



Department for
Communities and
Local Government

Housing Standards Review

Final Implementation Impact Assessment



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Title: Housing Standards Review Implementation IA Number: RPC14-CLG-2252 Lead Department or Agency: Department for Communities and Local Government Other Departments or Agencies:	Impact Assessment (IA)
	Date: 27/03/2015
	Stage: Final Validation
	Source of intervention: Domestic
	Type of measure: Secondary Legislation
	Contact for enquiries: Simon Brown (03034441271)
Summary: Intervention and Options	RPC¹ Opinion: GREEN

Cost of Preferred (or more likely) Option

Total Net Present Value	Business Net Present Value	Net cost to business per year (EANCB ² on 2009 prices)	In scope of One-In, Two-Out?	Measure qualifies as
	£1101.3m	£-114.3m	Yes	OUT

What is the problem under consideration? Why is government intervention necessary?

There are a large number of complex, overlapping or contradictory housing standards, which each local authority can require for new homes through the planning system. This can add unnecessary build costs for home builders. Housing standards taken cumulatively increase the development costs for home builders and can obstruct growth as the additional costs and effort involved in meeting different standards can cause delays or even make some developments economically unviable. The various local standards are designed to tackle a range of different perceived market and information failures in the construction of new homes. However, the lack of co-ordination across standards and the way they are introduced, modified and enforced result in unnecessary costs and complexity.

What are the policy objectives and the intended effects?

The policy objective is to simplify, rationalise and reduce the number of standards applicable to new homes. Only requirements that are considered essential would remain in place and these will be consolidated into a national framework centred on the Building Regulations. Fewer requirements will reduce or eliminate uncertainty, unnecessary delay and administrative process costs associated with local standards. Replacing local technical standards with rationalised optional or mandatory requirements in the Building Regulations will achieve outcomes more efficiently. This is achieved by using building control bodies, who are already required to carry out third party checking, to check compliance rather than involving additional third party processes.

¹ RPC – Regulatory Policy Committee.

² EANCB – equivalent annual net cost to business. The £114.3m figure is in 2009 prices discounted to 2015. It is £96.2m when discounted to 2010.

What policy options have been considered, including any alternatives to regulation?

This is a Final Validation Stage Impact Assessment following two earlier consultation stage impact assessments, and considers two options.

Option 1 Do Nothing. This will result in home builders continuing to need to apply a wide range of different local technical housing standards along with uncertainty about when they might be changed, which will add a significant and unnecessary burden on the build cost.

Option 2 proposes to simplify and rationalise housing technical standards by consolidating essential standards into a national framework centred on a new form of optional Building Regulations, and substantially reducing the number of technical standards applying to the construction of new homes.

Will the policy be reviewed? It will/will not be reviewed. **If applicable, set review date:** Month/Year

Does implementation go beyond minimum EU requirements?			Yes / No / N/A		
Are any of these organisations in scope? If Micros not exempted set out reason in Evidence Base.	Micro Yes/no	< 20 Yes/no	Small Yes/no	Medium Yes/no	Large Yes/no
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, given the available evidence, it represents a reasonable view of the likely costs, benefits and impact of the leading options.

Gregor Williams *24 March 2015*

Signed by the responsible SELECT SIGNATORY: _____ Date: _____

Summary: Analysis & Evidence

Policy Option 2

Description: Streamlining and simplification of a number of local standards through creating a national set of optional standards and regulations.

COSTS AND BENEFITS TO BUSINESS

Price Base Year 2014	PV Base Year 2015	Time Period Years 10	Net Benefit (Present Value (PV)) (£m)		
			Low: 669.9	High: 1,878.4	Best Estimate: 1,101.3
COSTS (£m)	Total Transition (Constant Price) Years		Average Annual (excl. Transition) (Constant Price)		Total Cost (Present Value)
Low	12.79				12.79
High	19.18				19.18
Best Estimate	15.98				15.98
Description and scale of key monetised costs by 'main affected groups'					
Transition cost for business over 3 years of £16.0m due to familiarisation and training					
Other key non-monetised costs by 'main affected groups'					
In some local authority areas, higher levels of environmental and social outcomes, which may be delivered in the Do Nothing option, may not be realised in optional standards. These have not been monetised as this validation Summary Sheet is presenting costs for business only. Further detail can be found in the social impacts section.					
BENEFITS (£m)	Total Transition (Constant Price) Years		Average Annual (excl. Transition) (Constant Price)		Total Benefit (Present Value)
Low			80.05		689.10
High			219.71		1,891.22
Best Estimate			129.80		1,117.29
Description and scale of key monetised benefits by 'main affected groups'					
Lower build costs due to fewer and streamlined standards. This includes Code energy (£179.34 m), Code additional credits (£37.55 m), Water (£39.37m), Access (£333.17m), Space (£107.13m), general process savings (£187.49m) for businesses and an additional £233.25m process savings from different themes.					
Other key non-monetised benefits by 'main affected groups'					
Further analysis on social impacts is included as a separate section 3 below and is not included in this analysis on the benefits to business.					
Key assumptions/sensitivities/risks					Discount rate
Key assumptions have been made around unit costs and associated savings for building new homes, using detailed analysis by EC Harris. The proportion of homes built to a given standard under planning policy have been estimated, for this option over and against the Do Nothing, based on a survey of current plans and industry engagement. High and Low estimates have adjusted build rate and take up assumptions to reflect uncertainty. Sensitivity analysis around take up assumptions is reported in the 'Risks and Assumptions' section 2.10 below.					3.5

BUSINESS ASSESSMENT (Option 2 in 2014 prices)

Direct impact on business (Equivalent Annual) £m:			Scope of OITO?	Measure qualifies
Costs: 1.86	Benefits: 129.80	Net: 127.94	Yes	OUT

Evidence Base (for summary sheets)

1.1 Problem under consideration

1. The problem under consideration is the negative impact of the large number of local and national technical housing standards which each local authority can require house builders to integrate in new development through the planning system. Many of the housing standards are complex, can be duplicative or contradictory with each other and also with some aspects of the Building Regulations, and there are significant variations in interpretation between local authorities. There are also multiple unaccountable agencies undertaking compliance checking, but without a single authority able to efficiently resolve conflict or contradictions where these arise.
2. The application of this wide range of housing standards therefore leads to uncertainty, delay and additional process and material costs for house builders particularly where housing standards are set differently by authorities. This can mean house builders have to tailor their housing designs to the requirements of individual local authorities' requirements.
3. Taken cumulatively this increases the development costs for house builders and could be seen to obstruct growth since the additional costs can make some developments economically materially less viable. Demonstrating compliance with additional housing standards typically imposes additional administrative costs for house builders because they have to invest significant resources. House builders are also less capable of achieving economies of scale and improving efficiency because managing a wide range of technical standards displaces activity to improve productivity.
4. With the exception of the Code for Sustainable Homes, the standards adopted are not owned or written by the government. There are a number of problems that arise from this arrangement. The evolution, development and updating of technical requirements are not undertaken in a suitably accountable manner, or within a framework which evaluates value for money and which seeks to avoid clashes with other standards. This can mean that Industry is not able to deliver in the most cost effective way.
5. There is also a lack of robust evidence and inadequate evaluation of impacts necessary to enable local authorities to focus on applying the standards in a way which balances the need for suitable supply with the delivery of high quality housing which respond to local needs. Authorities are therefore also unable to adequately assess the cost impact their individual standards have on the viability of housing in their area.
6. Because the Standard owners are largely non-accountable to the public and industry, they can update their standards and requirements with no advanced warning or transition time. There is also insufficient evaluation of the most efficient way to deliver specific outcomes. This creates a high degree of uncertainty and risk for home builders and designers who find themselves operating in an unpredictable environment which requires them to invest a great deal of time ensuring they keep up to date with changing standards which are often not cost optimal.
7. Each local authority can choose to apply a differing range or combination of housing standards, which increases complexity of compliance generating as it does a wider range of permutations and combinations which designers need to meet. This adds a further layer of cost, complexity and bureaucracy for house builders. Uncertainty relating to technical requirements also increases real and perceived risk, reducing appetite to bring forward new development.
8. The evidence developed by EC Harris shows that without Government intervention the number of local authorities adopting standards in to their policies will continue to increase. It is also likely that the number of different standards available for use in policy will also

continue to increase over time with the potential for a commensurate increase in the number of compliance regimes and systems.

1.2 Rationale for intervention

9. Local Authorities typically apply standards in order to respond to a range of different market failures in the construction of new homes, including externalities, information failure, market power, agency split incentives and public goods issues.
10. However, the lack of co-ordination across standards and the way they are introduced, modified and enforced undermines the effectiveness of efforts to correct for such market failures. This results in unnecessary costs, uncertainty and delay being incurred by house builders.
11. An independent review by Sir John Harman in 2012 found that local housing standards tend to have been developed in isolation and without regard to each other. The review also found that the majority of standards are overly complicated and recommended a more structured, government led programme to negotiate between the various owners to deliver a more coherent set of requirements for home builders, consumers and authorities.
12. There have been two consultations on proposals to rationalise the existing range of standards required of new housing development and applied through local authority planning policy. The first consultation looked at the key principle issues as to which standards should be retained, provided an illustrative set of technical standards for consideration and discussed the principles of how the policy might be implemented.
13. On 13 March 2014 Stephen Williams announced the outcomes of the review – here is a link to the [statement and the supporting document](#). In summary, the Government proposes to take forward integration of a preferred mandatory security standard, an optional tighter water efficiency standard, and two optional higher standards for accessibility in to the Building Regulations. The mandatory security standard is considered in a separate impact assessment and is not included in this impact assessment where the focus is on benefits to business from reducing and recasting existing standards.
14. A National Space Standard will also be developed to rationalise application of requirements for new dwellings in this respect, and the Government will pursue a Building Regulations only approach to energy efficiency through implementation of zero carbon policy.
15. The decision to move immediately to integrate the majority of these optional standards into the Building Regulations has been taken to minimise disruption and maximise savings to industry. The Government has committed to implementing these proposals as quickly as possible. This impact assessment follows a further consultation on the proposed detailed technical requirements for the new Optional Requirements in the Building Regulations, as well as the proposed Nationally Described Space Standard. The consultation also set out Government plans for implementation and transitional arrangements.

1.3 Policy objective

16. The policy objective is to simplify and rationalise the large number of local housing standards local authorities can apply to house builders, with the intended effect of reducing the burdens housing standards placed on new developments. The aim is also to reduce the direct cost of standards to development in order to maximise their cost effectiveness and wherever possible to minimise costs and bureaucracy by delivering compliance through a single point of contact, rather than through multiple uncoordinated compliance regimes. This approach will deliver a level playing field for both local authorities and developers by eliminating much

of the uncertainty and administrative cost associated with the current application and assessment of local housing standards.

17. The review is also intended to identify where there is a legitimate need for standards beyond those set within the current Building Regulations in order to respond to legitimate local needs drivers and to enable the delivery of high quality, sustainable and accessible housing. Essential safeguards have been protected, and whilst the number and variety of technical requirements has been significantly reduced, the Government has identified a small number of remaining areas (water efficiency, accessibility and space) where a standard should be retained in some form, for example to safeguard sustainability, health and safety, or important access considerations. These have been rationalised with a view to minimise cost to industry and to maximise cost effectiveness in meeting the relevant objectives for that standard.
18. The review also sought to identify the most simple and cost effective approach to compliance. This will primarily be delivered by integrating existing standards into the Building Regulation compliance framework as Optional Requirements. Utilising the Building Regulations and existing Building control framework to assess compliance minimises process costs and transitional costs for industry. This is because they are already familiar with the functioning of this system. To do this, the Government is taking forward amendment of the Building Act through the Deregulation Bill (currently making its way through Parliament) in order to enable the introduction of Optional Requirements. An Optional Requirement is a new form of Building Regulation that is not mandatory in all circumstances, but instead is applied at the discretion of a planning authority (by condition). It can only be applied through a plan policy, the need for which must be fully justified and subject to a viability assessment.
19. A final objective of the review was to find a way to ensure authorities did not layer on additional standards, through the planning process, outside of those developed through the review. The recent technical consultation set out the principle of how a planning statement will set National Policy in order to ensure that this is the case. Guidance on what local authorities will need to evidence and consider in choosing to adopt the Optional Requirements will be integrated into national planning guidance. The principles of what this guidance might include were also discussed within the recent consultation document.

1.4 Proposed Building Regulation requirements and nationally described standards

1.4.1 Energy

20. Part L of the Building Regulations sets minimum standards for new homes. The standards have been strengthened twice under this Government. In 2010 the carbon dioxide emission target was raised by 25%. From April 2014 the regulations now ensure a mandatory level of fabric energy efficiency alongside a tougher carbon dioxide (CO₂) emission target.
21. This means that all new homes must meet a high level of energy efficiency through the provision of condensing boilers, high performance windows and thermal insulation. This will go some way to meeting the CO₂ emission target, but will not meet it completely. Developers then have a choice – they can either strengthen the energy efficiency of a home further, or they could choose to provide some additional renewable technology such as solar panels to help meet the emission target.

22. Prior to the steps taken by the Government in 2010 and 2014, it was perceived that Part L standards were not high enough to tackle concerns about energy efficiency and climate change. This led to the creation of the Code for Sustainable Homes in 2007, and the Planning and Energy Act in 2008.
23. The combination of the Code and the Planning and Energy Act allowed local planning authorities to set standards requiring energy efficiency measures and renewable technology over and above the requirements in Part L of the Building Regulations.
24. The Government announced in June 2014 that it would be taking further steps from 2016 to raise the requirements of Part L further in respect of the energy efficiency and carbon emissions targets. This will be done after full consultation with industry and will be subject to a separate impact assessment that considers the costs and benefits of doing so.
25. The Government now considers that the Code for Sustainable Homes has done its job, and now is a suitable time to reconsider the need for the energy efficiency powers in the Planning and Energy Act. Whilst they have been successful in driving up performance of homes, there have been the unintended consequences of local standards that are explored elsewhere in this impact assessment.
26. The policy proposal consulted on as part of the Housing Standards review was therefore to move to a Building Regulations only approach to new homes. The level of support for this proposal was 63%.
27. From 2016 local authorities will not be able to require energy efficiency measures above Building Regulations. There will be a national standard for all new homes set at around the level in the Code for Sustainable Homes level 4. Until such time as zero carbon policy is in place nationally from 2016, local authorities will be able to continue to ask for higher standard on energy but have been encouraged to not go above Code level 4.

