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Llywodraeth Cymru
Welsh Government

Welsh Government
Consultation – summary of response

Building Regulations Sustainability Review Consultation

Incorporating aspects of the previous Sustainable Buildings National
Planning Policy into the Building Regulations in Wales

June 2017

Mae'r ddogfen yma hefyd ar gael yn Gymraeg.
This document is also available in Welsh.

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1. Introduction

This report provides a summary of the responses to the consultation *Building Regulations Sustainability Review* (opened on 1 March 2016 and closed on 24 May 2016) and is structured around the questions set out in the consultation. We have carefully considered the responses to the consultation in finalising this policy.

The views reported in this summary are those expressed by the respondents to the consultation and do not necessarily reflect those of the Welsh Government.

Building Regulations

Building Regulations control certain types of building work, principally the erection and extension of buildings and provision or extension of certain services or fittings, chiefly to ensure that buildings meet certain standards of health, safety, welfare, convenience and sustainability.

Compliance with the Building Regulations is the responsibility of the person carrying out the work and the building control system helps to ensure that the required level of performance has been met. The role of a building control body, either the local authority or a private sector Approved Inspector, is to act as an independent third-party check to help achieve compliance. As an alternative to third-party checking by building control, some types of work may be self-certified as being compliant by installers who are registered as a member of a competent person self-certification scheme and have been assessed as competent to do so.

Building Regulations greatly influence how our buildings are constructed and used. As such, they help to deliver significant benefits to society. Regulation can also impose costs on both businesses and individuals. The “functional” nature of the Building Regulations, by having regulation setting out the broad requirement rather than prescribing how it must be achieved, seeks to minimise this cost and also ensure innovation is not hindered. Guidance in the Approved Documents that accompany the Regulations then sets out some of the ways that these requirements can be met although it does not have to be followed if the required level of performance can be shown to be achieved in a different way. This approach provides clarity for building control bodies and industry alike.

Consultation Overview

In July 2014 Welsh Ministers approved the amendment of national planning policy on sustainable buildings and the withdrawal of the related guidance in TAN 22: Sustainable Buildings. TAN 22 set an expectation that all new housing in Wales should achieve Code for Sustainable Homes Level 3 (with extra energy credits) and that all new non domestic buildings in Wales should achieve BREEAM ‘Very Good’ with an ‘Excellent’ score for energy. The policy had been introduced in 2009 to support Welsh Government sustainability in the built environment aspirations in advance of the transfer of building regulations function to Welsh ministers in 2012.

Changes made to Part L of Schedule 1 to the Building Regulations made in July 2014 set energy performance levels at broadly the equivalent of that expected under the sustainable buildings national planning policy.

As part of the review of the sustainable buildings national planning policy, the Welsh Government commissioned Mott MacDonald to identify which components of TAN 22, the Code for Sustainable Homes and BREEAM are, or could be, addressed through the Building Regulations or planning policy/guidance.

<http://gov.wales/topics/planning/planningresearch/publishedresearch/planning-for-sustainable-buildings-review/?lang=en>

The research report identified that there were a number of components of the Code and BREEAM that were currently adequately addressed in the Building Regulations and planning policy/guidance and that many of the remaining components could potentially be incorporated into future changes to the Building Regulations or planning guidance. Work to address those areas that the report identified as related to planning guidance has included revision to TAN 12: Design and the publication of good practice guidance on planning for sustainable buildings. <http://gov.wales/topics/planning/policy/guidanceandleaflets/practice-guidance-planning-for-sustainable-buildings/?lang=en>

In respect of Building Regulations a programme of work was then developed, based on the Mott MacDonald analysis, of topics that presented an opportunity for improvement in regulatory requirements or had a strong connection to current Welsh Government policies. The selected areas identified as having potential for inclusion in Building Regulations were:

- Materials: sourcing, and life cycle impact;
- Acoustic performance;
- Information provision to the end user;
- Water efficiency; and
- Residential Security.

Energy efficiency, drying space and lighting were deferred for future review.

The proposals were developed and presented to working parties and the Building Regulations Advisory Committee for Wales (BRACW) and the discussion reached a conclusion that all of the above proposals required a change but it was felt important to demonstrate that the topic had been given proper consideration. Therefore the main proposals within the consultation document related to changes for:

- Part G (Sanitation, Hot Water Safety and Water Efficiency) – Domestic and non domestic
- Part Q (Residential security)
- Information to end user

Consultation responses - Overview

The respondents

Overall there were 31 responses to the consultation. Respondents who completed the consultation response form were asked to assign their organisation to one of eleven types identified on the form (with 'other' as an additional option). The table below shows the number of response forms received from each sector.

Sector	Responses	%
Building Control Bodies	6	20%
House Builder	2	6%
Designer / Engineer / Surveyor	3	10%
Builder / Contractor	0	0%
Commercial Developer	0	0%
Individual respondent & Other	2	6%
Water Company	0	0%
Acoustician	1	3%
Police	1	3%
Property Management	1	3%
Manufacturer / supply chain	6	20%
Other	5	17%
3 rd Party Certification Body	1	3%
Member of Competent Person Scheme	1	3%
Third Sector Organisation	1	3%
Trade Alliance	1	3%

The consultation document was split into six chapters covering:

- Part E (Resistance to sound)
- Part G (Sanitation, Hot Water Safety and Water Efficiency)
- Part Q (Residential security)
- Information to end user
- Life-cycle Environmental Impact

- Responsible Sourcing of Materials

In total 53 questions were asked (excluding Q23, Q27, Q41, Q44, Q46, Q48 and Q54 which requested comments only), the respondents' reply is summarised in the table below:

Question		Yes %	No %	Blank %
1	Do you consider that there is a need for greater guidance for Building Control Officers in relation to the testing regime on sites where Pre-Completion Testing is the preferred method of compliance particularly on choice of dwellings to be tested?	35	19	45
2	In light of the analysis undertaken, do you have any comments relating to the decision not to amend Part E of the Building Regulations?	19	39	42
3	Do you agree that the proposed maximum limit of 110 litres per person per day is acceptable?	39	16	45
4	Do you consider that Options 1 to 4 are viable?	35	16	48
5	Do you think that any other alternative maximum performance level standard could be proposed?	10	39	52
6	Do you agree with the performance standards detailed in tables 3.1, 3.2, 3.3 and 3.4?	29	19	52
7	Do you agree that the component types which have been included for within the fittings approach are appropriate?	39	13	48
8	Do you consider that the water calculator and fittings approach provide a flexible route to compliance with the building regulation	52	3	45
9	Do you agree that the fixed factor of 5 litres per person per day for external water usage is removed from the water calculator for dwellings incorporating a rainwater storage unit?	48	6	45
10	Do you agree that a minimum 100 litres capacity be required before removal of the fixed factor from the water calculator?	45	10	45
11	Do you agree with the inclusion of water efficiency regulation for non-domestic buildings?	42	10	48
12	Do you agree with the fittings approach for non-domestic buildings?	39	10	52
13	Do you agree with the proposed maximum performance standards?	23	19	58
14	If no, should these proposed performance standards be increased in line with the stretch targets?	13	10	77
15	Do you agree with the proposal not to introduce further water efficiency requirements (i.e. further than the existing 125l/p/d requirement) for buildings undergoing a material change of use?	29	26	45
16	Do you agree with the Welsh Government's approach of not regulating water quality and efficiency for replacement fittings?	39	13	48

17	Do you foresee any additional compliance and performance issues which may arise from the introduction of enhanced water efficiency standards for new dwellings?	16	39	45
18	Do you foresee any additional compliance and performance issues which may arise from the introduction of water efficiency regulation for new non-domestic buildings?	13	39	48
19	Do you consider that the current industry practice in Wales for windows, doors and locks in new dwellings are sufficient to address residential security in Wales?	10	55	35
20	With the recent changes in England in relation to residential security, current Scottish standards and Secured by Design National Building Approval, do you think it is sufficient for the Welsh Government to provide guidance for residential security and not introduce a mandatory standard?	10	65	26
21	With the year on year decreases in domestic burglary do you agree that there is a need for a mandatory security standard for windows and doors for new dwellings in Wales?	68	10	23
22	Do you agree that introducing a mandatory standard through building regulations is the best option?	71	6	23
24	Introducing lighting to the mandatory standard goes further than what is currently required in the rest of the UK. Do you agree with including lighting as part of the mandatory standard?	45	23	32
25	Do you think there are any other elements that should be considered as part of the mandatory standard such as third party certification?	26	42	32
26	Do you agree that market forces for new build will inform the replacement market and encourage manufacturers to start to develop the changes in their product developments and specifications for residential security?	42	26	32
28	Do you agree there is a need to regulate security standards in the replacement market?	45	19	35
29	Do you agree that there is a need for SMEs to provide more information to the end user for domestic properties?	52	13	35
30	Do you agree that an advisory route, as opposed to regulation, would be the best option to encourage the provision of information to the end user?	55	16	29
31	Do you agree that the creation of a template guide would help SMEs and improve the consistency and quality of information provided to the end user?	71	0	29
32	Do you agree with the topics highlighted in paragraph should be included within any potential Home User Guide template?	61	3	32
33	Do you agree with the Welsh Government's position that due to the wide variety of size and uses of non-	58	6	39

	domestic buildings, generating a BUG template would not be feasible?			
34	Do you agree with the Welsh Government's position that there is already enough information provided to the end user for non-domestic building?	55	6	42
35	Do you believe that BIM could potentially provide a solution to the issue of providing information for the end user?	55	3	39
36	Do you believe the labelling of construction products based on LCA data should be mandatory?	19	13	39
37	In your experience, do the commercial benefits of offering an EPD outweigh the cost of performing a life-cycle assessment?	6	35	58
38	Are you aware of concrete improvements brought to a manufacturer's supply chain following a life cycle assessment?	10	45	45
39	Were you fully aware of the limitations associated with life-cycle assessment before reading this review?	29	35	35
40	Do you believe there is a need to research, quantify and improve the accuracy of the results of a life-cycle assessment?	42	13	45
42	Do you believe that unfounded environmental claims made for marketing purposes are an obstacle to the promotion and success of products that are 'truly' sustainable?	35	13	52
43	Do you believe that environmental impact of new buildings compared to that of refurbishments is a consideration in decisions to build?	19	32	48
45	Do you agree that, at this time, it is not practical to introduce responsible sourcing regulations for Wales?	55	6	39
47	Do you agree that, at present, many SMEs would find it difficult to comply with responsible sourcing regulations if they were produced? Would regulation disadvantage smaller SMEs?	52	3	45
49	Could more be done within the industry to create guidance on achieving responsible sourcing certification?	42	3	55
50	Do you agree that scaling back responsible sourcing requirements for SMEs would make creating new regulations more practical?	42	13	45
51	In terms of market competitiveness within the industry, do you feel the approach outlined above would reduce the gap between large and small companies, or shift the disadvantages to the larger companies?	19	16	65
52	To the best of your knowledge, do you feel there is too much 'red tape' which can interfere with achieving responsible sourcing certification?	34	13	52
53	In your opinion, could major building suppliers and manufacturers do more to promote the use of responsibly sourced materials?	45	13	42

2. Part E – Resistance to Sound

The consultation covered whether there is a need for Building Control Officers to be provided with greater guidance in relation to “Pre-Completion” testing regimes and whether there were any comments on the decision not to amend Part E of the Building Regulations.

Below is a summary of the responses received for questions 1-2 of the consultation relating to residential acoustics. In the subsequent section following the summary of consultation responses is a government’s response to address some of the key points made in the consultation, as well as an outline of the next steps.

