Unit Costs for In-Building Physical Infrastructure

A European Commission report⁶ to support the preparation of impact assessments for Member States provides unit cost estimates. Figure 7.3 of the report estimates that ducting and wiring together will cost €250 per flat or £181⁷. But the EU Directive only necessitates the ducting, not the wiring. For Spain, it is estimated that ducting costs are about 75% of this total cost. 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 physical 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 estimated at £68. These estimates are consistent with the published consultation impact assessment.

Build Cost

Applying that cost to the number of single dwellings (which would, by definition, be houses) we consider will be affected by the EU Directive in England, there is an average of £53k build cost each year in the 10-year appraisal period. Table 2 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
£42,000	£44,100	£46,305	£48,620	£51,051	£53,604	£56,284	£59,098	£62,053	£65,156

Using the costs for houses measured against the number of self-build house projections gives us a present value cost of £433k and an equivalent annual cost of £50k.

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 and applying it in practice for the first time. This information will be disseminated 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.

Professionals Affected

Architects, building control officers and building surveyors are the main professions that would have to be aware of this new part of the Building Regulations. Feedback from a public consultation⁸ indicated that the amount of time needed for familiarisation should be increased from our initial estimate of five minutes. This is a simple requirement, but familiarisation requires reading over the regulations and technical guidance within the Approved document for Part R, understanding how the

⁶ 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](#).

⁷ Based on Bank of England spot exchange rate from 18 May 2015

⁸ <https://www.gov.uk/government/consultations/new-part-r-of-the-building-regulations>

new requirement interacts with other parts of the Building Regulations, such as fire safety, sound insulation and moisture proofing and applying it for the first time, which may require revisiting the guidance.

Based on responses to our public consultation and engagement with building control body representatives, we have 1) increased the amount of time assumed for each professional to familiarise themselves with the requirements to 30 minutes, and 2) added a transition cost for one person from each firm to update its internal procedures and disseminate key points about how the new requirements interact with other parts of the building regulations. We have engaged with industry and have assumed that this will take two hours in total per firm. Blended hourly rates and industry totals are shown in table 3 below.

Table 3 – Familiarisation cost of implementing the EU Directive				
	Familiarisation time	Blended hourly rate	Estimated number of professionals	Industry total
Architect	30 minutes	£53	5,681	£149,478
Building Control Officers (assuming average of 6.7 per building control body)	30 minutes	£47	2,580	£60,040
Building Surveyor	30 minutes	£47	3,787	£88,146
1 person per building control body updating internal procedures & disseminating information on requirement and its interactions with other parts of building regulations.	2 hours	£47	385	£35,845
1 person per architect practice updating internal procedures & disseminating information on requirement and its interactions with other parts of building regulations.	2 hours	£53	847	£89,145
Total	N/A	N/A	13,280	£422,655

Source: EC Harris Cost Report⁹; LABC; Construction Industry Council; BCPSAG¹⁰.

In line with previous Impact Assessments, including the Housing Standards Review – Security¹¹, we have spread out the familiarisation cost over three years, with 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 £402,885, and the equivalent annual cost to business is £46,805.

⁹ 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

¹⁰ See p.29: average of 6.2 full time directly employed & professionally qualified staff; average of 0.5 part time directly employed and fully qualified staff
https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/403669/150212_BCPSAG_Report_2013-14_to_Publish.pdf

¹¹ <https://www.gov.uk/government/publications/housing-standards-review-security-final-implementation-impact-assessment>

On-going Inspection Cost

Consultation responses indicated that the new requirement will lead to additional time for site inspections or checking of plans by building control bodies to ensure compliance. Industry has informed us that only residential projects are likely to require more inspection time. Physical infrastructure for superfast broadband is habitually provided in new commercial buildings, meaning this physical infrastructure will already be included in plans being inspected for compliance with other parts of the building regulations, such as fire safety.

For single dwellings where there would be no in-building physical infrastructure for superfast broadband in the absence of this requirement (i.e. the baseline, Option 1) there would be an additional burden in inspection time to ensure that the infrastructure is compliant with all parts of the Building Regulations, the cost of which would be passed on to developers. The number of inspections affected is assumed to be equal to the number of single self build properties affected by the new requirement, as in Table 1. Industry has informed us that checking a residential building's physical infrastructure for compliance with this part of the Building Regulations would generally take around five minutes.

Adding this additional element to inspections and checking of plans may add a small amount of extra time to existing inspections or checking of plans for residential units. In most cases we have assumed there would already be the most basic in-building physical infrastructure for superfast broadband provided through the provision of a point for a standard copper telephone cable. We have assumed that this infrastructure would be inspected for compliance with all other parts of the Building Regulations even in the baseline case. The additional burden is in confirming that the physical infrastructure is included in the building plan and has been installed during the build. This can be incorporated into other building control processes and is likely to be a simple matter of asking the site manager or noting that it is included in plans. Based on feedback from industry this is expected to take one minute per dwelling on average. The number of inspections affected is equal to the total number of estimated house completions in England, consistent with estimates published as part of the recent Housing Standards Review.¹²

On an hourly rate of £47 (see Table 3), five minutes of a building inspector's time is valued at £3.88 and one minute at £0.78. Table 4 shows costs over the appraisal period. The average annual cost is £129,672, the net present value of the costs is £1,063,625 and the equivalent annual cost £123,567.

¹² <https://www.gov.uk/government/publications/housing-standards-review-final-implementation-impact-assessment>. See Paragraph 72.

Table 4 – On-Going Inspection Costs of Implementing the EU Directive										
	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Additional inspection cost for self build single dwellings (5 mins per dwelling) (£k)	2.4	2.5	2.7	2.8	2.9	3.1	3.2	3.4	3.5	3.7
Additional inspection cost for all dwellings (1 minute per dwelling) (£k)	100.7	105.7	111.0	116.6	122.4	128.5	134.9	141.7	148.8	156.2
Total (£k)	103.1	108.3	113.7	119.3	125.3	131.6	138.2	145.1	152.3	159.9

Total Cost

Taking into account of the one-off familiarisation present value cost of £403k, build cost present value of £433k, and inspection cost present value of £1,064k, the net present value cost of implementing the EU Directive is **£1,900k**. The equivalent annual gross (and net) cost to business is **£221k**, discounted to 2015, in 2015 prices. Discounted to year 2015, in 2014 prices, it is **£218k**.

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 buildings and buildings undergoing major renovation would be required to have superfast broadband infrastructure at an equivalent annual net cost to business of **£221k (2015 Prices)**.

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

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