1.4.2 Water

28. Minimum water efficiency standards were introduced into the Building Regulations in 2010. The provisions require that all new homes are designed so that their calculated water use is no more than 125 litres per person per day. Water use is calculated by using the methodology set out in the Water Efficiency Calculator for New Dwellings (“the Water Calculator”).
29. In addition, local planning authorities can currently require standards over and above the national minimum. These standards can require, in effect, water efficiency measures ranging from relatively small-scale (for example, more efficient taps and showers) to more substantial things such as the need to incorporate rainwater harvesting or / and grey-water systems.
30. A water standard is required locally in one of two ways – either through a more wide-ranging local sustainability requirement to build to a specific level of the Code for Sustainable Homes or through a water-specific local standard. The survey work undertaken by EC Harris suggests that 58% of local authorities have a policy requiring (at least some) new homes in their area to be built to a particular level of the Code for Sustainable Homes. A further 12% have a water-specific standard. Further details of this Survey are outlined below and contained in the accompanying EC Harris Survey report.

31. The original consultation on housing standards showed that there was overwhelming support for a regulatory baseline, but a fairly even split in views around the levels of that baseline and then whether there should be additional local standards available.
32. On balance, and in line with other parts of this review, it is proposed to maintain a national regulatory baseline, but to allow one further tighter standard to be imposed locally where there is a clear local need. This would be equivalent to the Code Level 3/4 standard which is already required by many authorities. However, higher standards equivalent to Code Level 5/6 will not be acceptable as they, in effect, require new homes to incorporate grey-water/rainwater harvesting which is not only relatively expensive (£900-£2,700 per unit as set out further in this Impact Assessment), but also have cost impacts in relation to on-going maintenance and energy use.

1.4.3 Access

33. Survey work for the Department for Communities and Local Government by EC Harris indicates that a significant number of local authorities have policies on accessible housing. Currently it is estimated that 42% of local authorities have a policy requiring compliance of all or some of new housing development with the Lifetime Home Standards – and that a further 34% have a policy encouraging (but not mandating) compliance. This suggests that 76% of local authorities have a policy on Lifetime Home Standards. The actual requirements of these policies range from a proportion of new housing (20-30%) up to 100% of new housing (as in the London Plan).
34. The Lifetime home Standard was originally developed by the Joseph Rowntree Foundation as a standard intended to make homes more readily adaptable to peoples' changing needs over time. The standard has been developed over time and is now managed by Habinteg Housing Association. Compliance is typically assessed by a planning authority access officer, a code assessor or Habinteg Housing Association. Local authorities have also developed varying interpretations of the Lifetime Home Standard, further complicating cost effective delivery of compliance.
35. The same survey indicates that 17% of local authorities have a policy requiring a proportion of homes be built to a wheelchair housing standard. A further 9% have an aspirational policy which encourages development of wheelchair housing but stops short of an actual requirement, meaning that 26% of local authorities have a wheelchair housing policy of some form. Requirements vary from a very low number of properties to requiring as much as 10% of new development to meet wheelchair accessible standards.
36. Wheelchair accessible housing standards have developed over a considerable period of time. The most commonly recognised standard is the Wheelchair Housing Design Guide, currently owned by Habinteg Housing Association. However, this standard has not been developed for a number of years, and many local authorities have built upon its requirements to develop their own bespoke standards typically responding to particular circumstances in their local area. This means that there is no nationally accepted standard.
37. Where wheelchair housing and the Lifetime Home standards apply, properties are also required to meet the requirements of Part M of the Building Regulations, meaning that at least two compliance regimes will be relevant to each dwelling. In addition, the lack of national consistency makes delivering accessible and adaptable housing more expensive, complex and risky.
38. The Government proposes to replace these varying standards with two new Optional Requirements in the Building Regulations. The Lifetime Home Standard will be replaced by Category 2 – Accessible and Adaptable Housing, and existing wheelchair housing standards will be replaced by Category 3 – Wheelchair user dwellings in Part M (Access to and use of

buildings). The Government does not propose to make any changes to the existing technical requirements of Part M, but the guidance in Approved Document M will be restructured to fit within the framework which integrates the new optional requirements – 94% of respondents to our previous consultation supported proposals to restructure existing guidance in this way.

39. The New Optional Requirements have been developed following further consultation with an industry group and have been developed from the Level 2 and Level 3 proposals which were published in the 2013 illustrative technical standards consultation. Responses to consultation were very supportive of these requirements – 69% of respondents thought the proposals to replace Lifetime Homes (Level 2) were about right, whilst 74% of respondents thought the proposals for replacement of the Wheelchair Housing Design Guide (Level 3) were about right.
40. The proposals which we are proposing have been further evaluated in terms of both the way in which they are applied, and the technical requirements that are included to maximise cost effectiveness. This has enabled us to deliver significant savings without affecting the overall benefits of the standards being applied.

1.4.5 Space Standards

41. Survey work by EC Harris in support of the Housing Standards Review indicates that 33% of local authorities in England have policies requiring some form of space standard or specification relating to the internal layout of some or all new homes. A further 22% have some form of aspirational policy which seeks to incentivise, but does not require a space standard, suggesting that 55% of local authorities have a policy of some form on internal layout and space.
42. The standards adopted typically fall into two categories; those which apply only to affordable housing, where the most common standard adopted is the Home and Communities Agency legacy space standard; and those which require standards across tenure where the most commonly adopted standard is equivalent or similar to the space standard adopted in the London Plan.
43. However, the ways in which these space standards are adopted and assessed, and their actual requirements, are very variable. This creates significant difficulty for developers and designers working across local authority boundaries in ensuring compliance, and in the number of house types that are required within a limited geographical area. Unlike some other technical standards – such as security – even a small variation in space requirement can require extensive re-design of a property type or types. This variation also creates higher risk in assessing development viability and can affect developer's choice as to whether to take forward new development.
44. The Government has decided that it is appropriate for local authorities to have the right to influence the size and nature of development in their local area, but is of the view that this will be most effectively delivered through the development of a single national space standard which local authorities can choose to adopt, subject to ensuring that viability is not affected. The Government's proposals are therefore a rationalisation of all of the existing space standards currently being applied nationally.
45. The final proposals following the recent technical consultation have been developed following further engagement with industry and are based on the illustrative technical standards set out in the 2013 consultation. The proposed Nationally Described Space Standard has been further refined and simplified and now consists of a single set of Gross Internal Areas which represents a reasonable level of internal provision for new dwellings. The standard incorporates requirements for internal storage, minimum bedroom size and a minimum floor to ceiling height.

46. Requirements originally included in the previous consultation for additional space where utility rooms or en-suites are provided have also been removed, as has the requirement for furniture layouts. There was strong support for the space standard at consultation stage with 70% of respondents suggesting that local authorities should continue to be permitted to set standards across tenure in their local areas, and 80% supporting the development of a national space standard.
47. The proposed standard has rationalised existing standards in order to ensure that new homes meeting the standard provide the same level of habitable space in flats and houses. Overall, the proposed standard will reduce construction costs compared to the do nothing option. It will also significantly reduce design costs and will support more cost effective delivery of standard housing layouts which can be type approved. In the absence of this intervention, developers would continue to need to develop new house types for use in each local authority area with its own space standard. Having a single nationally applicable space standard will therefore significantly reduce construction and compliance costs across the country.

1.5 One in Two Out Assessment

48. Housing development in England is subject two principle legislative regimes; the Building Regulations which deals with health, safety, welfare, sustainability and accessibility and applies to development nationally; and the need to obtain planning permission in accordance with local authority planning policies which are set locally and address any aspect of development which might be considered material.
49. The main legislative base for the current planning system is the Planning and Compulsory Purchase Act 2004 and the Town and Country Planning (Local Planning) (England) Regulations 2012.
50. The aim of the housing standards review was to:
- identify which standards add value and should be retained, and which do not
 - simplify and reduce the cost of the remaining relevant standards
 - develop a mechanism that ensures developers only have to deal with a single point of compliance by consolidating remaining standards into the Building Regulations
 - introduce a mechanism to stop authorities layering on additional standards through the planning process, outside of those developed through the review.
51. To achieve the deregulatory effect for business the policy will:
- wind down the Code for sustainable Homes from early 2015 precluding its application to new development
 - through the Deregulation Bill, Amend the Building Act to enable those standards which are to be retained to be consolidated in to the Building Regulations
 - review these retained standards to identify how their cost can be reduced.
 - issue new planning policy which limits the ability of local planning authorities to require any technical standards other than those which have been retained.

1.5.1 De-regulatory impact for business

52. Once implemented, the review will deliver significant benefits to developers through reducing or recasting requirements

53. Reduced number of variations – developers will only need to consider 4 optional requirements which might apply anywhere in England – compared with current complexity where for example the Code for Sustainable Homes includes 6 different possible levels of performance across 34 themes.
54. Reduced time and cost in demonstrating compliance – developers will only need to deal with one body in determining compliance. Building Control Bodies (or in the case of the space standard, the local planning authority) will assess optional requirements at the same time as other Building Regulations, significantly reducing compliance cost, and ensuring any compliance issues can be resolved by an internally consistent regime.
55. Opportunities for standardised design – developers will be able to achieve ‘type approval’ for standardised designs, meaning one design is recognised as compliant anywhere in England reducing compliance costs and improving certainty that schemes will get planning permission.
56. Ability to maximise efficiency in supply chains – consolidating requirements into national standards will enable developers to maximise procurement savings in their supply chain by purchasing at scale, and at the same time competitiveness amongst suppliers will improve (as the complexity of the current system enables excessive premiums). These benefits have not been monetised.
57. Reduced construction cost – this impact assessment indicates equivalent annual savings to business of £127.9m per annum (central estimate - see table 22 below) from the simplification of existing standards where these have been retained. Converted to 2009 prices results in a £114.3m saving given the 2015 present value base year of this IA, and discounted to 2010 for One In Two Out purposes, this results in an equivalent annual saving to business or ‘OUT,’ through reducing or recasting regulations, of £96.2m.
58. Overall the proposed package represents a radical constriction of local authority powers to intervene in the design and construction of new homes.

1.6 Description of options considered (including do nothing)

1.6.1 Option 1 – do nothing

59. This would fail to address the substantial costs facing house builders from the current structure of local standards. These costs impact on the potential for house builders to take advantage of market opportunities and can also impact on the viability of some sites, particularly in areas where land prices are low.
60. It is likely that in the absence of action to simplify and co-ordinate local standards there would be an increase in use and range of local standards over time. This would add further costs to house builders.
61. There is uncertainty regarding the extent and pace of introduction of new standards by local authorities as well as the extent of evolution of standards over time under the current situation. Initial estimates of these have been made below, forecasts on which these estimates are based have been explained and have been tested through consultation. The costs are likely to be substantial and grow over time. There will be some non-business benefits in terms of environmental and social outcomes, though these will not be as well targeted as for option 2.

1.6.2 Option 2 – simplify and rationalise local housing standards

62. Option 2 aims to simplify and rationalise housing standards by consolidating essential standards in to a national framework centred on the Building Regulations and reducing substantially the number of technical standards applying to the construction of new homes. It comprises a radical redesign of process whereby standards are applied in respect of new development.

63. The proposed consolidated standards are described below by each theme:

- Accessibility – two Optional Requirements above Building Regulations minimum requirements
- Energy – no additional standards above Building Regulations
- Water – a single Optional Requirement for water efficiency above Building Regulations minimum requirements
- Space – a single tier national space standard.

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

64. Transition costs due to familiarisation time and training are outlined in section 2.8 below. The initial section estimates the benefits due to reduced build and process costs associated with replacing the current standards with fewer, streamlined optional standards.
65. This document should be treated as part of a bundle of documents containing the underlying evidence. This consists of an 'EC Harris Costs Impact Report with Appendices,' an 'EC Harris Local Authority Policy Survey' and a 'Housing Standards Review Evidence Report' produced by Adroit Economics. Each of these is discussed below.

1.7 EC Harris Cost impacts report

66. EC Harris was commissioned by DCLG to carry out a detailed assessment of both build and process unit costs for the impacts of the current standards and new proposals for a range of different dwelling types. There have been internal peer reviews and quality assurance checks made throughout the costing and report writing process. The extensive nature of this research and robust peer review process means we are content that the cost estimates contained in this report are sufficiently robust to form the basis of the analysis in this impact assessment.
67. EC Harris has revised and substantially developed this work in the light of consultation responses and extensive engagement with industry participants through working groups in the lead up to a public consultation in 2013 and subsequently. For instance, security and energy cost estimates have been significantly revised in the light of consultation responses and industry discussions, especially where costs have been falling due to learning effects. Its "Cost Impacts" Report together with detailed Appendices accompanies this document as part of the bundle. Further details on the Quality Assurance for this cost work can be found in Section 2.7 of the report.

1.8 EC Harris local authority policy survey

68. In addition, EC Harris undertook a survey of local authority plans to inform assumptions about current take up of standards in planning policy and trends as authorities introduce new standards. The EC Harris Survey Report also accompanies this document. Details of how the survey was carried out and what it covered are contained in that report with further information picked up in the Adroit Economics Evidence Report. We consider the extensive nature of the survey and relevant quality assurance checks mean the estimates are sufficiently robust for use in this impact assessment.

1.9 Adroit Economics housing standards review evidence report

69. The Adroit Economics Evidence Report outlines the relevant evidence required for making informed assumptions used in the cost benefit analysis based upon the raw EC Harris data. Again, we consider the nature of the research and relevant quality assurance checks mean the estimates are sufficiently robust for use in this impact assessment. The following sections draw widely on the evidence presented by consultants in each of these three documents which should be seen as an integral part of this impact assessment.

2.0 General assumptions

70. A range of general evidence based assumptions to estimate the impact of the policy, are applied to each local standard. For this final impact assessment, consultant EC Harris has drawn on its extensive experience in the construction industry to undertake more detailed cost analysis in the light of the consultation responses.

2.0.1 Dwelling build rates and the value of time saved

71. The 2013 consultation impact assessment assumed that homebuilding in England would increase by 3-6% per annum. Since then the baseline for homebuilding completions in 2013 has been demonstrated to be below that, but at the same time the most recent statistics for housing starts shows a sharper increase in new homes in the pipeline.

72. The Adroit Economics Evidence Report has reviewed a wide range of evidence and private forecasts to arrive at a 10 year house projection covering the expected lifetime of the policy. This is indicative for this impact assessment only and does not represent an official forecast of future build expectations or a housing target. Due to uncertainty about the future, three different scenarios have been developed with an expected per annum growth rate of 3% (low), 5% (central) and 8% (high). This gives the estimates of house build for the central scenario outlined in Table 1. For more detailed analysis, including the basis for assumptions on build mix, please refer to Adroit evidence report Section 3, pages 3-5. The High estimate is assumed to be capped at 221,000, the level of projected increase in the number of households based on Department for Communities and Local Government statistics¹.