Q1 asked if respondents consider there is a need for greater guidance for Building Control Officers in relation to the testing regime on sites where “Pre-Completion” testing is the preferred method of compliance particularly on choice of dwellings to be tested.

- a. Feedback from the Building Control Bodies seems to indicate that there is currently sufficient information available.
- b. Of the respondents 35% expressed that more guidance is desirable, 19% felt no further guidance was necessary, 46% did not respond to this question.
- c. The respondents who felt more guidance was desirable generally felt that Building Control Officers needed more guidance in specifying which buildings should be tested.
- d. A number of respondents felt that Building Control Officers should have greater discretion in the choice of building to be tested.
- e. One respondent felt that Building Control Officers (BCO) should have a greater understanding of the tested components and testing methodology so that if there is an issue with the testing conducted, the BCO will then be aware of this.
- f. Several respondents felt that greater guidance is necessary and that this would ensure clarity and consistency as well as better outcomes for consumers.

Government Response

Spreading the testing regime to cover plots that are completed as the site progresses across a longer period combined with the Building Control Officers identifying which dwellings are tested will provide a larger sample throughout the construction of the site. Building Control Officers already have discretion over the testing programme. There is probably benefit in reminding Building Control Officers’ such that they place greater emphasis on selection of buildings to be tested in a way which minimises the possibility of builders giving preferential treatment to constructing buildings they know will be tested.

One respondent who wrote a particularly detailed response addressed a number of questions which were outside of the remit for this study. This report touches on some of the points raised however in response to one particular point it is not proposed to grant Building

Control Bodies powers to exercise discretion in the relation to the sound insulation rating to be achieved. The question of whether Building Control Officers should have power to accept lower, or demand higher standards was considered and rejected as part of the review.

Q2 asked if respondents have any comments relating to the decision not to amend Part E of the Building Regulations, in light of the analysis undertaken.

- a. Of the respondents 19% said yes, 39% said no and 42% did not respond to this question. The individual responses are discussed below.
- b. Similarly to Q1, one respondent submitted an extensive response, many of which relate to matters outside of the scope for this review. .
- c. During the review a number of consultees expressed concern that a raise in minimum performance standard would require a disproportionate increase in specification due to risk of failure and diminishing returns of improvement.
- d. One respondent felt that raising standards would incur costs to smaller builders which would give an unfair advantage to larger house builders.
- e. The same respondent felt there had been a significant reduction in noise complaints using current standards of compliance and therefore no change in standards was required.
- f. There was one respondent who objected to the proposal not to change Approved Document E of the building regulations in terms of the standard of sound insulation required. This respondent suggested that the standard should be increased by 5dB. The respondent however provided no quantitative basis for this proposal and used the terms 'subjective' and 'subjectively' a number of times in his response.
- g. Another respondent felt that there was a danger that removal of the CfSH without an alternative standard would result in a reduction in the standards of sound insulation achieved. This respondent quoted data that over three quarters of the homes assessed by BRE licensed assessors currently achieve 1 credit or more in the HEA 02 issue in Wales.

Government Response

While the alternative evidence provided by one of the respondents is considered an interesting area of research, it is regarded that this data is outside the scope of this review. The proposed alternative standards based on subjective judgements, which made no reference to the additional costs or provide quantification of the expected reduction in occupant dissatisfaction, which were both issues discussed during the review.

Designers and installers allow for margin of error. As the building regulations are minimum performance standards, the designer and installer need to allow for a number of uncertainties to ensure compliance. In most cases the margin will not be required and the test results will exceed the minimum requirements, but in some cases they will only just pass. Increasing the minimum performance standard would still warrant a safety margin

allowance which would entail a further increase over the uplifted minimum along with associated costs. The increased costs of higher acoustics standards may also explain why within CfSH the 3 credits for 5dB above minimum are not commonly taken compared to 1 credit for 3dB above.

With regards to the response alluding to the danger of a reduction in standards of sound insulation following the removal of CfSH, it is considered that many of the major house builders who achieved a credit under CfSH use Robust Details. Continued use of Robust Details would mean that the standards achieved would remain the same. Among builders who opt for “Pre-Completion” testing it is possible that there may be some reduction in sound insulation achieved but most builders still incorporate a margin of safety in their designs in order to achieve the minimum standard.

Summary and next steps

In relation to increasing the requirements for acoustic performance it was considered that designers and installers allow for a margin of error. As the building regulations are minimum performance standards, the designer and installer need to allow for a number of uncertainties to ensure compliance. In most cases the margin will not be required and the test results will exceed the minimum requirements, but in some cases they will only just pass. Increasing the minimum performance standard would still warrant a safety margin allowance which would entail a further increase over the uplifted minimum along with associated costs. The increased costs of higher acoustics standards may also explain why within CfSH the 3 credits for 5dB above minimum are not commonly taken compared to 1 credit for 3dB above. Where it was suggested that standards are to be increased no quantified evidence was suggested.

Those who responded to the question of providing greater guidance for Building Control Officers were in favour further guidance in relation to choice of dwelling during “Pre-Completion” testing regimes and identification of common defects in construction which can result in poor sound insulation performance. Building Control Officers already have significant powers in relation to choice of dwelling to be tested and should be encouraged to use those powers more.

Following the review of the guidance for “Pre-Completion” testing and the general response received from consultation, the opinion is that the guidance is satisfactory and provides sufficient detail for Building Control Officers with an adequate degree of flexibility. It is recognised however that there is a need to investigate whether this guidance is being utilised and used in practice. An investigation into the use of the guidance will be carried in the next steps.

The consultation has concluded that there are no proposals to change the minimum acoustic standards within Part E or revise the associated Approved Document guidance.

Part G – Sanitation, Hot Water and Water Efficiency

The consultation covered the proposed reduction targets for new dwellings, the options relating to both a fittings approach and the water calculator methodology and external water use. It also covered the proposed introduction of water efficiency regulation for new non-domestic buildings, change of use and existing properties whilst analysing any anticipated performance or compliance issues associated with the proposals.

As noted in the introduction to this report, there were 31 responses to this consultation in total but this covered all topics which were consulted upon. Of these 31, a total of 19 consultees provided a response to at least one, or in most cases all, of the 15 questions relating to the topic of Water Quality and Efficiency with relation to proposed changes to Approved Document Part G (Sanitation, Hot Water Safety and Water Efficiency).

As part of this review, for questions 3-18 we have considered only these responses when determining overall percentages to those who have responded. We did this as we recognised that the majority of these questions which were left blank were done so because the consultees were not concerned, interested or have expertise in the area of water quality and efficiency but instead responded to the overall consultation to provide a comment on another topic.

Of the respondents to this topic, the largest response was from building control bodies (4) with house builders, professional bodies and trade association / alliance being the second most represented industries (with two respondents each). The remaining responses were received from the following industry sectors:

- a. Third party certification body;
- b. Property management;
- c. Warranty body;
- d. Individual respondent;
- e. Designer / Engineer / Surveyor / individual respondent;
- f. Natural resources / environment;
- g. Energy advice and consultancy services;
- h. Research, testing, standards, training;
- i. Third sector organisation.

Although building control bodies had four respondents, it was noted that two of these respondents were from the same company / organisation and provide the exact same responses (including comments).

The following section of this report details the specific responses to each of the proposal questions which were put forward in consultation with regards to the potential incorporation of further regulation of water quality and efficiency in Wales. Where appropriate, the summary of responses is followed by a Welsh Government response to address some of the points made by respondents.

New Homes

Q3 asked whether the respondents agreed that the proposed maximum limit of 110 litres per person per day is acceptable.

- a. Of the 19 written responses received, 12 consultees (63%) were in agreement with this proposal, while 5 respondents (26%) did not agree. Among those in agreement included Building Control bodies and professional bodies, whilst respondents who disagreed were from a range of industry sectors, and not one common sector.
- b. Principal comments of those in agreement were due to the existing CfSH requiring 105 litres per person per day, meaning it is unlikely to make much impact on house builders and/or installers. Respondents appeared to be in agreement as this shows an improvement on the current regulatory limits.
- c. The concerns of those who disagreed with this proposal were focused on two aspects;
 - i. A common theme related to the fact that it was not understood why water use was being regulated when there is no water stress in Wales, and also that regulation of water use in homes would have minimal impact compared to wider water infrastructure.
 - ii. It is believed that regulating water use further will burden housebuilders / homeowners in Wales and perhaps discourage new developments.
 - iii. Some commented that they do not consider sufficient evidence to have been provided to support this proposal.
- d. One of the responses encompassed a suggestion to undertake some further research, as they did not believe there to be sufficient evidence to support the proposals.
- e. An energy advice organisation replied that it is supportive of setting maximum limit on water and felt that 110 litres per person is acceptable and achievable within new build homes where appropriate appliances can be selected as part of the initial build.
- f. One response urged that we carry out a full equality impact assessment for the proposed maximum limit of 110 litres per person per day.

Government response

Consultees are reminded that the potential of water stress, current or future, within Wales is not the sole or primary reason for this review and potential inclusion of water efficiency

standards in the Building Regulations. Additional reasons for this review include the associated energy costs of hot water demand, as well as that consumed in water treatment and transportation.

Up until July 2014, Housebuilders were required (through Planning Policy) to deliver new homes to Code for Sustainable Home (CfSH) Level 3, which requires a maximum daily water use consumption of 105 litres per person per day. This proposed water efficiency standard is therefore in line with previous standards, and so there is no additional burden anticipated in terms of supply chain or increased costs for developers.

An Equality Impact Assessment has been carried out, and found that the proposed changes to water efficiency requirements will not have an impact on the protected groups under the Equality Act 2010. As described above, house builders had already been required to achieve this water efficiency standard through the TAN22 Planning policy (now withdrawn), and it is worth highlighting that occupants are not restricted to 110 litres per person per day as it is a methodology of predicted water usage and not actual usage. In addition, the water efficiency calculator is not designed to give an accurate prediction of the water used by occupants, but will give an indication of whether the dwelling can be water efficient or not.

Given the positive response in agreement with the proposed limit, we propose to continue and implement this limit in changes to the Building regulations and Approved Document G.

Q4 asked whether the respondents consider Options 1 to 4 as viable

- a. The responses received to this question were largely positive, with 63% of the respondents in agreement with the viability of options 1 to 4. Typically, those who answered 'no' to this question did so to question 3 and while technically it was agreed that all options were viable they did not agree on the need to further regulate water use in the country.
- b. While some agree with the principal of the fittings approach, they were unable to comment on the viability of each option in turn.
- c. One consultee from the housebuilding industry does not support any of the options which have been suggested as they believe it will increase costs which in turn could impact future housebuilding in Wales. They have also suggested that it would be useful to include the performance standards relating to the water consumption values of dishwashers and washing machines.
- d. A response from a building control body detailed their concern that providing a range of options introduced an extra level of complexity and in turn possible confusion. However, they go on to note that as option 2 is in line with Approved Document G in England then perhaps this is appropriate as it will allow for consistent specification working across England and Wales.
- e. One consultee disagreed with Option 2. This is because the flush volume of 4/2.6 litres for the WCs is considered too low and would lead to a second flush

being required in most cases. It is also thought that potential issues with drainage flow rates in waste pipes could be caused.

Government response

It is not anticipated that costs will be increased for housebuilders with the inclusion of these proposed regulations. As noted previously, up until July 2014, Planning Policy Wales required that all new homes achieve CfSH Level 3 (as a minimum), and so the requirement of 105 litres per person per day has been standard practice in Wales for some time.