73. The build mix assumptions assumed are based on data for different building types in new build from the National House Building Corporation² and Department for Communities and Local Government house building statistics table 254³.

2015	2019	2024	Total 2015- 24
115,143	146,955	187,556	1,520,669

¹ <https://www.gov.uk/government/publications/household-interim-projections-2011-to-2021-in-england>

² National House Building Council Quarterly Statistics, Housing Market Report, April 2014.

³ <https://www.gov.uk/government/statistics/house-building-in-england-october-to-december-2013>

74. As in the 2013 Consultation impact assessment and in previous construction related Department for Communities and Local Government impact assessments⁴, we have estimated the value of hourly savings in administrative time through two sources, the EC Harris database of professional fees and the Standard Cost Model which proposes taking the Annual Survey of Hours and Earnings and adding 30% for additional overheads (such as pensions and national insurance contributions)⁵ Throughout the impact assessment, a 50% weighting for each of the EC Harris database and Annual Survey of Hours and Earnings +30% is used to calculate the central estimate below. Further details and the resulting time costs for different professions can be found in the EC Harris Cost Report Section 2.7. We refer to this below as the 'blended' value.

2.0.2 Phase in during the transition period

75. It is estimated that the policy will start to take effect from mid-2015. There will be a transitional period of 6 months where the existing standards in the five key areas (on energy, water, access, space and security) can continue to be applied. Other standards will no longer be applied. So for instance a plan policy which currently specifically requires building to lifetime homes standards, which is under the access theme, can continue to be applied during the transition period. But a general requirement to meet a particular Code for Sustainable Homes level will no longer apply.

76. Following this transition period, local authorities will be able to 'passport' the key standards to the nearest new equivalent optional standard where one exists. So where a current policy has a lifetime homes standard it will be possible to adjust to the new Level 2 access standard.

77. We have worked with Adroit Economics and EC Harris to make the following informed estimate of the pace of the phase in of the new policy.

2.0.3 Phase in of the policy

78. It is likely that savings are achieved throughout the development process from design, before actual start on site, through to completion. DCLG analysis of Glenigan⁶ planning data has suggested that to 'start on site' for a typical development can take eight months following planning permission and that the large homebuilders, responsible for a high proportion of build, will start most quickly. The quickest quarter of homes are started four months after permissions. Progress from planning permission to completion since 2007 typically takes around 2 years.

79. However, given the savings identified in the build process from the new standards, it will be possible for a developer to apply for a planning variation during this build process. In this case it is likely that some savings from the new standards can be realised during the transition process, especially for larger private sector development.

⁴ See for instance [https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/39372/121128 - Part B IA - to publish for web.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/39372/121128_-_Part_B_IA_-_to_publish_for_web.pdf) paragraph 33.

⁵ ASHE: <http://www.ons.gov.uk/ons/re/ Ashe/annual-survey-of-hours-and-earnings/index.html>, Standard Cost Model <http://www.berr.gov.uk/files/file44503.pdf>

⁶ Glenigan is a private company that supplies the department with data in planning applications. www.glenigan.com

80. This build out planning data evidence and analysis, consultation responses and further engagement with industry, has resulted in the following informed estimates for phase in.

Table 2: Proportion of dwellings built to different permissions				
Homes built to:	2015	2016	2017	2018
Previous permissions	80%	30%	10%	0%
Permissions granted during 6 month transition	15%	40%	5%	0%
Post transition permissions	5%	30%	85%	100%

81. For example, for 'Code – additional credits' below, only those homes built to previous permissions are built to the Code and there will be no 'passporting' of standards so 80% will still be built to the Code in 2015 down to 30% in 2016 and 10% in 2017. For private space standards, homes currently built to a space standard will be 'passported' to the new standard with the old standard being permitted during the transition. This means that in 2015 of those built to existing standards under the 'do nothing', some 95% will still be built to the existing standards under the new policy (80% from previous permissions plus 15% from permissions during the transition), falling to 70% in 2016 and 15% in 2017.

2.1 Code for Sustainable Homes – Energy

82. The Code for Sustainable Homes is a voluntary national environmental standard which rates and certifies the performance of new homes, measuring the sustainability of homes against nine categories, including energy and providing a six level rating system. The proposed change is to constrain energy requirements in the Code which go beyond the carbon compliance standard in Code level 4. The result is a reduction in build cost and process costs, especially those associated with current Code levels 5 and 6 and some energy costs associated with Codes 3 and 4.

2.1.1 Do nothing Option 1 – Code Energy

83. EC Harris has undertaken a further cost analysis of complying with the different Code levels taking into account consultation comments and obtaining updated cost estimates.

84. The analysis is reported in detail in the accompanying EC Harris Cost Report and the results presented, for different dwelling types, in Table 9 of that report. The cost for the energy credits is outlined in Table 10 of that report and the accompanying Appendix A2. The result for a 3 bedroom semi-detached is summarised in table 3.

Code Level	Cost all credits	Cost Energy credits only
Code Level 1	-	-
Code Level 2	£40	-
Code Level 3	£46	-
Code Level 4	£790	£741
Code Level 5	£17,668	£12,855
Code Level 6	£25,939	£21,806

NB: Central estimate for medium sized 50 dwelling development.

85. The costs above are based on a medium sized development of 50 dwellings, although costings for a small and large development are also contained in the EC Harris Cost Report. The Cost Report appendices also provide a full breakdown of the estimated build and process costs for each individual Code credit.
86. The estimated cost of building Code Level 4 is significantly lower than in the August 2013 assessment. This reflects learning benefits, as a significant number of Code Level 4 homes have been completed over recent years, and the lower estimated cost of solar photovoltaics.
87. The costs for Code levels 5 and 6 are estimated by EC Harris to be slightly higher than in August 2013, which reflects far less experience of building to these higher Code levels and more detailed analysis of the costs.
88. Where a renewables approach is adopted, EC Harris concluded that the cost of these technologies has decreased within the last twelve months. However, EC Harris has also incorporated Mechanical Ventilation and Heat Recovery costs within Codes 5 and 6 which were not originally incorporated. The work around Code Level 5 is significantly more developed which has identified in certain instances an enhancement to specification. Further details are contained in the EC Harris Cost Report, Section 3.2.
89. As for the August 2013 assessment, we have made an assumption that the cost of building to the Code will fall over time. This assumption was supported during the consultation where some consultees pointed to evidence that the cost of Code 4 has fallen over recent years as more builders have gained experience of building to the level and technology, such as solar photovoltaics. Parsons Brinckerhoff undertook detailed analysis of the cost of solar photovoltaics in May 2012 which included estimates of price reductions over time. As solar photovoltaics is an important cost element in the higher code levels, we have used those assumptions as a basis to estimate the following reductions in the cost of the Code over time.

2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
3.5%	3.2%	3.0%	2.7%	2.4%	2.2%	2.0%	1.9%	1.7%	1.6%

Source: Based on Solar PV Cost Report May 2012. Parsons Brinckerhoff

90. The largest energy cost for higher Code levels is from the mandatory carbon compliance requirement, although the Code has a number of other energy credits available which have cost implications. For Code Level 3 there is no carbon compliance cost as this standard is now required from Building Regulations. The baseline for the Do Nothing analysis against which the costs above are measured is the current Building Regulations Part L standard introduced in April 2014. From 2016 the baseline moves to the zero carbon build standard which is consistent with the government policy that every new home should be built to a zero carbon standard from 2016. This has been estimated for this analysis as the carbon compliance Code 4 level onsite plus a payment towards offsite 'allowable solutions' estimated at £60 per tonne. This was the central estimate in the government's 2013 allowable solutions consultation⁷.
91. For example a Code Level 5 semi-detached 3 bedroom house faces an extra energy cost over current Part L Building Regulations of £12,855 (from Table 5 above) at the beginning of the period, before learning. This is due to requiring a full 100% reduction in carbon compliance onsite alongside other energy credit requirements to meet Code 5. This reduces to £11,654 by 2017 using the learning rate reductions in Table 6 above. But due to the new zero carbon build standard a new home subject to this regulation will cost more even in the absence of a Code requirement so the extra Code cost above this new baseline is less. This baseline cost increase is £2,889, made up of a £672 extra over the cost of meeting Code level 4 onsite (after learning is taken into account⁸) plus an estimated £2,217⁹ allowable solutions cost.
92. This gives the extra over cost for energy of a Code 5 home in 2017 against the zero carbon build standard of £8,764. So Code 5 remains a significant extra cost even on top of the zero carbon standard.
93. It has been estimated that this zero carbon standard will phase in over time, based on evidence from previous changes to Building Regulations. The assumed phase in profile is outlined in the table below.

2017	2018	2019	2020	2021	2022
10%	35%	55%	75%	90%	100%

2.1.2 Energy Do Nothing - Code process costs

94. EC Harris has also produced an updated estimate of the Code process and administrative costs. These are the transaction costs associated with ensuring that a development fulfils the relevant criteria of the Code through their design and build procedure and obtaining an appropriate certificate.
95. EC Harris has investigated the time and administrative costs house builders incur when complying with the Code.

⁷ <https://www.gov.uk/government/publications/next-steps-to-zero-carbon-homes-allowable-solutions>

⁸ £741 from Table 5 reduced by learning according to Table 6 down to £716 in 2015, £693 in 2016 and £672 in 2017.

⁹ Estimated at just over 1.2 tonnes per year residual emissions from Code 4, over 3 years at £60 per tonne.

96. Estimates of hourly process costs are based on the blended price of two sources, the EC Harris database and the Standard Cost Model as explained in the General Assumptions section 2.0 above.
97. Using the blended hourly rate EC Harris has estimated a process cost for each Code level based on the credits being required. Further detail of the EC Harris estimate for costs of each of the credits can be found in the appendix of the EC Harris Cost report. Table 11 of the EC Harris Cost report summarises the total process costs at each Code level and the unit process cost per dwelling for different sized developments. The medium sized scheme costs are outlined in the table below.

Code Level	All credits	Energy credits only
1	£117	£23
2	£117	£23
3	£125	£23
4	£136	£29
5	£228	£109
6	£228	£109
Code BRE Fee	£37	

Medium sized 50 unit development. Details: EC Harris Cost report Table 11 and Appendices.

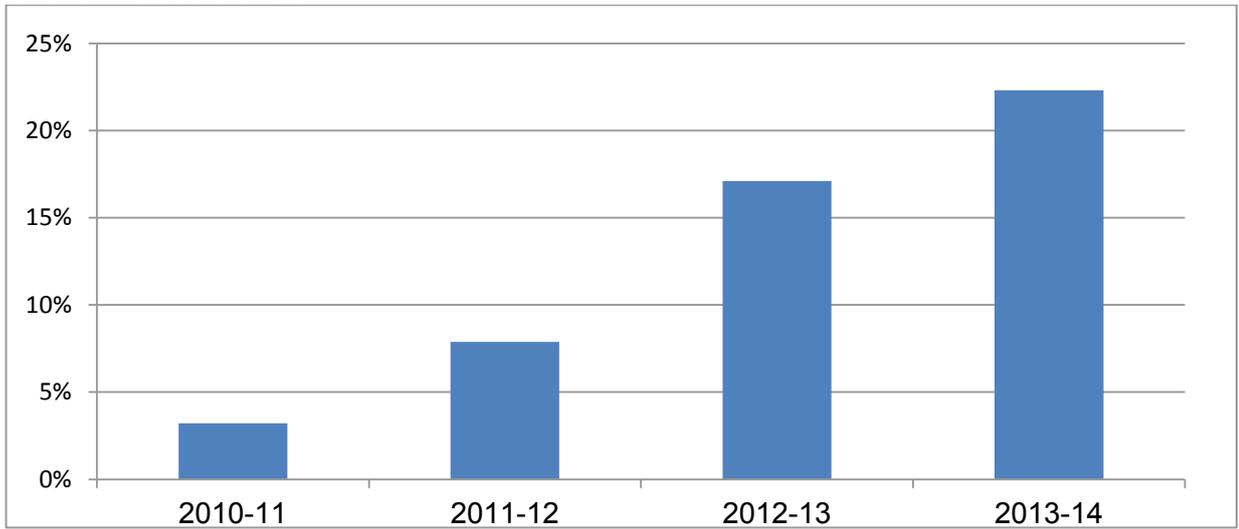
98. Consultation responses have suggested that Code process costs have already been optimised to minimise costs involved since the Code was launched in 2007 and so it is reasonable to assume that they will remain constant in real terms over the 10 year appraisal period. EC Harris have provided a detailed breakdown of the process cost associated with each credit of the Code in the Appendices of their report, which explains the hours required to ensure compliance with the credit.

2.1.3 Energy Do Nothing - Take Up

99. The 'Do nothing' assumes that the pre-Housing Standards Review trend of a growing use of local standards continues. For the Code the EC Harris survey of planning policies is supplemented by published statistics of Code use¹⁰.
100. The 2013 consultation analysis assumed that the proportion of homes built to the Code would remain constant. The new and more detailed survey research undertaken for this impact assessment suggests that this assumption is likely to underestimate the proportion of homes built to the Code over the appraisal period.
101. The 'Adroit Evidence Report' analyses trends in the inclusion of Code requirements in plans in detail in Section 8, and uses this evidence as the basis for a recommended uptake assumption of the Code over the appraisal period. For example the chart below, taken from the Adroit Report, shows the proportion of private completions in England which are built to the Code.

¹⁰ <https://www.gov.uk/government/collections/code-for-sustainable-homes-statistics>

Chart 1: Code trends



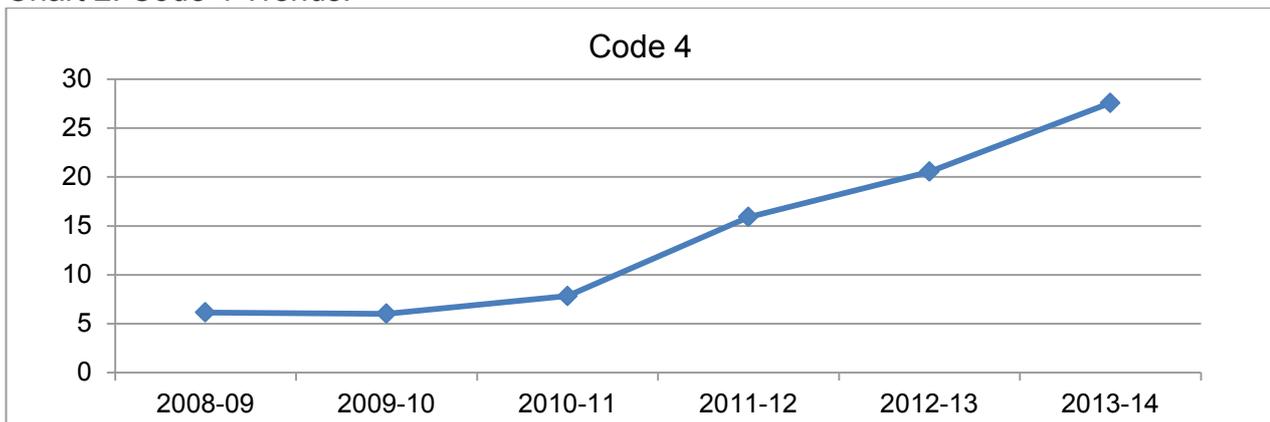
Private Code 'Post Construction' certificates as a proportion of 'Completions'.

102. Using the Adroit Evidence Report recommendations based on Post Construction certificate statistics, it is therefore estimated that under the Do Nothing there would be a steady increase in the proportion of all homes (private and social) built to one of the Code level standards over the appraisal period from the current estimated level of 46% in year 1 (2015) up to 62% in year 10 (2024).

103. In addition to a trend increase in the proportion of homes built to one of the Code standards, there has been an increase in the proportion built to higher levels of the Code. This was re-enforced by the EC Harris planning survey which concluded that in general the later the date of a policy update the higher the Code for Sustainable Homes level required. Again details can be found in Section 8 of the Adroit Evidence Report.

104. The Chart below, taken from the Evidence Report, illustrates specifically the trend change of the proportion of homes being built to Code Level 4.

Chart 2: Code 4 Trends.



Proportion of Code homes built to Level 4

105. Based on the Adroit Evidence Report, this impact assessment assumes that there is a 5% increase annually in the proportion of Code homes built to level 4 over the appraisal period. This is the average annual increase over the period 2009-14.

106. The EC Harris Survey Report also presents evidence of a higher proportion of plans with aspirational Code targets, including identifying 4% of authorities in the Survey already encouraging/ seeking Code 5 from large or greenfield developments. A further 18% of the authorities surveyed stated a future policy ambition within their plan relating to increasing standards of sustainability, including common references to Code levels 5 and 6.
107. Based upon the survey evidence of existing policies alongside current and future aspirations in local authorities, though taking into account the substantial cost differential associated with Code Levels 5 and 6, the Adroit Evidence Report suggests that there would be a modest increase in the proportion of homes being required to be built to Code Levels 5 and 6. Their report suggests that by 2024 there will be 3% of Code homes built to Code level 5 and 2% to Code level 6 by 2024. We have therefore estimated this increase in the analysis.
108. The proportion built to the lower levels, especially Code level 3, is anticipated to fall away as the higher Code levels become more common under the Do Nothing, which is consistent with the recent trend outlined in the Adroit Evidence Report.
109. The new estimated proportion of homes built to each Code level is outlined in the table below.

Table 7: Assumed proportion of each level built to the Code										
	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Level 1	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Level 2	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Level 3	69%	64%	59%	54%	48%	43%	37%	31%	26%	20%
Level 4	30%	35%	40%	45%	50%	55%	60%	65%	70%	75%
Level 5	0%	0%	0%	1%	1%	1%	2%	2%	3%	3%
Level 6	0%	0%	1%	1%	1%	1%	1%	2%	2%	2%

2.1.4 Energy do nothing – option 1 costs estimate

110. Given the unit cost and take up assumptions above we have calculated the annual stream of costs of meeting the Code energy requirements under the do nothing for the 10 year appraisal period. The following table gives the build costs and process costs per annum. The present value estimate over 10 years for the energy build costs are £239.3m and for process costs are £30.9m.

£m	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	Total	PV
Build Costs	14.9	19.4	24.1	25.5	27.1	27.7	28.9	31.5	39.1	48.1	286.3	239.3
Process Costs	2.2	2.4	2.7	3.0	3.4	3.7	4.1	4.6	5.1	5.7	37.0	30.9
Total Costs	17.1	21.8	26.8	28.5	30.4	31.4	33.0	36.1	44.2	53.8	323.3	270.2

2.1.5 Energy New proposal – Option 2 costs estimate

111. Having estimated the costs under the do nothing the next step is to estimate the cost of the new proposal. The new proposal is to wind down the Code for Sustainable Homes so that elements specified as a Code standard will no longer be a requirement. In order to smooth the transition to a zero carbon build standard we anticipate that those local authorities with existing Code 4 based policies based on a dwelling emission rate (labelled 'ENE1' in the Code performance rating system) will continue to be able to require them.

112. Local authorities will not be able to require standards based on the voluntary credit requirements at ENE2 to ENE9. So all energy standards (ENE2 to ENE9) at Code levels 5 and 6, which would otherwise be introduced over time in plans according to the above table in the do nothing option, will no longer be a requirement while the carbon compliance (ENE1) requirement will fall from Code 5 or 6 down to Code 4 equivalent.

113. As the transition to the new policy takes place the costs identified below will fall away apart from the costs of ENE1 for Code 4 homes which will in turn fall to zero as the new zero carbon standard is introduced and requires this standard in the baseline. Details of the transition assumptions for energy are outlined in Section 10 of the Adroit Evidence Report. The table below gives a present value estimate over 10 years for the build cost of £60m and for the process cost of £4.9m.

£m	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	Total	PV
Build Costs	11.5	10.5	12.4	11.8	9.7	6.3	2.9	0	0	0	65.1	60.0
Process Costs	1.5	0.8	0.8	0.8	0.7	0.4	0.2	0.0	0.0	0.0	5.3	4.9
Total Costs	13.1	11.2	13.2	12.6	10.4	6.8	3.2	0.0	0.0	0.0	70.4	64.9

2.1.6 Energy - Overall cost savings

114. Based on this evidence we have estimated the total build and process cost savings to homebuilders during the appraisal period of the policy change. The savings identified are primarily from the high cost of all energy requirements for Code 5 and Code 6 homes. In addition the non-ENE1 energy elements of a much larger number of Code 3 and 4 homes will no longer be required and there will be significant process savings.

115. The savings are calculated by subtracting the new proposal costs from the do nothing costs, which results in an equivalent annual build cost saving of £20.83m (see table below). In addition there is an annual process cost saving of £3.02m. This results in a total equivalent annual saving of **£23.9m** (Low: £11.8m, High: £55.4m).

£m	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	NPV	EANB
Build saving	3.3	8.9	11.7	13.7	17.4	21.4	25.9	31.5	39.1	48.1	179.3	20.8
Process saving	0.7	1.7	1.9	2.2	2.7	3.3	3.9	4.6	5.1	5.7	26.0	3.0
Total saving	4.0	10.6	13.6	15.9	20.1	24.6	29.9	36.1	44.2	53.8	205.3	23.9

2.2 Code – Additional credits

116. The Code for Sustainable Homes makes other requirements in addition to the energy, water, access and security requirement captured elsewhere in this impact assessment or, in the case of security in a separate accompanying impact assessment. These requirements enable developers to gain sufficient voluntary credits needed to meet a Code standard, but for any individual credit score, it is only likely to be undertaken if it is cheaper than alternative credit options for meeting the required Code level.

117. These areas include Materials, Surface Water Run Off, Waste, Pollution, Health and Well Being, Management and Ecology. For some of the areas, for instance, ecology, there may be a general planning requirement depending on the location of the development. For instance homes built on the edge of an ancient forest may face more stringent general planning requirements than an urban infill development. Even in these situations there can be a requirement for two ecology assessments, one for the Code and the other for general planning purposes which may be inconsistent. So there will still be savings associated with removing this aspect of the Code. The driver for undertaking a voluntary code credit will be the cost of that credit relative to the alternative available credits rather than the importance of the issue which the credit is proposed to tackle.

2.2.1 Code additional credits - option 1 - do nothing

118. This will involve more homes being built to the Code for Sustainable Homes in future as outlined in the previous section on ‘Code – Energy Costs and Benefits’.

119. EC Harris has made a detailed assessment of the cost of each Code credit and then estimated the likely cheapest credit mix to meet each level of the Code. This is presented in detail in the appendices to the accompanying EC Harris Cost Report.

120. To avoid double counting, for this section any costs associated with areas already covered elsewhere in this impact assessment have been excluded from the standard. So the table below is for a medium sized development, based on the EC Harris Cost Report Table 10a but excluding water, security and access costs as well as energy. Further details for small and large developments can be found in the EC Harris Cost Report and appendices.

Code Level	1 Bedroom Apartment	2 Bedroom Apartment	2 Bedroom Terrace	3B'room Semi-detached	4 Bedroom Detached	Process (house)
1	-	-	-	-	-	94
2	40	40	40	40	40	94
3	40	40	40	40	40	99
4	40	40	40	40	40	104
5	555	603	753	825	903	101
6	555	603	753	825	903	101

121. Take up assumptions for each Code level are as outlined in the Code – Energy Costs and Benefits’ section.

122. The EC Harris Cost Report concludes that process costs can be significant, including technical calculations, collating compliance evidence, specialist consultants’ reports or certification. Further details are given in Section 3.2 of the EC Harris Cost Report.

2.2.2 Code additional credits – option 2 – new proposal

123. The winding down of the Code means that after the transition period none of the above credits, driven by the decision to minimise the cost of achieving a Code level, will be required. Where local circumstances require a particular sustainability outcome this could be part of a general planning condition not connected to a standard, though this would be required under the do nothing as well. There are therefore savings for both process costs and build costs from winding down the Code.

2.2.3 Code additional credits – costs and benefits

124. The costs and benefits have been estimated taking into account the transition process to the new standard. Details of how the calculations are estimated are contained in Section 11 of the Adroit Evidence Report.

Table 12: Code – additional credits, costs and savings (£m)											
	Present Value	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Do Nothing Build Cost	40.5	2.3	2.6	3.0	3.5	4.1	4.8	5.6	6.5	7.6	8.8
Do Nothing Process Cost	124.2	9.8	10.7	11.6	12.7	13.8	15.0	16.3	17.7	19.2	20.8
Proposal Build Cost	2.9	1.9	0.8	0.3	-	-	-	-	-	-	-
Proposal Process Cost	12.0	7.8	3.2	1.2	-	-	-	-	-	-	-
Build Cost Saving	37.5	0.5	1.8	2.7	3.5	4.1	4.8	5.6	6.5	7.6	8.8
Process Cost Saving	112.2	2.0	7.5	10.5	12.7	13.8	15.0	16.3	17.7	19.2	20.8
Total Saving	149.7	2.4	9.3	13.2	16.2	17.9	19.8	21.9	24.3	26.8	29.6

125. Over the 10 year appraisal period a saving of £149.7m is achieved which equates to an annual equivalent saving of **£17.4m** (Low: £12.2m, High: £25.8m). Of this some **£13.0m** is a process cost saving whilst the remaining **£4.4m** is reduced build costs involved with achieving the various credits.

2.3 Water – Costs and benefits

Further work has been undertaken following the 2013 consultation impact assessment which concluded that changes to the water standards would result in an equivalent annual saving to business of £2.4m.

2.3.1 Water - Option 1 - do nothing

126. Currently there is a national baseline water requirement, delivered through Part G of the Building Regulations, plus additional local standards delivered through planning. Primarily local water standards will be imposed through a policy requiring new homes to be built to meet a particular level of the Code for Sustainable Homes (water efficiency is a mandatory element in the Code along with energy). Less commonly local authorities may have a water specific policy – currently 12% of local authorities (as opposed to the 58% of local authorities who have a policy requiring the Code for Sustainable Homes).

127. EC Harris have updated their unit cost assessment of existing water standards and presented details in their Cost Report Section 3.5 and appendices. For example, the updated estimate of the cost over and above Part G of the Building Regulations for a 3 bedroom semi-detached house is £9 for Codes 3 and 4, and £2,697 for Codes 5 and 6. The costs are significantly less for the lower Code levels as these water efficiency levels can be delivered through making fittings more efficient, which in turn can be delivered through the use of flow restrictors to those fittings.

128. However, achieving the higher Code levels, in effect, requires a developer to incorporate some sort of water re-use. Incorporating grey water or rainwater harvesting into new developments incurs a more significant cost. These costs can also vary significantly depending on the type of dwelling, with apartments costing substantially less than housing. The differences illustrate the significant efficiencies of communal systems to apartments.
129. EC Harris has estimated that the small extra over cost for Codes 3 and 4 will fall to zero over ten years as supply chains adjust. Details are contained in the Cost Report paragraph 4.5.3. This will affect both the Do Nothing and the new standard costs.
130. The process costs for Code Levels 5 and 6 are outlined in the EC Harris Cost Report Section 3.5.7 and reflect the additional design time associated with incorporating water re-use into new developments.
131. The Code take up assumptions are used to estimate the proportion of homes being built to the standard. In addition the EC Harris Survey section 4.8 shows that 12% of authorities have a water requirement. While 58% of local authorities have a Code policy and 12% currently have a water-specific policy, these will not necessarily apply to all new homes built in a local authority area. For example, a policy might only apply to development over a particular size or for social housing. The EC Harris professionals survey (Table 14 of the EC Harris Survey report) concludes that 70% of homes in plan areas will require the standard. The Adroit Economics Evidence Report analysis of the Survey (Section 9) estimates in paragraph 9.7 to avoid double counting that, due to plans a further 5% of homes in addition to Code homes will be required to meet the standard.
132. Most local water efficiency standards are currently required as a result of policies requiring new homes to meet a specific Code Level. However, areas that are commonly viewed as being "water stressed" – (namely local authorities In London, the South East and East Anglia) account for around 40% of all new homes.
133. We are currently working with the Environment Agency to establish the extent to which local water resource issues might justify a tighter local standard.
134. Given this evidence, Adroit has estimated the likely increase in take up of water standards based on local plan trends. For instance, Table 4.2 of the Adroit Evidence Report illustrates that the proportion of new plans containing a water standard has increased from 8% in 2005-9 up to 25% in 2012-14. Having taken these various factors into account, Adroit estimate that 51% of dwellings in 2014 increasing to 66% in 2024 would be required to incorporate a water standard.

2.3.2 Water - Option 2 – New Proposal

135. The new water efficiency optional requirement that will be introduced into Part G of the Building Regulations is 110 litres per person per day and therefore equivalent to the current minimum standard required to meet the Code Levels 3 and 4 standard. This cost is estimated in the EC Harris Cost Report in Section 4.5.
136. Those authorities who already have a Code requirement (for which water is a mandatory element) will be able to passport this through into the new water optional requirement. Similarly authorities with a specific water requirement would also be able to passport to the new standard. We have therefore assumed the same take up as for the 'Do nothing' option.