It is acknowledged that the inclusion of four different compliance options may cause unnecessary complexity and thus confusion. Therefore taking this into consideration, it is proposed that only two options will be put forward for inclusion within the Approved Document. A review of the four proposals is to be undertaken, taking into consideration the consultation responses, to determine which of the options is the most appropriate for inclusion within the Approved Document Gin Wales.

The potential inclusion of washing machines and dishwashers is addressed in further detail under the response for Q7.

With regard to point E above, although the respondent disagrees with option 2, they go on to suggest (in question 6) standardising the requirements in line with AD G 2016 in England. However, the proposed option 2 is the same performance standard which has been incorporated into the Approved Document G (2015 Edition) in England as the 'optional' water fittings approach, and incorporates the low dual flush rate of 4.0 / 2.6 litres for WCs. It therefore appears that there is some contradiction in this response.

Q5 asked the respondents whether they think that any other alternative maximum performance level standard could be proposed.

- a. The majority of the 19 respondents (63%) answered no to this question, meaning that they do not believe that further alternative maximum performance levels should be proposed.
- b. There were no specific comments relating to these answers, other than agreeing that any difference to the proposed options could lead to increased water usage.
- c. In line with questions 3 and 4, those respondents from Building Control Bodies have been in agreement with one another and with the proposals which have been put forward. The same can be said for the Professional Bodies who have responded to the consultation.
- d. Of the three consultees who answered no to this question, the following industry sectors were represented;

- i. **Property Management** – note, they also disagreed with Questions 3 and 4. The reasoning for all of their responses is because they believe that tougher regulation needs to be put on water companies to enforce greater efficiencies on their infrastructure.
 - ii. **Design/Engineer/Surveyor/Individual Respondent** – note, they disagreed with Question 3 but agreed with the proposal outlined in Question 4
 - iii. **House Builder** - again, this respondent disagreed with Question 3 but agreed with the proposal outlined in Question 4.
- e. The only alternative proposed within the consultation was to include an option with smaller bath capacity, e.g. 140 litres, which would then allow for greater water use in the kitchen.

Government response

The one alternative which was proposed relating to the smaller bath capacity has been considered but in this instance the use of the water calculator would be recommended. This approach would allow for more flexibility with this type of scenario, i.e. where a home-owner or housebuilder wishes to install a shower with a higher flow rate, water efficiencies can be recognised elsewhere in the home.

Q6 asked whether the respondents agreed with the performance standards detailed in tables 3.1, 3.2 3.3 and 3.4 of the consultation document.

- a. This question received mixed responses from the consultees, with no clear majority. 9 of the 19 (47%) respondents were in agreement, while 6 (32%) disagreed with the detailed performance standards, and 4 (21%) respondents left the question blank.
- b. All Building Control Bodies were in agreement, as too were the Professional Bodies, while the House Builders who provided a response disagreed with the performance standards.
- c. Those consultees who disagreed provided some relatively detailed comments which include;
 - i. The range of options could potentially cause unnecessary complexity and confusion;
 - ii. It is believed it would be better to standardise the regulation with Building Regulations Approved Part G in England, but also that the proposed WC performance of 4.0 / 2.6 litres per flush would cause technical issues. This low flush rate is included within the Approved Document Part G in England 2015 Edition

- iii. The flow rate of the wash hand basin taps and kitchen taps should be the same.
- iv. Flow rate of the kitchen taps are too low – one respondent thinks that the flow rate should be a minimum of 8 litres per minute.

Government response

Based on the mixed response received to this question, we propose to review this further to assess the possibility of creating a more simplistic strategy for the options. As noted in the response to question 4 it has been decided that only two options will be included with the proposals as opposed to the four detailed in the consultation document. The detailed responses which were received from consultees for this question will be taken into consideration when concluding the final two options for the Approved Document..

Q7 asked whether respondents agreed that the component types included within the fittings approach are appropriate.

- a. 12 of the 19 respondents (63%) agree that the component types included within the proposal were appropriate, with just 4 consultees (21%) in disagreement while 3 (16%) left the response blank.
- b. Those in agreement commented that the components types included within the approach were those most commonly used in dwellings.
- c. Not all respondents provided additional comments, however a common query raised was regarding the omission of dishwashers and washing machines.
- d. One respondent included some very detailed comments as to where further review should be undertaken. They feel that action '*should be concentrated on a more sustainable approach in order to reduce mains leakage and also to improve abstraction and water transport*'. They go on to suggest that leak free siphon flush mechanisms be mandatory for WC cisterns.
- e. One response recommended that the Welsh Government explores the potential for any changes in components to have unintentional consequences in relation to increasing the demand for publicly financed grants to adapt homes to meet the needs of disabled people, and considers this as part of an Equality Impact Assessment.

Government response

Within the consultation paper, it was noted that washing machines and dishwashers are not included within the proposals for a number of reasons, however, a number of respondents referenced the exclusion of these fittings, and therefore, as these are also taken into consideration within the Water Efficiency Calculator methodology, it is now proposed to introduce these components into the fittings approach. The maximum performance standards proposed are 8.17 litres/kilogram for washing machines and 1.25 litres / place

setting for dishwashers. These are also the default performance values utilised in the Water Efficiency Calculator where the actual performances of the appliances are not known.

In respect of any unintended consequences relating to increasing the demand for publicly financed grants, it should be noted that these water efficiency savings were previously implemented through Planning Policy Wales between 2009 and 2014, and do not apply to replacement of existing fittings. An Equality Impact Assessment has been carried out, and found that the proposed changes to water efficiency requirements will not have an impact on the protected groups under the Equality Act 2010. It should be highlighted that occupants are not restricted to 110 litres per person per day as it is a methodology of predicted water usage and not actual usage. In addition, the water efficiency calculator is not designed to give an accurate prediction of the water used by occupants, but will give an indication of whether the dwelling can be water efficient or not.

Q8 asked whether the respondents considered the water calculator and fittings approach to provide a flexible route to compliance with the building regulations.

- a. The majority of consultees (84%) answered 'yes' to this question, with only 5% of respondents answering 'no'.
- b. One Building Control Body answered 'no' and commented that if the fittings approach were streamlined then they would agree that these methods provide a flexible approach to achieve compliance and therefore perhaps an alternative methodology is not necessary.
- c. Reasoning for agreement to this proposal include;
 - i. The calculator being flexible and particularly useful to SMEs;
 - ii. It has been widely used to date;
 - iii. The importance of maintaining the flexibility that the calculator offers.

Government response

As previously noted, and taking into consideration the feedback received in response to this question, it is proposed that only two options for the fittings approach will be included within the Building Regulations. This will help to streamline the approach, making it simpler and easier to understand for all users.

Q9 asked the respondents whether they agreed that the fixed factor of 5 litres per person per day for external water usage should be removed from the water calculator for dwellings that incorporate a rainwater storage unit.

- a. All but three of the consultees were in agreement with the proposal relating to external water usage, while one respondent chose to leave the box blank.

- b. This demonstrates that the respondents are largely in favour of the removal of the fixed factor for external water use where a rainwater storage unit is included within a dwelling's design. Although in agreement, there were limited comments provided, other than it is believed this proposal will encourage the use of stored water thus limiting mains water use. It is also thought that it follows the approach in CfSH and thus demonstrates a more accurate reflection of water use.
- c. The two consultees who disagreed were from the Housebuilding industry and a Professional Body. The latter did not provide additional comment, while the House Builder does not think that water butts should be tradable with potable water. It has the potential to cause difficulty during inspection and compliance testing.
- d. Although a respondent from a natural resources/environment organisation were entirely supportive of the intent they are unsure that the removal for the fixed factor and incorporation of rainwater storage would lead to a reduced water usage for households. It is suggested that the Welsh Government *'consider any current research that can clearly demonstrate that installation of rainwater storage units on the whole leads to the dwelling using less water than the fixed factor of 5 litres per person per day for external usage, before fully implementing proposal 3'*

Q10 asked the respondents whether they agreed that a minimum 100 litres capacity be required before the removal of the fixed factor from the water calculator.

- a. Responses to this question were largely in line with those to question 9;
 - i. 15 (79%) were in agreement;
 - ii. 2 respondents disagreed, a house builder and a building control body (although based on the comments provided by the building control body we believe that they are actually in agreement with the proposal);
 - iii. 2 respondents were unsure on how to respond to the question, however were generally in agreement but think that additional research is needed.
- b. Concern was raised as to how it will be monitored to ensure any storage measures are not removed. This has not been considered as part of the review as it was not thought to be an issue, particularly because the same concern could be applied to the water using components internally.
- c. It seems that consultees generally agree with the proposal to remove the fixed factor from the water calculator so long as there is a minimum capacity of 100 litres for the collection and storage of rainwater harvesting installed.

Government response

Although the majority of respondents were in agreement with a rainwater storage unit, we also acknowledge the concerns that have been raised during the consultation, and therefore it has been concluded that at this moment in time, the inclusion of such a clause within the regulation is not taken forward. Further, in line with the recommendation of a natural resources/environment organisation, it is suggested that additional research is undertaken before any possible future proposal.

Within the CfSH, credit is given for the inclusion of a '*correctly specified and sufficiently sized system to collect rainwater*', and when developing the proposals this credit was thought to be a common approach and an easy win for housebuilders, which is why it was considered as part of regulation. However, the inclusion of this external storage unit does not remove the fixed factor within the water efficiency calculator and instead is an added sustainable feature of the dwelling.

Concern was raised that this has the potential to become a box ticking exercise, which is not a preferred route for Building Regulations, and in addition to this there is concern that it would not reduce the potable water demand as there would be no feasible way to ensure compliance. It is likely that potable water would still be used for activities such as car washing, garden sprinklers – as such it is recommended that the fixed factor remain a part of the Water Efficiency calculator even where a rainwater harvesting storage tank is specified for installation.

New Non-Domestic Buildings

Q11 asked the respondents whether they agreed with the inclusion of water efficiency regulation for non-domestic buildings.

- a. A total of 13 consultees were in agreement with this proposal, 3 disagreed with the potential inclusion while 3 left the response blank.
- b. There was no clear pattern with one of the house builders and a professional body being unsure of their answer. Those who disagreed were representatives of a warranty body, a trade alliance and an individual respondent.
- c. It is considered important to maintain consistency across domestic and non-domestic properties, and it is thought it would be a missed opportunity to improve water efficiency if it weren't included.
- d. One consultee from the building control bodies sector disagreed with the proposal but does however recognise that it replaces the requirement in BREEAM.
- e. While another respondent agreed that the proposal should be implemented in all new buildings, and extensions, and support a building performance standard for non-domestic buildings.

Government response

In general, the respondents were in agreement with the implementation of water efficiency performance standards for non-domestic buildings. It is therefore proposed that these will be incorporated into a revised Approved Document G. Further consideration of the performance standards are addressed in later questions.

Q12 asked whether the respondents agreed with the fittings approach for non-domestic buildings.

- a. The responses to this question were largely in line with those for question 11, the only difference being an energy advice organisation leaving the response blank whereas they were in agreement to the proposal detailed in question 11.
- b. Respondents recognise that a fittings approach provides a common thread across what could potentially be a complex implementation due to the varied nature of non-domestic properties.
- c. One respondent agreed with the proposal in principle but then went on to discuss dwellings within the additional comment provided, and so it is unclear whether the proposal is fully understood.
- d. One consultee who supported the proposal commented that sinks should be included within the proposals, and also felt that further research is needed to support this approach.

Government response

Again, the respondents to this question were largely in agreement with the proposal to incorporate a fittings approach and so it is proposed that this will be incorporated into future revisions of the Building Regulations in Wales.

Regarding sinks, it is proposed not to introduce sinks at this moment, due to the potential difficulties this could cause in relation to process water.

Q13 asked whether respondents agreed with the proposed maximum performance standards.

- a. The response to this question was not clear cut, with 7 consultees in agreement, 6 disagreeing with the proposed performance levels and 5 leaving the response blank. There was no clear response from any industry bodies either.
- b. This mixed response could be down to the confusion which has been caused by the wording within the consultation document; consultees were asked whether they agree with the *maximum* performance standards while table 3.5 reference *minimum* performance standards. This was highlighted by some of

the respondents but we believe that this could have created a misrepresentation of the results.

- c. Those who disagreed did so for the following reasons;
 - i. The performance standards differ from those in the proposed regulation for domestic properties
 - ii. Urinals do not need to flush solid waste, therefore the flush rate for this component should not be higher than that of a WC
- d. Further explanation and potential research should be provided to ensure that these figures have been sensibly derived.

Where the response to Q13 was no, Q14 went on to ask whether the proposed performance standards be increased in line with stretch targets.

- a. Due to the nature of the question, there were limited responses received. Of the 6 respondents who answered no to question13, 3 were in agreement that the stretch targets be used while the other three disagreed.
- b. There were no specific comments included in the response for this question, other than the respondent who answered 'yes' thinks that these performance standards should be aligned with the requirements for domestic properties.

Government response

The confusion surrounding these questions is recognised and potential impact on the responses received is acknowledged. However, based on the general agreement with questions 11 and 12, it is assumed that the consultees are largely in consensus with this proposal also. It was very useful that some consultees provided detailed feedback and reasoning for their disagreement which will be further considered in the final development of the Approved Document G.

Based on this feedback, the stretch targets detailed as part of this proposal seem to be the favoured option. They are in line with the proposed performance standard for domestic properties; particularly the wash hand basin taps and showers, whilst also including a lower flush rate for the urinals compared to the WCs.

Therefore, it is proposed to introduce the stretch targets into final revision of Approved Document G. These stretch targets were considered as part of our consultants consultation stage cost report, which concluded that there were no additional cost implications with regards to the implementation of these stretch targets as opposed to the alternative performance standards included within the consultation proposals.

Material change of use of an existing building

Q15 asked if consultees agreed with the proposal not to introduce further water efficiency requirements (i.e. further than the existing 125 l/p/d requirement for dwellings) for buildings undergoing a material change of use.

- a. The response to this question was relatively mixed with no clear common view across the consultees. 47% of the respondents agreed with the proposal while 42% did not, and there was no noticeable pattern across the industry sectors.
- b. Those answering 'no' to this question commented that it would be expected for buildings with material change of use to include new fixtures and fittings and so there is no reason why these should not be required to meet the same performance standards as new buildings – this was a view shared by many of the consultees.
- c. A Building Control Body disagreed with this proposal and suggested that material change of use buildings be regulated in line with 5a and 5b.
- d. An energy advice organisation disagreed with the proposed approach, but recommended that we review the Welsh Housing Quality Standard (WHQS). They go on to advise that this standard should include water efficiency in more detail.
- e. The energy advice organisation proceed to comment that they believe evidence should be provided where buildings undergoing a material change of use or major redevelopment are unable to realise the same water efficiency performance as that of a new build property. They also recognise that it may not be practical for buildings which have an existing low carbon / renewable technology installed, as this will in turn reduce the efficiency and operation of the technology.
- f. Many of those in agreement did not provide any further comment, with the exception of a Natural Resources/Environment organisation who suggested that perhaps there is scope to explore a voluntary code beyond the regulation for willing developers, and a third party certification body who agreed but noted that this is a missed opportunity, and perhaps regulation should be in line with new build standards where it is reasonable to do so without undermining any health and safety issues.

Government response

Relating to the Welsh Housing Quality Standard (WHQS), this has been forwarded to relevant officials responsible for this area of work.

Due to the majority agreement not to introduce further water efficiency requirements for buildings undergoing a material change of use, we propose not to change the current requirements.

Replacement fittings in existing buildings

Q16 asked whether consultees agreed with the Welsh Government's approach of not regulating water efficiency for replacement fittings.

- a. The response to this question saw a majority (63%) of those consulted agreeing with the Welsh Government's approach of not regulating replacement fittings. Only 21% of consultees disagreed with 16% leaving their response blank.
- b. The professional bodies consulted were divided in their response, while the house builders were both in agreement. There was no common agreement from the building control bodies either.
- c. Those who disagreed acknowledged that unless there is continual control of fittings throughout building operation then the water efficiency would be meaningless, and that a standard approach should be maintained across all development in Wales.
- d. Although the third party certification body agrees that regulation is not the option but suggest that guidance should be made available and be visible to homeowners when making changes.
- e. A Natural Resources/Environment organisation appreciated that the implementation of regulation for replacement water fittings would be difficult; but believe that where the efficiency of water fittings is continually improved then regular reviews of the Water Supply (Water Fittings) Regulations 1999 will become essential. They consider these reviews to be of importance in ensuring minimum standards are tightened.
- f. An energy advice organisation referenced the Wales Housing Quality Standard (WHQS), within which advice is provided as to the benefits of implementing water efficiency in retrofit programmes. They go on to suggest that they believe there to be scope to introduce regulations (or voluntary codes) for water efficiency for existing buildings within local authority control.
- g. A research organisation is in agreement with the proposal to not regulate water efficiency in replacement fittings and also provided some useful feedback. It is recognised that the ability to use more efficient fittings is to some degree dependent upon the existing infrastructure which will limit the ability of setting rigid performance standards for such fittings. However, they suggest it may be appropriate to set performance backstops in order to prevent the installation of highly inefficient fittings but note that this may be difficult to regulate given the involvement of European regulation.

Government response

As the majority (63%) of replies agreed with the Welsh Government's approach of not regulating replacement fittings, the incorporation of regulation governing the replacement of fittings is still not thought to be appropriate at this time.

Compliance and Performance

Q17 asked consultees whether they foresaw any additional compliance or performance issues which may arise from the introduction of enhanced water efficiency standards for new dwellings.

- a. The majority (63%) of the respondents did not foresee any compliance or performance issues, while 26% have anticipated there to be issues.
- b. Those who saw issues did so for a number of reasons;
 - i. It is believed that house-builders and homeowners may choose to relocate to other areas that are not as heavily regulated.
 - ii. Proposals appear to be relatively complex which may create issues with understanding, and could lead to an increased burden on building control bodies in respect of training staff and customers, assessment of plans and inspection for compliance.
 - iii. The Welsh Homes market is relatively small and expecting manufacturers to develop alternative solutions for a small market it not viable. We believe that perhaps the respondent has not fully understood that the performance standards which have been proposed are currently available on the market.
 - iv. Making reference to section 3.4.3 of the consultation report, an energy advice organisation believe other initiatives, such as the removal of combined sewer overflows and highway drainage from the network, will reduce water volume. They note that the opportunity to reduce a building's water efficiency rates and secure behaviour change could be lost because of poor strategic and catchment level planning.
 - v. A professional body commented on drain diameter, fall and distance to outfall.

Q18 asked whether any additional compliance or performance issues were anticipated with the introduction of water efficiency regulation for new non-domestic buildings.

- a. The responses received for this question are mostly the same as those received for question 17, with one of the respondents reiterating that

manufacturing costs could increase for water intensive users causing increased imports and job losses.

- b. The need to effectively communicate these new regulations to all relevant persons was also highlighted as part of the response from third party certification body. .

Government response

It was encouraging to see that the majority of respondents did not foresee any compliance or performance issues with the proposed introduction of enhanced water efficiency standards for new dwellings. Some concerns were raised, however as noted in the consultation document, the enhanced water efficiency standards are no more onerous than the existing requirement for all new homes to meet CfSH Level 3, as a minimum. This level requires a maximum internal water use consumption of 105 litres per person per day. As such, the argument that house-builders and home-owners may choose to relocate seems unlikely.

In addition to this, the regulations being proposed are no more onerous and generally in line with those previously in place through Planning Policy Wales until July 2014 and already in place for water stress areas in England. All the performance standards which have been included within the proposals are products which are currently on the market and there will be no requirement for manufacturers to develop new products.

The decision was taken to propose water efficiency regulation for the domestic-scale water consuming components only which are present in non-domestic building, i.e. wash hand basin taps, WCs, urinals and showers, as these are the fittings which are typically present across all non-domestic building types. Within the consultation document it was acknowledged that these fixtures alone may not be responsible for a large proportion of water consumption across all non-domestic buildings. However, the regulation of process water consumption would be difficult as the introduction of such regulation would likely impact the manufacturing / industrial process for which the water is utilised. The proposals relating to non-domestic water use therefore disregarded process water regulation on this basis.

The need to effectively communicate these new requirements to relevant persons has been acknowledged. The Welsh Government will review and consider suitable options to ensure all new and amended regulation is communicated to any relevant parties.

Summary and next steps

Domestic:

Generally, the respondents appeared to be in agreement with the proposals relating to the water efficiency targets for residential properties. There were, however, a couple of respondents who did not believe there was a need due to the lack of water stress within Wales.

A common query rose with regards to the types of fittings included within the proposals for dwellings (fittings approach), namely the omission of dishwashers and washing machines. Therefore we now propose to introduce these requirements within the fittings approach.

There were a number of respondents who suggested that the inclusion of four different compliance options may create complication and cause confusion, therefore two compliance options will now be produced/chosen for the final Approved Document..

A large majority of respondents were in agreement with the proposals relating to recognising external water storage within the water calculator method, however we acknowledge the concerns (such as it becoming a box ticking exercise) that have been raised during the consultation, and therefore it has been concluded that at this moment in time, the inclusion of such a clause within the regulation is not taken forward. Non-

Domestic:

Respondents were largely in agreement with the proposals relating to the non-domestic properties, with many citing that there should be consistency across domestic and non-domestic properties. Based on this feedback, the stretch targets detailed as part of this proposal seem to be the favoured option, therefore it is proposed to introduce the stretch targets into final revision of Approved Document G.

Existing Buildings/Change of use:

The majority of the respondents agreed with the proposal not to introduce further water efficiency requirements for buildings undergoing a material change of use or replacement fittings, therefore, in line with the consultation proposal, we propose not to change the current requirements in this area.

Information to end user

The consultation covered the proposals for the provision of information to end users, similar to some aspects of the Code for Sustainable Homes (CfSH) and BREEAM's Information Provision to End User credit, as guidance within Building Regulations Approved Statutory Guidance (Approved Documents) in Wales.

As part of this review, for questions 29-35 we have considered only those responses when determining overall percentages to those who have responded. We did this as we recognised that the majority of these questions which were left blank were done so because the consultees were not concerned, interested or have expertise in the area of information to end user but instead responded to the overall consultation to provide a comment on another topic.

Detailed below are the specific responses to each of the proposal questions which were put forward in consultation with regards to incorporating provision of information to end user into guidance. In the subsequent section following the summary of consultation responses is a government's response to address some of the key points made in the consultation, as well as an outline of the next steps.

Q29 asked if respondents agreed that there is a need for SMEs to provide more information to the end user for domestic properties.