2.3.3 Water - Process Costs

137. There will be no additional process cost for the new Building Regulations optional requirement as the national baseline set out in Part G of the Building Regulations already requires a water efficiency standard which involves an identical process requirement. The EC Harris Cost Report Section 3.5 estimates process costs for the mandatory water element of Codes 5 and 6 in Tables 27-30.

2.3.4 Summary of Water Costs and Benefits

138. Adroit Economist has calculated the overall impact of the change by subtracting the cost of the Do Nothing against the cost of the new standards, assuming the transition outlined above. Details are in the Adroit Evidence Report Section 9. The table below gives the net numbers for each year of the appraisal period. There is estimated to be an equivalent annual net saving to business of **£5.2m** (Low: £2.2m, High: £7.9m).

£m	Present Value	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Do Nothing Build Cost	42.5	0.9	1.1	1.7	2.5	3.6	4.8	6.4	8.3	10.5	13.2
Do Nothing Process Cost	6.3	0.5	0.6	0.6	0.6	0.7	0.8	0.8	0.9	1.0	1.1
New Proposal Build Cost	3.1	0.8	0.6	0.5	0.4	0.3	0.3	0.2	0.2	0.1	0.0
New Proposal Process Cost	0.9	0.5	0.4	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Build Cost Saving	39.4	0.1	0.5	1.2	2.2	3.2	4.6	6.2	8.2	10.4	13.2
Process Cost Saving	5.4	0.0	0.2	0.5	0.6	0.7	0.8	0.8	0.9	1.0	1.1
Total saving	44.8	0.1	0.7	1.7	2.8	3.9	5.3	7.0	9.1	11.4	14.2
Equivalent Annual Saving:		5.2									

2.4 Access

139. Access standards include “Lifetime Homes Standards”, which incorporate features to meet users’ changing needs over their lifetime and wheelchair housing standards, which are designed to meet the needs of full time wheelchair users.

140. There have been a number of changes to the accessibility standard following the 2013 consultation at which the equivalent annual saving to business was estimated at £12.2m.

2.4.1 Access - Do Nothing

141. The Do Nothing involves the cost of the current accessibility standards in relation to lifetime homes or comparable local standards, and the various wheelchair standards. The current trend of increasing requirements for accessibility standards over time is anticipated to continue. This is explored further in the following two sections.

2.4.2 Access Do Nothing – Lifetime Homes

142. Detailed analysis of the EC Harris revision of their estimates of the cost of current accessibility standards in light of the consultation responses, and the main changes included in the new analysis, are contained in their Cost Report at Section 3.4 and the accompanying appendices.

143. The new cost estimates are outlined in Table 17 of that report. For instance, the build cost estimate for building a 3 bedroom semi-detached house to lifetime homes standard is £1,097. In addition, the spatial implications of Lifetime Homes Standard have also been considered in Table 17a.

144. One important further consideration since the 2013 analysis is the estimate for BS9266 (Design of accessible and adaptable general needs housing, Code of Practice) a new British Standard which has been produced and referenced in documents as a potential future replacement for the Lifetime Homes Standard and is likely to influence future planning policies under the Do Nothing option.

145. BS9266 was drawn up by the British Standards Institute with a view to superseding the existing Lifetime Home Standard (the consultation draft for development included 'lifetime homes' in the title). An example of reference to BS9266 in a planning policy document is the "Shaping Neighbourhoods Accessible London: Achieving an Improved Environment" draft London Plan Supplementary Planning Guidance document [page 26, paragraph 2.11.5]¹¹.

146. The EC Harris Cost Report in Table 17 estimates that the cost of meeting BS9266 for a 3 bedroom house will be £3,148, which is over £2,000 higher than the equivalent Lifetime Homes Standard. The introduction of this new standard would therefore become a substantial potential future cost for homebuilders under the 'Do Nothing' situation where local authorities have the power to introduce this standard.

147. A second important change in estimating the net present cost over 10 years relates to take up assumptions. At consultation it was assumed that 10% of homes outside of London and 90% in London would be built to the Lifetime Homes Standard. For this refined analysis take up estimates have been based on the EC Harris survey work for standards. There is a variation between the number of local authorities who have a lifetime home policy, and the overall proportion of homes built to lifetime homes started, as a number of authorities require that only a proportion of development is built to meet the standard.

¹¹ <http://www.london.gov.uk/priorities/planning/consultations/draft-supplementary-planning-guidance-on-accessible-london> See also paragraph 7.59 in the Worcester City Council Supplementary Planning Document. <http://www.worcester.gov.uk/accessibility-supplementary-planning-document>

148. The survey analysis on Access is presented in the EC Harris Survey Report in Sections 4.3 and 4.4 and the planning analysis in Section 5 especially Table 14. Drawing upon this survey, the estimates for take up are presented in the Adroit Evidence Report Section 5.
149. The Adroit report estimates that nationally 31% of new homes are currently being built to the Lifetime Homes standard and evidences the increasing trend for adopting the Lifetime Homes Standard in plans. For instance in 2005-9, it is estimated that 35% of plans adopted included the standard but this had increased to 60% by 2012-14. Based on this evidence, the report suggests an assumption that the proportion of homes built to the Lifetime Homes Standard would increase from 31% in 2015 up to 45% (from 56% of homes in plan areas) by 2024. This is consistent with past evidence of the long run trend and evidence of on-going pressures due to an ageing population.
150. In addition, after discussions, the Adroit report includes an estimate of the likely take up of the new BS9266 standard. This assumes that the take up of BS9266 would be modest, despite the growing fiscal pressures from ageing, because of the substantial cost of the standard. By 2024 it is assumed that 2.4% of new homes will be built to BS9266 in addition to the 45% built to lifetime homes.
151. Based on the detail contained in the accompanying reports the overall impact of the Do Nothing is outlined in Table 14 below.

2.4.3 Access Do Nothing – Wheelchair standards

152. The wheelchair housing analysis undertaken by EC Harris and presented in its report has introduced costing to reflect a range of wheelchair housing standards. They have evolved beyond the original specification of the Wheelchair Housing Guide, and are adopted by a number of authorities. The more common Wheelchair Housing Design Guide was costed in the 2013 analysis. Further details are given in the EC Harris Cost Report section 3.4. For instance, Table 17 shows that for a 3 bedroom semi-detached house the cost of building to the Wheelchair Housing Design Guide is £25,136 and to the bespoke standard is £30,428, with the full breakdown in the Appendix to the report. The spatial implications of the standard have also been considered in Table 17a.
153. Further work has also been done to recognise that a portion of dwellings are permitted to be built to standards which could be adapted for wheelchair housing rather than fully fitted out. These units are typically less expensive than a fully fitted out wheelchair housing unit. The cost a wheelchair adaptable dwelling based on the Wheelchair Housing Design Guide for the 3 bed house, from Table 17 of the Cost Report, is £10,111.
154. EC Harris provides evidence of take up of Wheelchair policies in Section 4.4 of the Survey Report. The Adroit Evidence Report Section 5 suggests that new plans are continuing to require Wheelchair standards and, given the ageing challenges outlined above it is anticipated that such requirements will increase over the appraisal period. In addition to the 17% of authorities with wheelchair standards currently in plans, the survey identified a further 9% encouraging such a standard. Typically these are requirements for a proportion (10% or less) of homes to meet wheelchair standards. The Adroit Evidence Report has therefore made an assumption, given current trends and growing pressures from an ageing population, that there will be an increase in wheelchair standards over time, from 2.3% of homes in 2014 to 3% in 2024. Based on the Survey and trends the Adroit Evidence Report assumes that 10% of wheelchair standards will be built to the bespoke standard in 2015 rising to 20% by 2024.

155. Based on the detail contained in the accompanying reports the overall impact of the Do Nothing is outlined in Table 15 below

2.4.4 Option 2 – new proposed Category 2

156. Under the proposed policy option the previous standards will be replaced by standards for Category 2 access and Category 3 wheelchair accessible dwellings.

157. Details for the costs of the new Category 2 standard are contained in Section 4.4 of the EC Harris Cost Report. For example Table 45 shows a £521 cost for Category 2 for the 3 bedroom house. This compares with the £1,097 cost for the Lifetime Homes Standard above. The spatial implications are presented in Table 45a.

158. For take up of the standard it is assumed that pressures for accessible housing would be the same for both the Do Nothing, where local authorities have an option to introduce Lifetime Homes into plans and for the new optional policy take up where local authorities have a comparable option to introduce the new Level 2 standard. The underlying pressures around the housing stock and an ageing population will not change. The assumption is therefore of the same increase in standards requirements over time for both the Do Nothing and option 2.

2.4.5 Option 2 - Wheelchair Category 3

159. Details of the cost of building to Category 3 wheelchair standard are contained in 'Section 4.4' of the EC Harris Cost report and the accompanying appendices.

160. Table 45 shows that the comparable cost for a Category 3 Accessible house is £22,791 for a 3 bedroom house. This compares with £25,136 for the Wheelchair Housing Design Guide. The spatial cost implications are presented in Table 45a.

161. Overall there are significant unit cost savings in building to the new Category 3 standard compared with the Wheelchair Housing Design Guide or bespoke wheelchair guides. Again it is assumed that the underlying drivers behind demand for wheelchair housing would be the same under both the Do Nothing and the new proposal and so take up assumptions used are the same for both options.

162. The savings have been estimated below, based on the assumptions outlined above and in accompanying documents. A slight spatial cost increase, as intensive industry consultation led to a revised, higher spatial requirement in order to ensure the design was adequate, has been more than compensated overall by the build saving of the new wheelchair standard. The impact of the change is captured in Table 15 below.

2.4.6 Access - Process Costs

163. The EC Harris Cost Report details the revised estimates for the process costs in Section 3.4.7 for the Do Nothing and Section 4.4.7 for the new Category 2 standard.

164. For instance the process cost of Lifetime Homes associated with a medium sized development is estimated in Table 19 at £77 per dwelling and for the new Category 2 standard in Table 47 at £48 per dwelling. For the medium development the process costs for the wheelchair standards are £725 per dwelling for the Wheelchair Housing Design Guide (Table 23), and £371 per dwelling for the new Category 3 standard (Table 52).

165. The total process cost estimate based on the same take up as the build cost above is given in the tables 14 and 15 below.

2.4.7 Summary of Access Costs and Benefits

166. The total estimated saving from access standards over the 10 year appraisal period is summarised in the following table. It shows a total equivalent annual cost saving of **£47.8m** (Low: £28.2m, High: £83.4m), with £36.8m from lifetime homes or equivalent standards (build saving £30.8m and process saving of £5.9m) and £11.0m from wheelchair standards (build saving £7.9m and process saving £3.1m).

£m	Present Value	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Do Nothing Build Cost	949.3	69.7	76.9	85.1	94.4	104.4	115.5	127.3	139.9	152.8	167.5
Do Nothing Process Cost	72.1	5.5	6.0	6.6	7.3	8.0	8.8	9.6	10.5	11.4	12.4
New Proposal Build Cost	683.8	68.3	69.7	64.3	66.5	72.4	78.7	85.5	92.8	100.6	108.9
New Proposal Process Cost	20.9	5.2	4.6	2.0	1.3	1.5	1.5	1.6	1.9	1.9	2.1
Build Cost Saving	265.5	1.4	7.3	20.8	27.9	32.1	36.7	41.8	47.1	52.2	58.6
Process Cost Saving	51.2	0.2	1.4	4.6	6.0	6.5	7.3	8.0	8.6	9.5	10.3
Total saving	316.7	1.6	8.7	25.4	33.9	38.6	44.0	49.7	55.8	61.7	68.9
Equivalent. Annual Saving:		36.8									

167. The table above for lifetime homes and the table below for wheelchair standards show that the savings increase over time as more homes are anticipated to be built to accessibility standards.

£m	Present Value	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Do Nothing Build Cost	847.4	69.3	75.0	81.1	87.7	94.8	102.3	110.4	119.0	128.2	138.1
Do Nothing Process Cost	38.7	3.2	3.5	3.7	4.0	4.3	4.7	5.0	5.4	5.8	6.3
New Proposal Build Cost	779.7	69.0	73.0	75.0	79.8	86.1	92.8	99.9	107.6	115.7	124.4
New Proposal Process Cost	11.9	3.1	2.7	1.1	0.7	0.9	0.8	0.9	1.0	1.0	1.1
Build Cost Saving	67.7	0.3	2.0	6.1	7.9	8.7	9.5	10.5	11.5	12.5	13.7
Process Cost Saving	26.9	0.1	0.7	2.6	3.3	3.5	3.9	4.2	4.4	4.8	5.2
Total saving	94.6	0.4	2.7	8.7	11.2	12.2	13.4	14.6	15.8	17.4	18.9
Equivalent. Annual Saving:		11.0									

2.5 Space

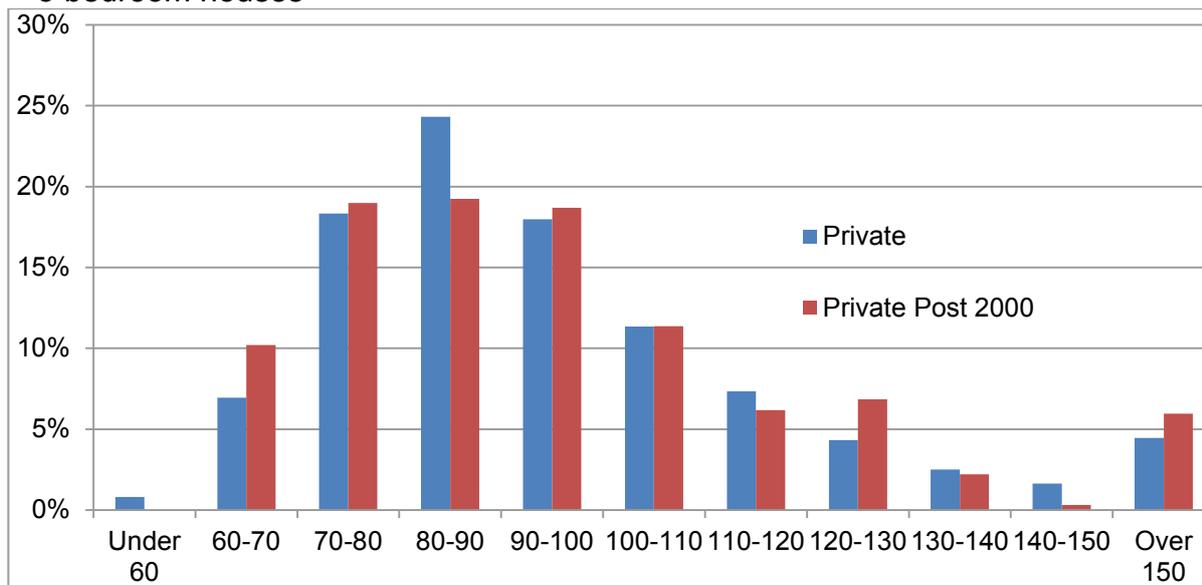
168. Significant further analysis has been undertaken to evidence the impact of space standards following the 2013 Consultation where a preliminary cost analysis was undertaken but was not included in the summary estimate.
169. The space standard policy has been revised to propose a single new space standard for different dwellings and EC Harris has undertaken a review of the costs of the new proposed standard.
170. Further work has involved a more detailed assessment of the impact of a space standard across the distribution of dwelling sizes using data from the English Housing Survey.
171. More detailed consideration has been given by EC Harris to the additional market value of a new house which is a direct consequence of being built to a higher space standard and is outlined below.

2.5.1 Space – Do nothing

172. It is anticipated that the current space standards which are applied will continue to be taken up at the same pace as in recent years.
173. The floor area requirements for the London Supplementary Planning Guide are given in Table 12 of the EC Harris Cost Report. Following the consultation EC Harris have undertaken a detailed update of unit costs for the existing standards which is summarised in Table 12a of the Cost Report. For instance a 3 bedroom semi-detached house built to the London Housing Supplementary Planning Guide will cost an estimated £2,528 above the typical private average.

174. Following the lead of the London Housing Design Guide, and subsequent inclusion of cross tenure space standards in London in 2010, a significant number of local authorities including those outside London have introduced requirements for cross tenure space standards into their own plans. These cross-tenure policies have typically adopted the same or larger spatial requirements as those adopted in the London Plan.
175. However there is likely to be a degree of variation in how a standard is checked and with respect to the number of properties built in areas requiring construction to a given size. Most authorities adopt internal area requirements which are the same as or slightly greater than those in the London Plan. The basis for this analysis is therefore that the London standard is the current requirement where plans specify a space standard.
176. At consultation a simple average size increase was estimated in order to cost each increase in space area. For this analysis we have used data from the English Housing Survey to evidence house sizes in recent housing. The Survey data are weighted to ensure they reflect the housing stock as a whole and the year of build is identified for each year in the sample. From this data, Adroit have produced distribution charts of dwelling size for the different categories, which are presented in Section 7 of their Evidence report.
177. The following Chart 3 presents the distribution for 3 bed houses for all private housing in the stock (blue bars) and for post -2000 housing (red bars) which captures the most recent build in the English Housing Survey.

Chart 3: Private Stock floor areas (m2) based on adjusted English Housing Survey data - 3 bedroom houses



178. Using this data it has been possible to estimate the extra over cost of a particular space standard relative to a baseline distribution which reflects private build housing. Further detail can be found in the Adroit Economics Evidence Report Section 7.

179. The EC Harris Survey of planning policy has identified (in Table 10) that 33% of all local authorities contain a space standard in plans, although 10% of the total are for affordable housing only. The ‘Professionals survey’ evidences in Table 14 that, within these areas, the standard is required for an estimated 82% of new build after negotiation. From this analysis, the Adroit Evidence Report (Para 7.13-7.14) concludes, when the space standard in London is taken into account, that 7% of private homes outside of London are currently subject to a minimum space standard. This has been used to provide an analysis of take up of current space standards across England to estimate the total impact of the space standard over and against the market led baseline as evidenced by the English Housing Survey.
180. The table on introduction of plans over time in Table 4.2 of the Adroit Evidence Report shows that the take up of space standards has increased over time with 50% of plans introduced over the most recent period containing space standards. Based on this trend evidence, Adroit Economics has estimated an increase in take up over the appraisal period in Section 7 that the proportion of new private homes built to space standards outside of London will increase from 7% in 2014 to 14% in 2024. It is assumed that 100% of all new homes in London and affordable homes across England will continue to be built to sizes comparable to existing space standards.
181. More detail can be found in Section 7 of the Adroit Evidence Report.

2.5.2 Space do nothing – affordable housing

182. Information supplied by the Homes and Communities Agency has enabled Adroit to model a typical build distribution for social housing under the current grant funding system, known as Housing Quality Indicators. With regard to affordable housing costs the “do nothing” (option 1) assumes that the current Housing Quality Indicators will continue into the future. The system is such that it ensures a minimum size of dwelling, known as the ‘Housing Quality Indicators Minimum’ but also provides incentives so that a reasonably high proportion of homes are built above this minimum standard, some significantly higher. Further detail can be found in the Adroit Economics Evidence Report section 7.

2.5.3 Space do nothing – process cost

183. Per dwelling process costs for private dwellings have been estimated by EC Harris taking into account the additional effort involved in designing to meet the current range of space standards. Designing dwellings to meet a space standard can often involve significant change to a standard design which is disproportionality greater than technical standards eg for thermal performance of a roof or wall. Even small variations in requirements such as internal storage can require extensive change to other aspects of a dwelling plan to comply.
184. Even where the basic spatial requirements of a space standard are very similar, extensive checking is necessary where local authorities have their own standard. This is because these are often described in subtly different ways and liability rests with the designer in ensuring that properties comply. Some of the issues involved include:
- significantly increased risk and uncertainty as to detailed compliance where standards vary
 - day-lighting calculations which are needed per dwelling and are in excess of what would be undertaken for other purposes
 - an element of subjectivity which feedback suggests impacts on compliance often causing multiple design iterations.

185. The total process time for meeting the London Supplementary Planning Guide for a medium 50 dwelling development has been estimated at 30 hours, with an estimated cost of £31 per dwelling. More detail is presented including of hours and costs for different sizes of development, in the EC Harris Cost Report Section 3.3.

2.5.4 Space new proposal – Option 2

186. The new optional proposed space standard is detailed in the “Nationally Described Space Standards – Technical requirements” document. The minimum floor area requirements on which the EC Harris costings are based are outlined in the table below.

number of bedrooms	number of bed spaces	1 storey dwellings	2 storey dwellings	3 storey dwellings	built-in storage
1 bedroom (b)	1 person (p)	39 (37)*			1.0
	2p	50	58		1.5
2b	3p	61	70		2.0
	4p	70	79		
3b	4p	74	84	90	2.5
	5p	86	93	99	
	6p	95	102	108	
4b	5p	90	97	103	3.0
	6p	99	106	112	
	7p	108	115	121	
	8p	117	124	130	
5b	6p	103	110	116	3.5
	7p	112	119	125	
	8p	121	128	134	
6b	7p	116	123	129	4.0
	8p	125	132	138	

187. The space standard will remain an option for a local authority to introduce as part of its plan as it is now. It is therefore assumed that the take up of space standards would continue to be driven by the same local issues and priorities in both options and that the trend increase in the proportion of plans identified above would be the same for the proposed option 2 as for the Do Nothing.

188. For private housing the extra over cost of delivering the new standard against the baseline in the English Housing Survey distribution has been estimated and this has then been compared with the cost of the current space standards to give a saving. The saving is primarily derived from the differences in minimum Gross Internal Area for houses proposed in the single tier space standard compared with current space standards, and from the reduction in process costs in demonstrating compliance.

m ²	Current London standard	New standard
1 Bed flat (1storey)	50	50
2 Bed Flat (1 storey)	61	61
2 bedroom House (2 storey)	74	70
3 bedroom house (2 storey)	87	84
4 bedroom house (2 storey)	100	97

2.5.5 Space new proposal option 2 – affordable housing

189. The standards included within the consultation accompanying this impact assessment are intended to be applicable across all tenures. Requirements for Grant Funded housing as part of the Affordable Housing Programme to meet a range of bespoke standards will no longer apply to future programmes. This includes removing requirements to meet minimum space standards, and removing incentives to build to larger size ranges within the Homes and Communities Agencies Housing Quality Indicators. Grant applications for the ‘2015-18 Affordable Housing Programme’ have instead been benchmarked (measured) against the Level 1 space standards from the 2013 consultation, but are no longer required to meet a minimum size. Given that incentives to build to larger size ranges have also been removed with the replacement of Housing Quality Indicators, a higher proportion of homes will be built to sizes closer to the new benchmark, with a reduction especially in homes built to a much higher level than the Housing Quality Indicators Minimum range. This is supported by initial analysis of bids for the 2015-18 Affordable Housing Programme. Adroit Economics have considered the approach and estimated a reduction of the proportion of homes built significantly above the benchmark. Details are outlined in the Adroit Evidence Report Section 7.

190. It is also the case that the trend amongst local authorities of adopting cross tenure space standards will impact on affordable housing. The proposed space standard with a slightly lower range of minima for house types will therefore create savings for affordable housing provision where requirements for a cross tenure space standard apply, and which in the do nothing scenario would need to be bigger.

2.5.6 Option 2 New Proposal – Process Savings

191. The new system will involve significantly lower process costs for private dwellings than the current London Supplementary Planning Guidance, including giving home builders the opportunity to approve design-types which can then be built across England. This is primarily because a national methodology for space standards enables type approvals of standard designs to be used anywhere in England, reducing the need for re-design and re-checking in each individual local authority area where a space standard applies. This is particularly relevant to volume developers working nationally. For smaller builders and developers, a single national methodology will enable the market to produce viable pattern book compliant designs which can be cost effectively adopted where more extensive design team resources are not available. These are well recognised benefits where standardisation is applied to industry practice.

192. Details of the process costs are in the EC Harris Cost Report Section 4.3. For instance a medium development process costs £8 per dwelling with a recipient process cost of £2 per dwelling. Further detail on how these unit cost estimates are used to estimate the overall impact can be found in the Adroit Evidence Report Section 7. No process savings are assumed for affordable housing.

2.5.7 Space - Summary of Total Cost Savings

193. To estimate the cost impact of additional space in a new home, EC Harris have estimated the build cost impact and then considered the likely increase in the private sale value of the home. Their approach is explained in detail in Section 4.3 on pages 34-35 of their report. The Adroit Economics Evidence Report paragraphs 7.25-7.26 explain the basis for the assumption that an average increase of around 3 m² due to differences in standards results in an estimated 80% cost recovery, based on Table 7.13 of their report.

194. The overall savings as a result of the change in space standards for those homes affected have been calculated by Adroit Economics based on the assumptions outlined above. The present value saving from the change in build standards is £25.5m and from the process savings is £11.6m. This results in a total equivalent annual saving of **£4.3m** (Low: £3.7m, High: £5.1m). The technical consultation recognised that there were a wide variety of requirements relating to ceiling heights in existing local standards. Following consultation, it has been decided that the minimum ceiling height in the space standard should be set at 2.3m. This is a lower height than required by some local planning authorities. There may be some additional savings for homebuilders in the range of the costs set out in Tables 18 and 19 below.

£m	Present Value	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Net build cost savings	5.5	.1	.8	.4	.1	.3	.6	.9	.2	.6	.9
Net process cost savings	1.6	.1	.3	.1	.4	.5	.6	.8	.9	.1	.3
Total	7.0	.2	.1	.5	.5	.8	.3	.7	.2	.7	.2
Equivalent Annual savings:		4.3									

195. The equivalent saving from the Affordable Housing change is **£9.5m** (see table 20 below). This gives a total equivalent annual saving to business from lower space standards of £13.8m (Low: £8.1, High: £21.2m).

£m	Present Value	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
net build cost savings	81.7	0.1	0.9	4.0	6.6	8.7	10.9	13.4	16.1	19.0	22.2
Equivalent Annual savings:		9.5									

2.6 General process cost savings

196. EC Harris have estimated the cost house builders incur as a result of needing to employ staff to ensure new homes comply with the wide range of standards local authorities can require. These wider process costs are a separate element from the direct process costs which relate primarily to design and evaluation and which have been quantified for each individual standard previously. A consultation equivalent annual estimate of £17.7m was calculated for the 2013 Consultation impact assessment.

197. Costs were estimated based on extensive discussions between EC Harris and a steering group of partners representing a wide range of interests including house builders, local authorities and owners of housing standards. EC Harris also undertook a small scale consultation to understand the potential overhead process costs for a typical firm. It was this industry discussion which emphasised the importance of these wider process costs.

2.6.1 General process option 1 - do nothing

198. The general process cost estimate seeks to capture the process costs companies face where in-house experts or consultants are employed on a more general basis. An example is a developer employing a “compliance” expert with a remit to ensure each site team comply with the various Code for Sustainable Homes and separate but related requirements to ensure there are no costly problems at completion. These are in addition to the process costs associated with a particular standard which have been costed above.

199. Employing a compliance expert to manage risks associated with compliance and to identify the most cost effective approach of doing so is critical to home builders and developers because the value of their development is at risk unless planning conditions or requirements of the planning permission are properly discharged. Developers will not be able to pass a conveyancing test to sell a property unless records demonstrate these requirements have been met.

200. Ensuring compliance is complicated by local and regional variations in the standards required, varying interpretation of technical requirements, the unpredictable cycle of updating or changing standards, and marrying this to individual developers’ supply chain and construction management practice. This creates a substantial Quality Assurance role within home builders business models, and in particular places a significant and disproportionate strain on small home building businesses to manage compliance.

201. EC Harris and Adroit Economics have undertaken further estimates of general process costs in the light of consultation responses and further discussion. Their work is presented in the EC Harris Cost Report Section 5.2 and in the Adroit Evidence Report Section 12.

202. Further discussions have concluded that even micro sized firms with fewer than 4 employees will experience a significant degree of hassle, time and cost becoming familiar with local standards associated with planning permission for their homes, even though they may not have dedicated capacity to deal with them. EC Harris have adjusted their previous analysis and have estimated an annual £1,287 cost per firm for firms with 1-4 employees. The EC Harris Cost Report Table 62 gives the detailed cost industry estimates for different sized firms.
203. The Adroit Report has drawn on Office for National Statistics construction data to estimate the number of homebuilders in England broken down by firm size. They have then estimated the costs of the current Do Nothing in a table in Section 12.

2.6.2 General process option 2 – new proposal

204. EC Harris have estimated the general process time which would be incurred by firms meeting the new streamlined standards, which will involve more integration with building control bodies who are already carrying out checks on the new development. For instance for a micro-business with 1-4 employees it is estimated that general process costs associated with meeting the new standards involve an on-going cost of £858 per annum. This represents a reduction of £429 per firm or a total annual saving of £3.7m over the Do Nothing according to the table in Section 12 of the Adroit Evidence Report.

2.6.3 Summary of general process cost savings to business

205. Based on this estimate Adroit have calculated the present value cost to business of the Do Nothing over the 10 year appraisal period of £640.1m and of the New Proposal of £452.6m. This results in a present value saving to business of £187.5m or an equivalent annual saving of £21.8m (Low: £17.4m, High: £26.1m).