- a. The majority of respondents (80%) answered in support. Among those in agreement included a range of industry sectors, those in disagreement included Building Control Bodies and one House Builder (another House Builder to respond was in agreement).
- b. Nearly all respondents that commented on the question noted the importance of information to the end user, notably information that is relevant to the home.
- c. Respondents that disagreed noted this could have a detrimental impact on the business environment for SME House Builders. Another concern was raised that information packs are often too complicated.
- d. Several respondents identified that this should not be limited to just SMEs but applied universally to all housing developers regardless of their size. One respondent recommended that a review is undertaken on the suitability of the information provided by the major House Builders.
- e. The type of information (that is comprehensive and specific information) and the format in which it is supplied was cited by many as important to ensure valuable information is provided to the homeowner.

Q30 asked if respondents agreed that an advisory route, as opposed to regulation, would be the best option to encourage the provision of information to the end user.

- a. Again the majority of responses (77%) were in support of the decision to follow an advisory route rather than regulation. As with Q29, the same two Building Control Bodies disagreed, as did a member of competent person schemes, a designer/engineer and an individual respondent.
- b. Those in support note that guidance will encourage housebuilders to provide Home User Guides (HUGs) and a regulatory route would be resource heavy.
- c. The prevailing comment from those that disagreed was that if this was not mandatory then information would not be provided, noting that regulation is the only way to ensure consistent provision of information.
- d. Other comments include:
 - i. Consideration should be made for provision of information for a retrofit of existing buildings (such as information on new energy efficient installation and measures) but this was outside the scope of this review.
 - ii. It was recommended that a HUG could be part of conveyancing process during the sale of a property.
 - iii. Monitoring should be undertaken to ensure adequate and accessible information is provided. If the guidance route is ineffective, the government should consider introducing the requirements into regulation.

Q31 asked if respondents agreed that the creation of a template guide would help SMEs and improve the consistency and quality of information provided to the end user.

- a. All respondents (100%) agreed with the provision of a template guide.
- b. Some key comments received note that:
 - i. A template would allow information to be more user-friendly.
 - ii. Good clear guidance would encourage take up.
 - iii. Guidance should be non-restrictive and allow innovation.
 - iv. Actions should be made to make SME's aware of a template.
 - v. Accessibility to the information should not be limited to a digital only solution and hard copies should also be required.
- c. It is recommended that the template is split into two parts; part one would cover mandatory information that is directly controlled by the developer; part two would be voluntary covering other useful information about the wider area.

Q32 asked if respondents agreed that the topics highlighted should be included within any potential Home User Guide template.

- a. The majority of respondents (90%) were in favour of the topics identified.
- b. Some respondents identified other topics that should not be included in the HUG template, including; local authority collection and recycling facilities.
- c. It is recommended that information is provided via reference links to appropriate sites where more information can be found.
- d. In addition to the topics highlighted in consultation, other respondents identified the following topics for inclusion:
 - i. Details and contact information for the company that built the property
 - ii. Warranty information – who its provided by, for how long and what's covered
 - iii. External and internal specification items – bricks, roof tiles, kitchen and bathroom fittings etc.
 - iv. Manuals for installed appliances – boiler, cooker, washing machine etc.
 - v. Information about the moving/legal process when buying a new home
 - vi. Living in and maintaining a newly built home – guidance & advice
 - vii. Utility providers & initial meter readings/references
 - viii. Energy information to include information on EST Energy Saving Advice Service
 - ix. Aspects regarding home 'comfort'
 - x. Security systems (Part Q)
 - xi. EPC rating
- e. It is recommended that design information included in a template should be checked by certified organisations that are familiar with standards for accessible information formats.

Q33 asked whether respondents agreed with the Welsh Government's position that due to the wide variety of size and uses of non-domestic buildings, generating a Building User Guide (BUG) template would not be feasible.

- a. Nearly all respondents (95%) agreed.

- b. Principal comments cited that information is already provided via other streams, such as Regulation 38, O&M manuals, and an additional BUG would add little value to the sector.
- c. The only respondent to disagree commented that the domestic market is in a similar position.

Q34 asked if respondents agreed with the Welsh Government's position that there is already enough information provided to the end user for non-domestic buildings.

- a. The vast majority of respondents (94%) were in favour and agreed there was adequate information for non-domestic buildings.
- b. The supporting comments include:
 - i. The sector is covered adequately by separate legislation and guidance.
 - ii. This is already an established and expected part of building commissioning.
- c. The respondent in disagreement felt there is not enough information regarding smaller systems such as door closes, locks, and windows latches.

Q35 asked if respondents believed that BIM could potentially provide a solution to the issue of providing information for the end user.

- a. In general there was strong support (89% in agreement) for the use of BIM.
- b. Respondents noted numerous benefits for incorporating BIM, including:
 - i. Easy identification of materials (notably façade glazing)
 - ii. Ease of updating throughout the buildings life, from construction to completion and later retrofits/modifications.
 - iii. Centrally stored information
- c. Other comments from respondents in support include:
 - i. Evidence would be needed in order to understand the cost implication.
 - ii. BIM is more suitable for non-domestic buildings but not appropriate for householders.
- d. Those against the use of BIM noted it was not appropriate to implement at this time. While some respondents who agreed BIM could be used noted it may be more feasible to implement in the future but the current market is not ready.

Government response, summary and next steps

Generally, the consultees appeared to be in agreement with the proposals relating to the provision of information, and in particular the need for SME's to provide more detail in relation to domestic developments. Those who disagreed noted information packs were already complicated and this proposal would worsen the business climate for SME's.

As identified in the consultation responses, additional paperwork processes could put pressure on smaller businesses; however it should be noted that the proposals will be supported by guidance and templates to ease this process. It is also considered that the benefits of providing more information to end user will outweigh any minor impacts to SMEs, as indicated by the high rate of support received from consultees for the proposal.

Previous research undertaken found that SME's use a less consistent approach to providing information to end user. It is also considered that more material, guidance and templates are required to support their back-of-house processes in producing such paperwork. Nonetheless, the outcome will be available for all sized companies. Major house builder's information packs were received as part of the review. Generally they provided information that was concise and easy to follow, however the content often lacked specific details to inform the end user of sustainable functions of a particular home.

While a "Home User Guide" (HUG) would be useful in the handover of the property, at this time it is not considered feasible to include any future HUG as part of the conveyancing process

At this stage the HUG template is envisaged to act as a guidance document, while the minority of consultees considered a mandatory route would be more effective in ensuring the uptake of a HUG. It is intended that the uptake of the HUG through guidance will be reviewed following its implementation as guidance to assess whether a regulatory route would be beneficial.

The consultees largely agreed that a HUG template guide would help SME's and it would provide a list of proposed topics for inclusion. The feedback received from consultees on the topics for inclusion within the potential HUG template will be taken into account during its creation. We recognise the importance of energy performance and this will be a key topic for consideration. It is also acknowledged that the regulatory standards a house has been built to (e.g. Part L1A 2010) should be considered.

The majority of respondents agreed that BIM may be a potential solution, however, it is noted that this may not be so appropriate for domestic buildings or SME's at this time.

Based upon the responses received it is intended that a HUG template be developed for use on a voluntary basis. It is intended that its adoption be reviewed further down the line.

Development of the template will consider the following:

- The template should be developed in a suitable format that enables information to be readily accessible to end users..
- Further consideration should be given to other topics for inclusion in a domestic Home User Guide (HUG) template, such as:
 - a. Details and contact information for the company that built the property;
 - b. Warranty information – who its provided by, for how long and what's covered;
 - c. External and internal specification items – bricks, roof tiles, kitchen and bathroom fittings etc.;
 - d. Manuals for installed appliances – boiler, cooker, washing machine etc.;
 - e. Living in and maintaining a newly built home – guidance and advice;
 - f. Utility providers & initial meter readings/references;
 - g. Energy information including sources of advice (Energy Saving Trust and Resource Efficient Wales);
 - h. Aspects regarding home 'comfort';
 - i. Security systems (Part Q);
 - j. EPC rating; and
 - k. Radon Gas Testing.

In relation to the non domestic sector there are no proposals to introduce any changes to the "Information to the End User".

Part Q – Residential Security

The Welsh Government is proposing to introduce a mandatory security standard to enhance residential security in Wales. The consultation initially considered if introducing a mandatory security standard was necessary, and, if so, what would be the most cost effective approach to implement the standard in new developments.

The mandatory standard was based on the provisions of the British Standard PAS 24, the well established industry standard which sets out standards for doors and windows, including tests and specifications for locks as well as the robustness of the doors and windows themselves.

The Welsh Government is considering the introduction of a mandatory standard through Building Regulations to target the hardening of windows and doors for new dwellings.

Currently, there are no requirements within Building Regulations for residential security. However, the Building Act (as amended by the Sustainable and Secure Buildings Act 2004) gives Welsh Ministers powers to make regulations for this purpose.

Q19 asked if respondents consider the current industry practice in Wales for windows, doors and locks in new dwellings are sufficient to address residential security in Wales.

- a. Only 10% of respondents agreed that the current industry practice in Wales was sufficient in addressing residential security, 55% felt further guidance was necessary, 35% did not respond to this question.
- b. A respondent felt improving standards will improve crime figures in Wales and will be less likely to be a dumping ground for lower quality products of doors and windows.
- c. Secured by Design (SBD) is a requirement Registered Social Landlords (RSLs) must adhere to when developing new build housing. However, this requirement does not apply to private developers.
- d. Currently in Wales via the Welsh Government's Development Quality Requirements (DQR) for the social rented sector, the doors and windows provided and installed in grant funded developments must meet the SBD standards, for example, PAS 24 2016 or equivalent.

Government Response

The Welsh Government considered the responses and did not find a compelling argument against introducing a mandatory standard to enhance residential security in Wales. The majority of respondents to this question felt that further improvement was required on the current industry practice in Wales.

Q20 asked respondents consider due to the recent changes in England in relation to residential security, current Scottish standards and Secured by Design National Building Approval, did they think it is sufficient for the Welsh Government to provide guidance for residential security and not introduce a mandatory standard.

- a. Of the respondents only 10% agreed to the provision of guidance for residential security rather than implement a new security standard, 65% felt further guidance is not necessary as this is likely to cause confusion within the industry, 26% did not respond to this question.
- b. Guidance is not mandatory so maybe overlooked by organisations.
- c. A minimum standard should be in place for all aspects of the construction industry to follow.
- d. If mandatory standards are not introduced there is a risk that many house builders will continue to install poor quality doors and windows.
- e. Developers on a site where they are obliged to fit SBD standard security to social housing, often supply inferior products across the rest of the site. Guidance on police approved minimum security levels are often ignored where developers do not have to comply with the standards.

Government Response

Respondents felt that introducing guidance instead of legislative change would not improve the current industry practice and as such the Welsh Government will not look to develop guidance outside of that that would be introduced within Approved Documents Q which will accompany any legislative introduction of a mandatory standard to enhance residential security in Wales.

Q21 asked respondents consider due to the decrease in domestic burglary do they agree there is a need of a mandatory standard in Wales for windows and doors for new dwellings.

- a. Of the respondents 68% agreed to the introduction of a mandatory security standard in Wales for new dwellings, 10% a standard was not necessary, 23% did not respond to this question.
- b. The mandatory security standard for windows and doors for new dwellings in Wales are designed to help prevent burglaries, however has had unintentional positive benefits in relation to the protection of people who experience hate crime.
- c. The result of making it more difficult for a burglar to enter a property has resulted in making it difficult for perpetrators of other forms of criminal activity and violence to gain unauthorised access in the home environment.

- d. Mandatory standards should be maintained as they have the potential to help protect the group who are the most significant risk, for example, the elderly or those who have a form of disability.

Government Response

The response to this question demonstrated that, of the responses received to this consultation, there is a requirement to introduce a mandatory standard in Wales for residential security. In considering the responses the Welsh Government did not find a compelling argument against introducing a mandatory standard to enhance residential security in Wales.

Q22 asked respondents do they agree introducing a mandatory standard through the Building Regulations is the best option.

- a. Of the respondents 71% agreed the introduction of a mandatory security standard through the Building Regulations was the most appropriate and sensible option, 6% though this options wasn't necessary, 23% did not respond to this question.
- b. Building Regulations is often referred to by professionals rather than referring to other forms of legislation outside of Building Regulations.
- c. A key point is to ensure consistency across the UK, options need to be installed that are accepted across the UK that will result in bespoke solutions for each country and not being developed making the solution less costly.
- d. Security requirements should form part of the Building Regulations to ensure consistency for all home owners, with all new houses being built to the same security standards. This enables manufacturers to supply similar products to all the countries within the UK operating the same requirements.

Government Response

In agreeing with the proposals for a mandatory standard under question 21, respondents were in agreement that a mandatory standard should be introduced through building regulations. Where disagreement was voiced in relation to the use of building regulations as the legislative option there was no provision of an alternative and as such no compelling argument against introducing a mandatory standard to enhance residential security in Wales.

Q23 asked respondents if there is no need for a mandatory standard, what difficulties they think will be faced by house builders who work across borders in England and Wales adhering to differing standards.

- a. Developers will be faced with a difference in building regulation standards that will potentially have cost implications.

- b. There needs to be a consistent cross boarder approach in standards and regulation as this will have a significant impact on nationally operational companies and the supply chain.
- c. Differing standards will increase costs, however, the House Builders Federation (HBF) suggest the impact on the major house builders will be minimal, but may have a bigger impact on the SMEs.
- d. Once existing housing stock has depleted, the larger house builders may see this as an opportunity to improve standards to ensure they have a consistent approach on the design of all their properties.

Government Response

Respondents felt that there would be the potential for higher cost implications in Wales and a difference in approach to standards and regulations would have a bigger impact on SMEs in Wales. Introduction of a mandatory standard in line with that already introduced in England for unauthorised access would maintain a level of consistency of approach for companies operating in Wales and England.

Q24 asked respondents if they agree with the inclusion of external security lighting as part of the mandatory standard.

- a. Of the respondents, 45% agreed to the inclusion of external security lighting should be included within the mandatory standard, 23% thought this options wasn't necessary due to the lack of statistical evidence that additional lighting reduces crime, 32% did not respond to this question.
- b. Diversity in regulation leads to difficulty with compliance, there should be consistent requirements applied throughout the UK.
- c. Mandatory lighting on the elevation with external access is not a contributory safeguard against burglary and the physical security of the building fabric.
- d. The inclusion of lighting in the mandatory standard has the potential to increase accessibility for people with visual impairments.
- e. Organisations with expert knowledge in accessibility and visual impairment should be consulted further in relation to the detail of the consultation proposal.

Government Response

The Building Regulations team has had internal discussions with other Welsh Government departments such as the Welsh Housing Quality Standards (WHQS) team and the Local Environmental Quality teams to consider the comments and the issues surrounding external lighting. Based on the outcome of the discussions, the Welsh Government has liaised with external stakeholders such as Secured by Design (SBD) and the RNIB.

Q25 asked respondents to consider if there other elements that should be considered as part of the mandatory standard such as third party certification.

- a. Of the respondents, 26% agreed that third party certification should be considered as part of the mandatory standard, 42% thought this option is not necessary, 32% did not respond to this question.
- b. Respondents felt the Welsh Government should not included third party certification as a mandatory standard due to the potential increase in cost against limited market choice.
- c. Other respondents suggested third part certification is a way of ensuring compliance has been demonstrated covering a range of products supplied. However, there is the potential of limiting innovation as new materials and products would not be able to comply until they are included within standards.
- d. There has always been a resistance to mandating third party certification in approved documents.
- e. It has been suggested the Building Regulations team need to consider the inclusion of burglar alarms as part of the mandatory standard.
- f. Third party certification ensures doors and windows are manufactured correctly and processes are inspected. The police force has indicated previously allowing the construction industry to self certify can lead to sub standard products being installed.
- g. Third party certification has the potential to be an expensive process and this would have detrimental effect on SMEs to service the market.

Government Response

There is insufficient evidence advising the Welsh Government should seek to introduce third party certification as part of the mandatory standard. The majority of respondents felt the current legislation as adopted in England is sufficient. If third party certification is introduced this may have a financial burden on the industry.

Q26 asked respondents if they agreed that market forces for new build properties will inform the replacement market and encourage manufacturers to start to develop the changes in the product developments and specifications for residential security.

- a. Of the respondents, 42% agreed manufacturers should start to develop and incorporate the changes in the product developments and specifications for residential security ensuring a standard is maintained, 26% disagreed with this option, 32 % did not respond to this questions.
- b. Some respondents felt although awareness will increase in the replacement market, there is a concern the quality product cannot be guaranteed to that already in existence.

- c. If regulations are introduced in the new build sector, where retrofit is not required, the market has the potential to become a dumping ground for products that do not comply with current regulations.
- d. If no mandatory standard is implemented not all developers will maintain a high standard if this has a significant impact on profit.
- e. The consumer should be made aware of improving standards in new build properties and the increased benefits linked to the product. This will create an expectation in the replacement market where consumers expect to see the same products manufactured to the same standards.
- f. A test study could be introduced to assess the replacement market to determine if standards are maintained.

Government Response

The responses to this question were split on whether or not the requirements for the new build market would inform the replacement market. If no standard was introduced for the replacement market then some respondents felt that it could become a dumping ground for products that do not meet the standards for new build. It was felt that there would need to be more studies and testing of the replacement market by the Welsh Government to determine whether or not a mandatory standard should be introduced, in time, for the replacement market.

Q27 asked respondents for view on the practicality of regulating the replacement windows and doors sector for security standards in existing dwellings.

- a. Respondents have suggested the practicality appears favourable; however, it will have an impact on consumer costs.
- b. The regulation process could be addressed by including a requirement for self certifications carried out within the Competent Persons Scheme currently in place to potentially oversee the replacement market.
- c. Should this process be implemented, adequate time for the introduction of the new regulations should be given to allow manufacturers the time to re-design their products to suit the market requirements?
- d. FENSA and building control departments already cover replacement windows; This would be the most viable solution as there will be very little impact on additional cost.
- e. Further consultation from industry experts should be sought.
- f. The market is very wide and fragmented, it is served by a large number of SMEs and their ability to address issues like third party certification could be limited.
- g. Fabricators may be able to use test data from system manufacturers but they do not currently employ third party certification schemes.

- h. Having substantially differing regulations within the UK would create additional confused and may have an impact on the quality of the products produced and installed.
- i. Consumers can choose security features should they wish, manufacturers could apply them as a unique selling point. If this is enforced the security requirements would be notified in the industry by self certification schemes. This will increase complexity of such schemes and their administration of existing dwellings.
- j. Existing dwellings in conservation areas do not lend themselves to being fitted with modern styles of windows and doors to incorporate security features.
- k. Due to the age of some of the existing dwellings in Wales, properties that are refurbished should have the same level of security installed as that of a new build property because an ageing property could attract crime.

Government Response

Similarly to Question 26, further consultation and studies with industry experts will be required to discover the potential impact on consumer and replacement industry costs.

Q28 asked if respondents agree there is a need to regulate security standards in the replacement market.

- a. Of the respondents, 45% agreed regulating the replacement market should be considered, 19% disagreed with this option due to difficulties of enforcement, 35% did not respond to this question.
- b. Respondents feel there needs to be some form of evaluation to ensure the quality of the replacement product is no less than that of a new build product where possible.
- c. If it is recognised that home owners having windows and door sets replaced have the right to expect similar levels of security to those living in new build dwellings.
- d. To minimise regulatory impact on the industry and burden on building control, the scope of the Competent Person schemes could be extended to include security.
- e. Further consultation from industry experts should be sought.
- f. New build properties will have enhanced security measures but the majority of the existing market would need sufficient time to encompass the products to benefit from the same levels of security.
- g. There is a wide variety of products supplied in the market, it would be beneficial to regulate the market but this would be very difficult to implement practically.
- h. The installation of enhanced security products should be regarded as a consumer choice.

- i. Currently there are numerous properties that have sub standards doors and windows installed when they are being refurbished. This increases vulnerability to burglary and other forms of domestic violence.

Government Response

Similarly to question 26 and 27, The Welsh Government should begin scoping the replacement market seeking to introduce a mandatory standard in Wales. Further consultation from industry experts will be required to discover the potential impact on consumer replacement industry costs, however, implementing a mandatory standard for the replacement market in Wales ensure a like for like refurbishment of door and windows in all existing dwellings.

Q54 Additional Comments

- a. Doors and windows that meet SBD standards i.e. PAS 24 2016 or equivalent are know to withstand attack. There is a Welsh Government requirement for doors and windows in new build social housing developments in Wales through Development Quality Requirements my achieve the Welsh Housing Quality Standard by 2020.
- b. The transitional provisions for Approved Document (AD) Q have not been outlined for the consultations. It is unclear from the proposals in the respect of the position of material change of use and the AD.
- c. The general consensus of respondents indicates the Welsh Government should seek to introduce a mandatory standard for residential security in Wales.
- d. A respondent recommends that any provisions are consistent with previous transitional provisions and are notified accordingly to enable the construction industry to make informed decisions of future developments.

Summary and next steps

In summary the majority of those who responded to the questions on introducing a mandatory standard were in favour of doing so as further improvement on the current industry practice in Wales was required to continue the reduction in unauthorised access to residential properties. Whilst there was a small minority of respondents opposing to the introduction of a mandatory standard, there was insufficient evidence to support the view not to implement the standard. The introduction of any mandatory standard should be introduced through building regulations legislative change accompanied with draft Approved Document Q that was with the consultation document, simply introducing non-statutory guidance without legislative change would not, as detailed by respondents, improve standards in Wales.

With regard to introducing security/external lighting as part of the mandatory standard some respondents felt this went further than what is currently required in the rest of the UK and, unlike standards for door and window locks, a homeowner could replace the fitting, change

the bulb or not use the lighting provided. Respondents in favour agreed that it may deter opportunist thieves and was an addition to improving the security of the home. Involvement of external organisations such as the RNIB, lighting manufactures, experience of RSL for social housing would be needed and as such the Welsh Government will therefore consider the implementation of security/external lighting further before including lighting as part of the requirement of Part Q.

There was support for considering the replacement windows and doors as a potential area for consideration in the future due to it being a larger market than the new build although at this stage the Welsh Government is not considering implementing a standard for replacement windows and doors.

Life-cycle Environmental Impact

The consultation covered the proposed non-regulatory actions related for Life-Cycle Environmental Impact, as a means of progressing towards the standards set out in CfSH and BREEAM. The following section of this report details the specific responses to each of the proposal questions which were put forward in consultation with regards to Life-Cycle Environmental Impact.

Q36 asked respondents whether they believed that mandatory labelling of products based on LCA data should be envisaged.