£m	Present Value	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Do Nothing	640.1	74.4	74.4	74.4	74.4	74.4	74.4	74.4	74.4	74.4	74.4
New Proposal	452.6	74.4	68.5	53.8	50.8	44.9	44.9	44.9	44.9	44.9	44.9
Saving	187.5	0.0	5.9	20.6	23.5	29.4	29.4	29.4	29.4	29.4	29.4

Equivalent Annual Saving: 21.8

2.6.4 Process - supply chain savings

206. There will be an additional benefit to developers where the simplification and standardisation in build processes could result in significant efficiency savings in supply chains. Even a small improvement in supply chain processes as a direct result of simplification of standards could achieve a potentially substantial saving.
207. A specific question on supply chains was asked in the 2013 consultation and 77% of respondents agreed that a nationally consistent set of standards could achieve supply chain savings.

208. Some of the suggested benefits included increased certainty, optimised innovation, economies of scale, a level playing field and a reduction in design consultancy fees. No estimates or evidence were provided to support these assertions. Some respondents suggested that the large homebuilders would gain the most. There were some concerns about the potential impact on sustainability and suggestions from some homebuilders that there should be no additional tiers for local application.
209. Among the 23% who disagreed with the proposition, some respondents felt that the existing Code for Sustainable Homes was sufficient as it was already widely recognised and understood by the industry and was delivering supply chain efficiencies. At consultation it was estimated that a 0.1% saving in supply chain costs could result in an annual saving of £16m (2013 prices) based on Office for National Statistics construction statistics. However it was treated as a non-monetised benefit due to insufficient evidence.
210. The consultation did not provide sufficient evidence to change this situation and it is still treated as a non-monetised benefit. Further discussion has suggested that simplification of standards is more likely to achieve a benefit saving to business where the changes are combined with other modifications to optimise supply chains, such as a trend to modern offsite methods of construction. In this case supply chain savings may be more appropriately considered an 'indirect' benefit of these changes to the Housing Standards Review, albeit a potentially significant benefit.

2.7 Transition Costs

211. The 2013 consultation estimated the one off cost of introducing the new standards set through looking at the familiarisation time and training cost for homebuilders.
212. This work has developed further to estimate the cost for professionals to become familiar with the new standards in addition to homebuilder time. Unlike in the 2013 consultation analysis it is now assumed that professionals will access documents electronically and so there will be no cost incurred from obtaining new standards.
213. It is estimated that construction firms directly involved in homebuilding will incur a £0.4m cost, professionals involved in home building, such as architects will incur £11.0m costs and professional firms will incur an additional £4.8m cost.
214. Further details of the analysis and underlying estimates can be found in the EC Harris Cost Report in Section 5.1 and in the Adroit Evidence Report Section 13.
215. Adroit Economics has discussed and considered the process by which transition costs are incurred and concluded that the transition will be spread over 3 years with 70% in year 1, 30% in year 2 and the remaining 10% in year 3.
216. The total present value cost over 3 years is £16m. Converted to equivalent annual cost over the appraisal period to provide an annual estimate consistent with the rest of the analysis gives an EANCB of **£1.9m** (Low: £1.5m, High: £2.2m).

Equivalent Annual	Present Value	2015	2016	2017
1.9	16.0	11.3	3.2	1.6

2.8 Direct cost to business summary table

217. The following table provides a summary of the costs and benefits for the various standards evidenced above. This is a final validation stage impact assessment, submitted to the RPC for validation as an 'OUT' for One In Two Out purposes.

2.8.1 Table 22: Option 2

218. This estimates the impact of the withdrawal of existing standards and their replacement by new simplified optional standards in the specific areas identified. Security is dealt with in a separate impact assessment.

Table 22: Equivalent Annual Net Benefit to Business (EANBB)			
	Low	Central	High
Code - Energy	£11.8m	£23.9m	£55.4m
Code – other credits	£12.3m	£17.4m	£25.8m
Water	£2.2m	£5.2m	£7.9m
Access	£28.2m	£47.8m	£83.4m
Space	£8.1m	£13.8m	£21.1m
General Process	£17.4m	£21.8m	£26.1m
Transition Costs	-£1.5m	-£1.9m	-£2.2m
Total	78.6m	127.9m	217.5m
2009 prices:	70.2m	114.3m	194.3m
Discounted to 2010:	59.1m	96.2m	163.6m

Risks and assumptions

219. The assumptions underlying the analysis above are well evidenced based on the cost and survey work reported in the accompanying documents. The following section considers some of the uncertainty associated with the policy.

2.9 Take up sensitivity tests

220. The estimates of take up above are based on consultation feedback and the EC Harris Survey of local authority policies, including insights on trends, which provide the best available evidence on which to base our central estimate.

221. The Survey shows that a high proportion of local authorities, especially those in urban areas have already considered introducing local standards. For instance, 58% of local authorities in the survey, and over two-thirds in urban areas in London and the South East, have already introduced a firm policy standard for the Code for Sustainable Homes. A total of 74% of all authorities surveyed had either a 'Firm' or 'Aspirational' standard in relation to the Code (See EC Harris Survey Section 4.5).

222. From Consultation discussions it is clear that there are a proportion of authorities who have not introduced any standard and are unlikely to do so unless it is mandatory. For others, any local authority wishing to introduce an optional standard in the new policy will be required to introduce a new policy in to their local plan which will be subject to viability testing and examination in public as part of the local plan testing process. Currently, many standards are applied through supplementary planning guidance which is not subject to the same level of testing or examination.

223. Given that the underlying pressures to introduce a particular standard will remain the same both for the 'do nothing' and for the proposed optional policy, it is reasonable to conclude that the uptake trends will be the same for both options.

224. Some interested parties have suggested that take up may be higher under the new policy, because of the reduced cost, while others have suggested that the take up could be lower under the new policy, because of the tighter viability requirements. We have therefore carried out some sensitivity testing to consider the implications if either of these occur. We have repeated the analysis above for the main policy themes on the basis of the same take up under the 'do nothing' but a higher and then lower take up over time of the optional standards by local authorities under the proposed policy.

225. In general, for this sensitivity, we have assumed that take up is 10% higher and then 10% lower than under the 'do nothing'. For example, for the Code for Sustainable Homes the central estimate is that take up increases from 46% in year 1 (2015) up to 62% in Year 10 (2024) which is based on the best available evidence on current practice and trends. For the higher sensitivity this assumes the same take up for the 'do nothing' but a take up from 46% in year 1 to a take up of 72% in year 10 for the new policy, and for the lower sensitivity a take up 46% up to 52%. A comparable change is estimated for the other policies. The results are presented in table 23 below.

Table 23: Take up sensitivity results			
EANCB (£m)	Central – best evidenced take up	High take up under new policy	Lower take up under new policy
Code - energy	£23.9m	£23.4m	£24.3m
Code - additional	£17.4m	£17.3m	£17.5m
Access – cat 2	£36.8m	£28.3m	£45.3m
Access – cat 3	£11.0m	£5.9m	£16.1m
Water	£5.2m	£5.2m	£5.2m
Space (private)	£4.3m	£2.1m	£6.5m
Other impacts (fixed) ¹	£29.4m	£29.4m	£29.4m
Total	£127.9m	£111.6m	£144.4m

¹ Consists of general process, space (affordable) and transition costs.

226. The results show that the biggest impact would be on the benefit to business achieved through changes to access standards which fall significantly when take up of the new policy is higher than under the do nothing.

2.10 Housing Supply

227. For housing supply the evidence based estimate is of a 5% increase in build rate each year in England, with analysis for the summary ranges of a higher build rate, increasing 8% and a lower build rate, increasing 3% each year. It is unlikely that build rates would be affected directly by the policy change because local authorities are required to undertake tests to ensure that development will be viable before introducing optional standards. There may well however be an indirect, second order, impact of increasing housing supply if this deregulatory policy is combined with complementary policies to remove other barriers to housing development.

228. Additionally, there may over time be an impact of increasing land prices or increasing other planning requirements, such as the proportion of affordable housing required.

Monetised and non-monetised social benefits of each option

3.0 Energy – social benefits

229. The energy proposal is designed to ensure a smooth transition to the zero carbon build standard whilst constraining tighter and more expensive requirements contained in the Code for Sustainable Homes.
230. This will ensure that significant energy and carbon savings in new homes will be achieved over the appraisal period because of policies driven by the Building Regulations. However, the more costly Code 5 and 6 levels which are anticipated in plans to be introduced during this period will now be excluded and this means that some energy and carbon savings will be foregone.
231. An exploratory initial assessment of the cost effectiveness of the abatement was undertaken for Code Level 5 homes dwelling emission rate (ENE1) requirement.
232. The extra over cost of £16,710 for a detached house is estimated to save around 1.7 tonnes annually in achieving Code Level 5 carbon compliance. The energy and carbon savings vary according to the traded and non-traded carbon mix of the abatement and have been estimated using the Supplementary Green Book Guidance for energy and carbon prices. Where traded carbon is being saved – for instance through solar photovoltaics - the value to society of the energy savings is higher but the value of carbon savings per tonne is much lower in the guidance, whereas for non-traded savings - for instance through tighter fabric or a heat pump – the value to society of the energy savings is much lower but the carbon value is higher. So the overall impact in energy plus carbon savings is similar for both at around £350 per annum.
233. The length of time this benefit would be realised depends on the technology, with fabric standards achieving savings over a long period, say 60 years, while renewables technology might last more typically 30 years. If it is assumed the savings would occur over 45 years on average without maintenance or replacement costs, a simple cost-benefit calculation shows a significant negative net present value for Code 5, even when the carbon emissions are valued. The cost effectiveness of CO₂ abatement is around **£120 - £150 per tonne** depending on the traded/ non-traded mix.
234. Clearly this cost per tonne will fall over time due to learning effects outlined above. However, the analysis illustrates that, while some energy and carbon savings are being foregone, the abatement is relatively expensive over the appraisal period. The zero carbon Building Regulations policy standard, involving offsite allowable solutions beyond Code Level 4 carbon compliance, level will represent a significantly more cost effective approach to abating carbon than Code Level 5 or 6

3.1 Water – social benefits

235. Reduced water consumption has a number of wider benefits.
236. First, more efficient water fittings will mean that, on average, the householder will use less water (even if their behaviour remains the same). As all new homes have a water meter, the total amount householders pay for their water relates directly to their water use. Therefore a home built to the optional requirement water standard would use 15 litres per person per day less than one built to the national baseline in the Building Regulations.
237. Around a half of all water used is hot water and therefore more efficient showers and taps and smaller baths will also deliver lower energy bills as less water would need to be heated. It is estimated that for a family of four water and energy savings would equate to approximately £100 per year.
238. Second, water companies will lose revenue from householders but will benefit from reduced operational expenditure and also from deferred capital expenditure (associated with capacity to supply and treat water). These will vary both between companies and between water resource zones within that company's area. There is more detailed analysis of the "average incremental cost of water" in the analysis supporting the introduction of the baseline water efficiency standard into Part G of the Building Regulations (see link below). It should be noted that this shows the Average Incremental Cost is higher in areas of water stress, which is where the tighter standards are intended to be targeted.
239. Finally, as lower water consumption is associated with lower energy use (both by the consumer and the supplier) there is also a consequent carbon saving associated with reduced water use.
240. The impact assessment that includes this analysis is available at:
http://www.legislation.gov.uk/ukxi/2009/1219/pdfs/ukxiem_20091219_en.pdf
241. While this analysis seeks to monetise the benefits set out above, it also highlights a number of other non-monetised benefits – not least in terms of habitat and biodiversity, land loss and the visual impact on the landscape.
242. As stated above, as all new homes are metered, reduced water consumption results in reduced water bills for consumers. Conversely there is therefore a corresponding loss of revenue for water companies, though this is offset by reduced expenditure.

3.2 Access – social benefits

243. Accessible housing standards, including general needs housing such as the Lifetime Home standard and the Wheelchair Housing Design guide, have emerged in response to a range of different needs and drivers. These include, but are not limited to;
- designing out barriers to independent living
 - improving the range of housing choice for disabled people
 - supporting mobility for disabled people in finding employment
 - mitigating cost to social welfare and the health system arising from an ageing population

244. Often these drivers for change overlap, and sometimes where different issues are addressed share a common solution. The Lifetime Home standard in particular is considered to encapsulate an 'inclusive' approach to housing design, where a range of features are required which deliver broad benefits to a range of users. There are a number of key considerations for the government.

3.2.1 Access - Impact of an ageing population

245. Office for Budget Responsibility analysis has estimated that primarily due to an ageing population, without corrective action, government net debt will increase over an extended period to reach 99% of Gross Domestic Product by 2062/63 and rising¹².

246. Non-interest spending could increase by 4% of Gross Domestic Product or £60bn by 2062/63, due to age-related spending pressures including health and long-term social care costs. The Office for Budget Responsibility analysis estimates that health spending will increase from 7.0% of Gross Domestic Product in 2017/18 to 8.8% in 2062/63 and long-term social care costs will increase from 1.3% of Gross Domestic Product in 2017/18 to 2.4% of Gross Domestic Product in 2062/63.

247. There is also a direct correlation between age and disability, with older people more likely to have mobility problems and so benefit from any features of their home that make it more accessible both inside and outside. The number of over 65s is forecast to increase from 10 million to 15.5 million in 20 years' time with the number nearly doubling by 2050 to 19 million.

248. The number of very old will grow faster; currently there are 3 million people aged over 80 and this is projected to double to 6 million by 2030 and 8 million by 2050. Currently 1 in 6 of the United Kingdom population is aged 65 and over, by 2050 1 in 4 people will be aged 65 and over. There are now more people in the United Kingdom aged 60 and above than there are under 18 and more pensioners than there are children under 16¹³.

3.2.2 Access - Meeting the housing need of disabled people

249. There are an estimated 10 million disabled people in the United Kingdom, including estimates of between 605-720,000 wheelchair users. There is a historic shortfall in the availability of properties across tenure that are capable of meeting the needs of younger, working age people with impaired mobility or who are wheelchair users. This impacts on the ability to live independently and can reduce mobility in terms of moving to take up employment.

250. Local Authorities typically intervene to correct this failure in order to ensure that new neighbourhoods will meet these needs in the longer term and also to provide a 'downsizing' offer for older households. This helps address under occupancy of larger family homes, and reduce direct costs to the state. This is because accessible housing can support elderly and disabled people living independently in their homes which reduces, or delays, the need for expensive social care or the need for them to move into a care home at a significant cost.

¹² "Ageing Population to put pressure on public finances" Fiscal Sustainability Report 2013

¹³ http://www.ageuk.org.uk/Documents/EN-GB/Factsheets/Later_Life_UK_factsheet.pdf?dtrk=true

3.2.3 Difficulties in adapting existing housing

251. Local Authorities also experience difficulties in matching needs to appropriate housing in the existing stock, and a growing number of homes fail to meet the accessibility needs of the older population. This is exacerbated by the difficulty in adapting the existing stock to meet older and disabled people's needs.