- a. Respondents generally agreed that issues currently associated with LCA are so significant that mandatory product labelling is not preferable at this stage.
- b. A minority of respondents stated that they would like to see mandatory product labelling implemented but did not comment further.
- c. Most respondents pointed out that the most important factor currently limiting the development of LCA is that EPDs do not allow reliable comparison between products.
- d. There was a general agreement that the reasons behind this lack of comparability lies in the differences between datasets and lack of data associated with the 'in use' phase in the context of an actual building.
- e. A manufacturer agreed that current LCA standards do not allow reliable comparison between products due to lack of 'in use' data and inconsistencies between datasets. The manufacturer advises to wait until a harmonized methodology is developed.
- f. Voluntary labelling is perceived as a potential improvement but does not solve the existing issues associated with the lack of comparability between products. A manufacturer described the burden caused by having multiple LCA schemes and regulations across the different Member States, particularly for SMEs.
- g. A trade alliance raised concerns about the lack of understanding of LCA, which can potentially be misleading for consumers selecting materials.
- h. A manufacturer trade body pointed out that EPDs do not take into account the context in which a product will be used. EPDs are not intended to be used for comparison between products in the context of an actual building. Mandatory labelling would lead consumers to make such comparisons, which would only provide misleading results. The trade body also described a number of issues associated with EN 15804 and particularly the variations in the assessment methodology around the end of life period. The trade body concluded that these issues will need to be addressed before any mandatory labelling is implemented.

- i. A research organisation claimed that EPDs are currently a widely accepted means for communicating harmonised LCA data and urged WG to support EPDs in the construction industry. They did not express concerns regarding the comparability of products, discrepancies between datasets, lack of consideration for 'in use' period, or difficulty to interpret LCA data.

Q37 asked respondents to comment on the commercial benefits of offering an EPD compared to the cost of performing the assessment.

- a. Most non-manufacturer respondents did not feel they had enough experience to comment.
- b. Respondents linked to manufacturing organisations unanimously answered that the commercial benefits of offering EPDs does not outweigh the cost of performing the assessment.
- c. Most respondents commented that EPDs are generally used as part of a procurement checklist (tick-box exercise), irrespective of any environmental performance consideration.
- d. Some respondents seem to believe that commercial benefits will be gained when a system is developed to reliably compare products.
- e. A manufacturer responded that the commercial benefits do not outweigh the cost of developing an EPD at this time. Individual consumers have limited awareness of LEED and BREEAM, and larger projects do not seem to be driving the market for EPDs since they only ask for them as a tick-box exercise.
- f. A local authority confirmed that customers are showing very little interest for EPDs.
- g. Two trade organisations also reported that EPDs are often used as part of a tick-box exercise.
- h. The BRE research organisation believed that offering EPDs provides a commercial advantage that justifies the investment.

Q38 asked whether respondents were aware of concrete improvements brought to a manufacturer's supply chain following a life-cycle assessment.

- a. Most respondents did not feel they had enough experience to comment.
- b. Some respondents believed that LCA usually only confirms what a manufacturers already knows about a supply chain.

- c. It has been reported that LCA and EPDs in particular have led to a better understanding of environmental impacts; however it does not necessarily lead to improvements.
- d. A manufacturer answered that LCA usually confirms what a manufacturers already knows about their supply chain. The manufacturer also claimed that the assumption that a supply chain can be improved as a result of a life-cycle assessment is often exaggerated.
- e. A research organisation mentioned that LCA can be a good way to identify 'hot spots' in the production process that can be improved as a result of the analysis. According to BRE, these can translate into measurable financial savings.

Q39 asked respondents whether they were fully aware of the limitations associated with LCA before reading the review.

- a. The majority of respondents did not fully understand these limitations prior to reading the report. This confirms the assumptions made that LCA and its associated limitations are not well understood.
- b. Respondents emphasised that the industry would certainly benefit from gaining greater understanding of LCA.
- c. It was generally agreed that the industry should aim to gain better understanding of the benefits and adequate use of LCA data.
- d. Respondents often highlighted the risk associated with incorrect interpretation of LCA data and inadequate use for product comparisons.
- e. A manufacturer agreed with the claims made in the review report and emphasised the need to raise awareness of the benefits and limitations of LCA within the construction industry.
- f. A trade organisation highlighted the specialist nature of LCA and the difficulty to translate the data into useful information for the general public.
- g. The BRE research organisation believes that improvements to LCA standards and understanding have largely overcome these limitations.

Q40 asked respondents whether they believed that there is a need to research, quantify and improve the accuracy of the results of LCA.

- a. A vast majority of respondents believed that further research is needed to demonstrate and quantify the benefits of LCA.

- b. There is a general agreement that this research should be carried out at European level and not necessarily initiated by Wales.
- c. Some respondents expressed a desire to see further investigation into 'in-use' and 'end of life' periods.
- d. This led to questions being raised regarding the bigger issue of promoting investments without solid evidence that these will lead to quantifiable improvements to the built environment.
- e. A manufacturer believed that further research into disparities between the different datasets was necessary and added that this research should be done at a European level. The manufacturer also mentioned the need to investigate and quantify net environmental benefits, taking into account environmental impact for the manufacturing period as well as the 'in-use' and 'end of life' periods. A manufacturer emphasised the importance of the 'in-use' and 'end of life' periods for any meaningful comparison between products.
- f. A professional body pointed out the general lack of solid research and measured data to support investments in the built environment.
- g. A trade body also expressed concern that the 'end of life' period is insufficiently considered as part of the EPD process, thereby significantly reducing the value of EPDs.
- h. The BRE research organisation believes that concerns surrounding the accuracy of the results are not significant enough to be seen as a barrier to promoting LCA and EPDs.

Q41 asked respondents to give their opinion on the role the Welsh Government should take in sponsoring such research.

- a. A number of respondents expressed their view that the Welsh Government could fund research into LCA.
- b. A majority of respondents agreed that research should not be done in isolation but as a joint effort involving the UK and European Union.
- c. It has been noted that any research should be done in an independent and transparent manner with the aim of minimising the risk of a conflict of interest.
- d. The Welsh Government should clearly identify the expected outcome of such research prior to moving forward with this initiative.
- e. A manufacturer suggested that the Welsh Government keep monitoring the progress of currently ongoing initiatives at European level while potentially working with the UK Government to lead a proposed LCA study.

- f. A professional body believed that the UK Government could promote research through incentives for local businesses organised in 'clusters' in key regions.

Q42 asked whether respondents believed that unregulated and unfounded environmental claims are an obstacle to the promotion of truly sustainable products.

- a. A majority of respondents agreed that unfounded environmental claims can be an obstacle to the promotion of sustainable products.
- b. Some respondents explained that even founded environmental claims such as EPDs have limitations that can lead to the wrong product being promoted.
- c. A respondent explained that even founded environmental claims can be an obstacle to the promotion of sustainable products if they are only provided as part of a 'box-ticking' exercise.
- d. A manufacturer (respondent 6) pointed out that while EPDs are considered 'founded' environmental claims, their lack of reliability and comparability constitutes a major issue that could lead to similar issues as unfounded claims, with the selection of products based on inaccurate assessment of environmental impact.
- e. A research organisation believed that the standards governing EPDs such as EN 15804 provide a reliable framework and are the answer to this issue.

Q43 asked whether the environmental impact of new buildings compared to refurbishments is sufficiently considered in the decision making process.

- a. A majority of respondents believed that the environmental impact of new buildings compared to refurbishments is not given sufficient consideration.
- b. It was generally established that the decision to proceed with new build or refurb is based on cost rather than any other consideration.
- c. Refurbishment was identified as a very important way to reduce environmental impact that does not receive sufficient consideration.
- d. It appears the market is slowly evolving on this issue as more people become aware of the increased environmental impact of new buildings.
- e. A local authority mentioned the National Trust for Historic Preservation study referenced in the first Review Paper. This study highlights the very significant environmental impact of new construction compared to refurbishments.
- f. A trade alliance suggested that market forces can drive this process without further need for regulation.

- g. A house builder organisation explained that different builders will have a different opinion on this issue on a case-by-case basis. This comment would suggest that the industry does not have the tools and/or knowledge to reliably assess and compare the environmental impact of refurbishments against new builds.

Q44 asked respondents to give a list of the three most important factors driving the decision of whether to refurbish an existing building or build a new one.

- a. The single most important factor identified was cost.
- b. Historical significance and conservation status, along with time to complete the project were also shown to be major factors.
- c. Environmental impact, including energy efficiency was only identified as a factor by a minority of respondents. Even in these cases, environmental impact was not put forward as the most powerful factor.
- d. A local authority ranked the three most significant factors by order of importance as follows: cost, fitness for purpose, environmental impact. This view seems to be generally shared by most respondents with minor variations. In some cases, environmental impact does not seem to be part of the three main factors at all.
- e. The Energy Saving Trust claimed that the potential for energy savings and provision of renewables are the two most important factors driving the decision to proceed with a refurbishment or new build. While interesting, this view doesn't seem to be shared by any of the other respondents

Government response and next steps

The consultation revealed that a majority of respondents agreed with the consultation analysis and proposals. It is generally acknowledged that LCA lacks maturity and presents significant issues that preclude a regulatory approach at this moment in time. In spite of this general view the research organisation's responses expressed their support for LCA along with a regulatory approach.

However, there was a general agreement among the other respondents that the most important issue lies in the uncertainty associated with the results of a life-cycle assessment, mainly due to the use of third-party datasets and lack of focus on the 'in-use' phase. This lack of certainty on the results renders any comparison between products highly unreliable and therefore prevents LCA from becoming a driver for supply chain optimisation. It was generally agreed that a regulatory approach cannot be justified at this moment in time due to significant cost implications for the industry and a lack of clear benefits.

A majority of respondents agreed that further research was needed to improve LCA processes to overcome some of its limitations. Respondents generally felt that such

research should be carried out at European level and pointed out that any initiative taken by the Welsh Government should not go against or duplicate the work done at European level.

To ensure this will be the case, and once the implications of Brexit on technical standards and construction products is understood, the Welsh Government will engage with European Commission to understand what role Wales and the Welsh industry can play in the development of the new PEF LCA methodology. It will be beneficial that any work in this sense should be done in collaboration with the UK Government; therefore, the Welsh Government will take steps to liaise with the UK Government to understand what is being done at UK level and find out how Wales can play a more active role. Welsh government will look for opportunities to engage Welsh manufacturers and the Welsh construction industry in general as they would also benefit from being pro-actively involved in this process.

Responsible Sourcing of Materials

This consultation included a review of existing relevant standards, guidance and policies, that could potentially be adopted by Welsh standards, by way of incorporating the BREEAM and CfSH requirements into the Welsh Building Regulations. This included current British Standards, various responsible sourcing certification schemes for construction products used around the world and international guidelines on environmental and social responsibility.

Detailed below are the specific responses to each of the proposal questions which were put forward in consultation with regards to incorporating responsible sourcing of materials into guidance. In the subsequent section following the summary of consultation responses is a government's response to address some of the key points made in the consultation, as well as an outline of the next steps.

Q45 asked respondents if they agreed that, at this time, it is not practical to introduce responsible sourcing regulations for Wales.