3.2.4 Access - Social Benefits

252. There are a range of social benefits which can arise from building more accessible housing. Typically, these are greater where a household includes an older, disabled or vulnerable person. The most common savings include but are not limited to:

- avoiding temporary residential costs by enabling early return from hospital
- reduced bed blocking in primary health care due to inappropriate housing preventing return home
- reduced residential care costs by delaying long term need to move in to residential accommodation
- reduced cost of and need for care assistance in the home
- reduced costs to the health service arising from unsuitable housing and including trips, falls and injury to carers
- reduced cost or need for adaptations
- reduced cost of removing adaptations
- reduced administration costs in re-housing older or disabled people.

3.2.5 Avoiding temporary residential costs by enabling early return from hospital

253. Prior to discharge it is a typical practice for occupational therapists to assess conditions in the home to establish if older, disabled or temporarily injured people will be able to cope; to arrange for care and support where this will be necessary or recommend delayed return (until suitable adaptations can be made) or arrange a temporary move in to residential care. Accessible housing improves speed of adaptation and makes it easier to avoid the need for temporary re-housing in residential accommodation.

254. The critical activities that in particular older or disabled people need to be able to undertake are to move safely around the property (including up and down stairs); to wash and access a toilet; and to prepare food. Typically this means having eating, sleeping and washing accommodation at ground level, and the capacity to speedily fit critical adaptations such as grab rails in bathrooms. The cost of a ten day stay in residential accommodation is £767.

3.2.6 Reduced bed blocking due to inappropriate housing

255. In addition to the costs of residential care arising from homes being unsuitable for patients to return to are the costs to the NHS where bed blocking occurs (as an alternative to residential care). This is a separate and more common cost. On any given day, 65% of hospital beds are occupied by the over 65's (Department for Health). The cost of an NHS bed is around £260 per day or £94,900 per year.

256. A significant number of bed days are lost each year as a result of bed blocking by older people unable to return home. Whilst it is likely that housing which is more accessible or adaptable will reduce the frequency of bed blocking, improved evidence of the frequency with which this happens is needed to monetise this benefit.

3.2.7 Reduced residential care costs by delaying long term need to move in to residential accommodation

257. Aside from specific incidents, injuries and ill health, the accessibility and adaptability of housing also affects the 'tipping' point at which individuals are moved into full time residential care – this has a typical cost per year of £28,800. Often, a move into care is precipitated because of the unsuitability of an existing home and the difficulty of adapting the property or lack of funds to adapt the property in a timely manner. This will particularly be the case where people have severely impaired mobility.

258. In particular, the availability of fully wheelchair accessible or adaptable housing can provide an alternative to residential care, and enable families to continue to live together and support each other, as well as delivering considerable savings to health and social welfare services. Further evidence is required to fully monetise these savings.

3.2.8 Access - Reduced cost of and need for care assistance in the home

259. Approximately 1.5 million households involve one person or more being cared for, typically by family members or friends or funded through some form of private care. Of these, 400,000 households are receiving state assistance, which averages 10 hours or £100 per week, or £5,200 per year. The majority of these households will include a reference person over 75 or a disabled people.

260. Where such a household occupies a Category 2 home, they are less likely to need assistance to overcome the design of the home (eg to be assisted in bathing or toileting); are likely to be able to be more independent in moving in and out of the home and will find it much cheaper (and will therefore be more likely) to put in place suitable adaptations. All of this will reduce the likelihood or extent of care required. Further research is needed to fully establish the value of these benefits.

3.2.9 Reduced costs to the health service arising from unsuitable housing and including trips, falls an injury to carers

261. Independent research by the Building Research Establishment into the likely savings to health services found that:

“Homes built to current building regulations offer significant health advantages over the average stock, and may provide direct NHS health cost savings per dwelling in excess of £4,000 during a 60-year expected lifespan. Building to the Lifetime Homes Standard could provide an extra £194 of savings over 60 years, or £700 if the potential adaptations to bathrooms and access to a bedroom/bathroom were made.”

“When considering the potential cost to society, the savings are likely to be much higher. Using the model, it is suggested that a home built to current building regulations could save £83,000 during a 60-year lifespan, compared to the average for the current stock. Building to the Lifetime Homes Standard could provide a further £1,600 in savings, or £8,600 if the potential adaptations were made.”

3.2.10 Reduced cost or need for adaptations including the need for extensions

262. Category 2 (accessible and adaptable) and Category 3 (wheelchair user) housing are designed in such a way as to significantly reduce the need for or extent of adaptations required to meet peoples changing needs over time. This saves money by avoiding the cost of adaptations, or makes adaptation cheaper, but further evidence of these benefits in practice is needed to in order to establish their value.

3.2.11 Reduced cost of removing adaptations

263. Category 2 properties require less in the way of adaptations, and as a consequence there will also be a reduced cost in removing adaptations at the point that they are no longer required. It is very rare that specific adaptations – such as rails, hoists, stair lifts etc – are retained once the occupant who require the adaptations has left that property.

3.2.12 Reduced administration costs in re-housing older or disabled people

264. Where it is possible to avoid re-housing older or disabled people a saving is possible against administrative costs incurred. These were estimated by DCLG as being in the order of £650 per household in 2008.

265. These benefits have not been monetised as part of this impact assessment.

3.3 Social benefits of space standards

266. Space standards are typically intended to ensure that new dwellings provide a reasonable level of internal space to undertake typical day to day activities, at a given level of occupancy. For instance, an allowance is made for a given number of people to be able to eat together in dining areas, socialise in living spaces together, and for adequate storage in kitchens and elsewhere in the property. Space standards also commonly require minimum floor to ceiling heights, and minimum size for bedrooms.

267. Overall these features are intended to ensure that new homes provide a flexible and high quality environment capable of responding to occupants needs and supporting a high quality of life. There are a range of social benefits that are purportedly derived from the application of this approach.

3.3.1 Willingness to pay

268. The primary social benefit of space standards is a general aspiration amongst home buyers for more space. Whilst this is not necessarily the overriding factor in a purchaser's decisions to buy a new home, it is certainly the case that where they are able to do so, (ie can afford to do so) home buyers are willing to pay more for a larger property, all other factors being equal (eg location, property type etc). EC Harris have set out the extent to which this 'willingness to pay' works in their cost report accompanying this impact assessment. The willingness to pay is however reliant on larger homes being viable within a given localised housing market.

3.3.2 Improved cohesion within family units

269. Evidence gathered in support of the London Plan requirement for space standards identifies a range of benefits that families derive from good standards of space in the home¹⁴. These include better ability to socialise with family members and guests; improved storage; improved space for solitary activities (studies or pastimes); greater flexibility in arranging rooms to meet different preferences; the ability to work from home; more space for managing waste and recycling and improved day light and ventilation.¹⁵

3.3.3 General Health and Wellbeing

270. Research into the health and wellbeing benefits of space standards is on-going¹⁶, but social benefits are proposed to be derived in two particular respects; firstly, there are reductions in family stress and improvements in familial relationships, often arising from improved opportunities for privacy and isolation within the dwelling. Secondly, space

¹⁴ Mayor of London (2009) **Draft London Housing Design Guide**, Mayor of London: London

Mayor of London (2010) **Evidence Base for the London Housing Strategy**, November 2009, Mayor of London: London

¹⁵ HATC 2006 for GLA; Reynolds for shelter 2005

¹⁶ Petticrew, M., Kearns, A., Mason, P. and Hoy, C. (2009) The SHARP study: a quantitative and qualitative evaluation of the short-term outcomes of housing and neighbourhood renewal, in **BMC Public Health**, 9, 415, no page numbers

standards help to mitigate impacts from overcrowding, particularly relating to mental health (reducing depression) giving children room to play within the home and helping to ensure a good night's sleep¹⁷.

271. There is also some research into the benefit of higher ceiling heights in improving indoor air quality and dealing with risks from over-heating. Given that predictions of climate change suggest a long term trend towards longer periods of higher temperature, this may become an increasingly important design tool in offsetting the discomfort and health risks (including increased mortality) from periods of overheating.

3.3.4 As an adjunct to higher density development

272. Planning authorities are often concerned about the sustainability of high density development, given the precedent of historic failures in this type of housing. Space Standards are seen by some planning authorities as a way of ensuring that homes provide sufficient internal space to offset the reduced public amenity space in areas of higher density. Space Standards could be argued to support a higher number of homes being delivered from a limited amount of land, and there is evidence of planning authorities actually permitting higher density where space standards are applied¹⁸.

3.3.5 Reducing the risk of market failure

273. The UK builds some of the smallest homes in Europe¹⁹, and there is a long term downward trend in the size of new homes in the UK. There are concerns as to the longevity of smaller housing where these are crammed on to sites and address only a narrow segment of the market place, because having a narrow market appeal increases the risk that these homes will be less desirable in the longer term. Space Standards provide one approach to offsetting these risks.

3.3.6 Reducing Anti-Social Behaviour

274. Research is on-going into the links between poor quality housing (of which limited internal space is one contributory criterion) and evidence of the link between anti-social behaviour and smaller homes is primarily empirical²⁰. However, poor internal space is linked to poorer health and lower educational attainment. It is also suggested that where there is insufficient space for adults and younger family members to inhabit a property comfortably,

¹⁷ Reynolds, L. (2005) **Full House? How Overcrowded Housing Affects Families**, Shelter: London

¹⁸ Gallent, N., Madeddu, M. and Mace, A. (2010) **Internal housing space standards in Italy and England: reviewing the 'conditions' of regulation**, RICS FIBRE Series, February 2010, RICS Education Trust: London

¹⁹ Evans, A. and Hartwich, O.M. (2005) **Unaffordable Housing: Fables and Myths**, Policy Exchange: London

²⁰ Department for Education and Skills (2007) **Preventing Crime and Anti-Social Behaviour**, study by the Newcastle Centre for Family Studies at the University of Newcastle Upon Tyne, DfES: London;

Crime and Anti-Social Behaviour, study by the Newcastle Centre for Family Studies at the University of Newcastle Upon Tyne, DfES: London

there are increased risks of children and young adults being displaced into the external environment where they are more vulnerable to falling into patterns of anti-social behaviour.

3.3.7 Adaptability and Inclusion

275. Internal space is a key criterion in relation to how accessible a home is, and how capable it will be to adapt to a range of changing household need over time. Where people suffer permanent or temporary impaired mobility, larger floor plates offer inherently greater potential for adaptation to meet specific needs. These benefits also relate to accessible housing standards where there is a component of increased space particular in circulation zones and bathrooms, and there is some cross over between space standards and access standards in this respect.

3.3.8 Summary –social benefits of space standards

276. Beyond willingness to pay, it is difficult to monetise and fully evidence the social benefits of space standards. Further work would be required to do so. Additional research on space standards has been undertaken exploring consumer attitudes to new development, and to features of typical contemporary homes, and this tends to suggest that there is an appetite amongst homeowners for decent internal space, increased internal storage, and higher levels of daylighting²¹.

277. However, given the variation in local housing markets, and Government's decision that application of space standard's will remain a local decision, analysis of the balance of these benefits will remain for consideration as one part of local authority planning policy development and review.

278. Many of the benefits associated with Space Standards will not qualify as first order of impact benefits. These benefits have not been monetised as part of this impact assessment.

3.4 Waste storage

279. Ensuring that waste storage is properly considered in new development (and where existing properties are converted into residential use) delivers an important range of benefits. Potential health risks from poorly contained household waste are reduced, and Quality of life for local people is considerably enhanced by ensuring that undesirable odours and debris do not blight the streetscape. It is also important that visual amenity of streets is suitably protected.

²¹ CABE (2009) **Space in Homes: What Residents Think**, Commission for Architecture and the Built Environment: London Shelter, April 2013; **Little Boxes, Fewer homes**

RIBA 2012 **The Case for Space**

<http://www.architecture.com/Files/RIBAHoldings/PolicyAndInternationalRelations/HomeWise/CaseforSpace.pdf> and without Space and Light (RIBA).

RIBA/ IPSOS Mori **The Way We Live Now** 201

280. There are also potential monetary savings. Local authority waste management operatives and contractors are able to more easily access refuse containers where storage is well designed, reducing costs and enabling waste collection to be completed more quickly. The risk of accidental spillage, waste littering streets and verges, or waste being attacked by local foxes, other feral animals and vermin is also considerably reduced. Savings are also likely to be captured where bins and waste storage make it easier for households to manage waste in accordance with local policies, particular with respect to the recycling of materials.

281. These benefits have not been monetised as part of this impact assessment.

Wider Impacts

3.5 Small firms impact

282. The housing standards package is classed as a deregulatory package as there are significant savings to business generated as a whole. This impact assessment for the housing standards review clearly demonstrates this, with a saving to business of £127.9m (2009 prices).
283. The reduction in the number of and simplification of local standards is likely to have a disproportionately beneficial impact on smaller homebuilders which typically work on small sites. Differences are especially large for process costs. For instance the process cost for Code for Sustainable Homes Level 4 is estimated in Table 11 of the EC Harris Cost Report as £107 per dwelling for a large development or £686 for a small development.
284. Process costs for the Lifetime Homes Standard are estimated in Tables 18-20 of the EC Harris Cost Report as £72 per dwelling for a large development but £372 per dwelling for a small development. The comparable cost for new proposal category 2 is estimated in Tables 46-48 of the EC Harris Cost Report as £46 per dwelling for a large development or £235 per dwelling for a small development. The process saving in shifting from Lifetime Homes Standard to Category 2, of £26 per dwelling on a large development is much less than the £137 per dwelling saving on the small development.
285. The 'per dwelling' process cost of the Code 5/6 water standard is £5 for the large development, and £78 for the small development.
286. These figures illustrate how local standards can often impact disproportionately on small developments.

3.6 Competition

287. It is not considered that the proposal would have a negative impact on competition. Indeed, a degree of standardisation may increase potential competition. The simplification may result in smaller and medium sized firms either entering the market and/or building more homes due to the simplification and rationalisation of housing standards. This is because local housing standards are complex, and often overlap or contradict each other, or contradict parts of the Building Regulations themselves which lead to uncertainty, delay and additional process and material costs for house builders. On top of this each local authority requires its own set of housing standards, in isolation from other authorities and national policy which means house builders have to tailor their housing designs to the requirements of each local authorities housing standards.

3.7 Environmental

288. The consultation proposes that the Code for Sustainable Homes is wound down. Some homes currently covered in the Code will be absorbed into the Nationally Described Standards set. Other issues, which relate to wider environment in which the dwelling is constructed, may still be covered in planning policies.