- a. The responses unanimously agreed that it is not practical to introduce regulation at this time. The general feedback from respondents was that the requirements of responsible sourcing certification schemes are too onerous, especially for SMEs.
- b. There was also a view expressed that large contractors, supplier and manufacturers would have a competitive advantage over smaller companies who do not have a full understanding of responsible sourcing.
- c. Some respondents have suggested that if more information was available on responsible sourcing, steps could then be taken towards regulating the issue.
- d. There is a feeling that responsible sourcing of materials is still a relatively new concept to many in the industry, and before it can be written into regulations it first must become normal practice.
- e. The British Woodworking Federation is of the opinion that the Government needs to encourage the use of genuinely low impact materials that are appropriate to an individual project's needs. They think that if there is to be regulation, then there should be a level playing field for SMEs, micro-businesses and national suppliers alike.
- f. The BREA research organisation stated that regulation is simply too blunt a tool for responsible sourcing which is in its infancy across some materials sectors albeit growing in take-up; there is excellent coverage for aggregates, concrete and plasterboard. They feel strong advocacy is a preferred route.

Government response

While respondents agreed at this time it is not practical to regulate, it is intended to follow up with the British Woodworking Federation to find out their views about how the Government may be able to encourage the use of low impact materials. Similarly, it could be useful contacting the research organisation to gain further details on what stronger advocacy would involve in their eyes.

Q46 asked respondents in their view are the biggest barriers to introducing responsible sourcing regulations for Wales.

- a. The respondents gave a mixture of different reasons as to what they felt the biggest barriers to regulation were.
- b. One reason given was that SMEs do not have the financial resources to pursue responsible sourcing certification.
- c. Other responses also cited the limitations of SMEs, referring to the fact that many companies lack the time and infrastructure capacity required to maintain an organised database for all relevant documentation.
- d. Some respondents pointed out that there is simply a lack of demand for responsible sourcing certification from clients in Wales. To add to this, there are only a small number of large builders operating in Wales on a regular basis, which means of awareness of the issue may not be high.
- e. A trade association stated that they feel some responsible sourcing schemes overly reward having management systems in place, which can be a barrier to sustainable products supplied by SMEs. They believe it is crucial that more emphasis be placed on how energy intensive manufacturers are. This way they feel that larger, more energy intensive manufacturer's would not be favoured over small low-Carbon manufacturers.
- f. The BRE research organisation have stated some product groups are well progressed in terms of certification for responsible sourcing, however many are not. They provide examples of schemes for radiators, air conditioning and paints; these are beginning to create a greater swell of activity in some sectors. They advise that stronger advocacy stopping short of regulation would be more suitable.

Government response

It may be practical for future regulations aimed at addressing responsible sourcing to look at ensuring a level playing field between smaller and larger manufacturers in terms of the overall environmental impact. This consultation was however based on responsible sourcing schemes as they currently exist.

We will discuss with the specific respondent what non regulatory advocacy might be practical.

Q47 asked respondents if they agreed that, at present, many SMEs would find it difficult to comply with responsible sourcing regulations if they were produced, it also asked respondents if regulation disadvantage smaller SMEs.

- a. The responses to this question were very similar to the ones given in the previous questions. Almost all respondents that SMEs would be at a disadvantage.
- b. A number of respondents once again stated that SMEs do not have the resources to pursue responsible sourcing certification.
- c. Others once again highlighted that responsible sourcing requirements are simply too onerous and time consuming for SMEs to complete.
- d. The issue of responsible sourcing schemes placing too much emphasis on having management systems in place was once again raised. The use of LCA data was suggested as more suitable method for determining if a product is suitable for use.
- e. The BREIA research organisation was the only respondent to not completely agree that SMEs would be disadvantaged by regulation. They claimed to have experience where SMEs have been able to achieve responsible sourcing certification quicker than larger companies. They state that this has occurred in instances where the management at an SME has given direct instruction to the business to achieve such recognition, meaning that they can be more agile in complying with the requirements.

Q48 asked respondents what would be the best method(s) of raising awareness of responsible sourcing amongst SMEs and if they be able to provide any examples.

- a. The respondents provided a variety of examples in response to this question.
- b. There was a suggestion of a voluntary responsible sourcing code being introduced which would recommend using certain government approved products. There were no further examples of how this would be implemented though.
- c. One method proposed was for trade associations to play a role in raising awareness amongst their SME members and other SMEs in the supply chain.
- d. There is a concern though, that even if awareness of responsible sourcing was raised amongst SMEs, this would not remove the cost or resource barriers previously discussed once the requirements are understood.

- e. In addition to these methods proposed, some of the respondents provided examples of schemes and initiatives which could help to raise awareness of responsible sourcing in Wales. The Building Alliance states that events and web promotion of case studies and industry initiatives can be run. Once such initiative that they name is their REAP programme. A trade association is a member of the Aluminium Stewardship Initiative, which is working towards a responsible sourcing certification scheme for aluminium products. A research organisation is a partner of the Supply Chain Sustainability School which has been established for a number of years and provides access to training on a range of sustainability issues to the construction supply chain. They also promote responsible sourcing activities through the Apres network.
- f. In a slightly different approach, a manufacturers umbrella body has suggested that the Government introduces 'soft legislation' by way of a 'Code of Responsible Sourcing'.

Government response

The schemes and initiatives referred to warrant further investigation in order to determine what awareness raising of responsible sourcing amongst SMEs might be practical to the point where regulation becomes more realistic. It is not proposed to address this within this review but to take up with respondents separately.

The product manufacturer umbrella body's suggestion that the Welsh Government introduces 'soft legislation' by way of a 'Code of Responsible Sourcing' is interesting in principle and will be separately followed up with that organisation.

Q49 asked respondents if more could be done within the industry to create guidance on achieving responsible sourcing certification and if they could give examples.

- a. There was an almost unanimous agreement in the responses that more guidance could be provided within the industry on achieving responsible sourcing certification.
- b. However the point was made that this, as with raising awareness, would not remove the cost and resources barriers for a lot of smaller companies.
- c. The BRE research organisation was of the opinion that achieving certification can be straightforward, but many other respondents are of the opinion that the process is simply too onerous for many companies, no matter how much guidance they receive.
- d. An argument was raised that if responsible sourcing regulation is to become realistic, guidance should be provided at UK level and not just in Wales.

Government response

There appears to be a common view across all sectors of the industry that more guidance will not remove the other barriers to achieving responsible sourcing certification. The Welsh Government will consider the need and benefit of further guidance and whether any action warrants a response beyond Wales.

Q50 asked respondents if they agreed that scaling back responsible sourcing requirements for SMEs would make creating new regulations more practical.

- a. There was a common view amongst the respondents who provided a comment to this question that scaling back any regulations for SMEs would not be a viable option.
- b. Some of these stated that although scaling back regulations for SMEs would be a benefit to them, the roles could be reversed, with larger companies being at a disadvantage by the requirements they have to meet, compared to the rest of the market.
- c. There is a prevalent opinion in the comments that any new regulations should apply across the whole industry, and that having different rules for different companies will make complying with responsible sourcing schemes even more complex.
- d. An example was given of the simplified procedures that have been introduced to the EU Construction Products Regulations, but few CEN technical committees are able to translate these at a practical level in the harmonised European Norms.
- e. It seems that some organisations in the industry do not support scaling back responsible sourcing regulations for SMEs only. There is a feeling that this will actually shift potential disadvantages to larger companies, which will mean that there still won't be a level playing field.

Q51 asked respondents in terms of market competitiveness within the industry, do they feel the approach outlined above would reduce the gap between large and small companies, or shift the disadvantages to the larger companies.

- a. The majority of the comments provided for this question actually said that scaling back the impact on SMEs of any proposals for regulations would reduce the gap between these companies and larger organisations.
- b. Some of the respondents have claimed that many larger companies do not find it difficult to comply with responsible sourcing standards; therefore they should also find any new regulations straightforward to meet as well. If the requirements were made simpler for SMEs, this would reduce significant cost and time they many would not be able to afford.

- c. It was suggested that consultation should take place between the Government and bodies responsible for managing responsible sourcing schemes to help find a way of creating different levels of requirements.
- d. A couple of respondents highlighted that this would help smaller contractors in particular, as it would prevent them from having to divert resources to chasing responsible sourcing documentation from their supply chain.

Government response

The differing responses received reflect the different circumstances of individual organisations/companies. What is likely to dictate a company's answer, is their past experience with achieving responsible sourcing certification and how straightforward or complex they found the process. Before any 'two-tier' approach could be developed much more research is needed into whether or not this would create a distinct competitive advantage for certain companies over the rest of the market. No action is proposed at this time.

Q52 asked respondents to the best of their knowledge; if they felt there is too much 'red tape' which can interfere with achieving responsible sourcing certification.

- a. The respondents were almost unanimous in agreement that there is too much 'red tape' when it comes to achieving responsible sourcing certification.
- b. Some respondents have stated that this is hard to avoid due to the amount of information required for achieving certification.
- c. It is a common opinion that the process of collecting all the required documentation is very onerous, costing significant financial and human resources.
- d. Multiple comments have suggested that adopting a digitised system for recording this data would save both time and resources.

Government response

A feeling across industry that there is too much 'red tape' interfering with responsible sourcing certification. This is not an issue that the Welsh Government can address directly. It is proposed to engage with the bodies who manage the responsible sourcing schemes to see what opportunities there are for adjusting the way information can be documented for the individual scheme.

Q53 asked respondents if in their opinion could major building suppliers and manufacturers do more to promote the use of responsibly sourced materials.

- a. There was largely an agreement that between the respondents that more could be done by major building suppliers and manufacturers to promote the use of responsibly sourced materials.
- b. Many comments stated that if the major building suppliers and manufacturers were at the forefront of this promotion, this would immediately assist in the process and eliminate time and human resources.
- c. However, some respondents highlighted the fact that promotion of responsible sourced materials cannot come from major manufacturers and suppliers alone, other areas of the industry must also contribute to this.
- d. For instance, a number of responses explained that if there was no significant 'pull' from clients wanting to use specific products that have been responsibly sourced, there would be little incentive for suppliers and manufactures to invest in responsible sourcing certification.

Government response

The responses to this question point to the fact that promotion of the use of responsibly sourced materials cannot just come from one sector of the industry. All stakeholders should contribute to this it is to become normal practice and possibly lead to regulation in the future.

A trade alliance suggested that the construction industry in Wales is 'wholly committed to doing the right thing' and more thought should be given to properly measuring the carbon impact of transportation in Wales. The ability for responsible sourcing to take account of transport emissions is linked to the issue of environmental assessment of products. It is not considered practical to address this issue at this time.

Q54 asked respondents to provide any additional comments that they may have.

- a. Four respondents provided additional comments
- b. The Building Alliance made reference to the Steel Industry issues, and said that in light of these issues more emphasis should be given by Welsh Government to encouraging the use materials produced in Wales and other parts of the UK. In general they advocate little or no changes to regulation and encourage and support industry to invest in market driven journey to better performing houses with consumers better informed and empowered to manage down their use of energy.
- c. The Construction Products Association have stated that introducing responsible sourcing regulation would be a good target, it would only be pragmatic to do this on a UK wide basis.

- d. The British Woodworking Foundation is of the opinion that in order to truly address the sustainability of construction products, the industry must fully account for embodied Carbon in products. They have provided a lot of information on this, so a follow up discussion with them would be very useful.
- e. RICS in Wales stated that any regulations that are considered above and beyond the standards required in the rest of the UK should be very carefully scrutinised from a cost perspective, as to not put Wales at a disadvantage compared with England. They repeated a view held by other respondents that it would be more suitable to introduce the regulations across the whole of the UK, or at least both England and Wales. They suggest that an alternative is for Welsh Government to provide funding / grant assistance in support of any Regulations which go above and beyond National standards.

Government response and next steps

This consultation included a review of existing relevant standards, guidance and policies, that could potentially be adopted by Welsh standards, by way of incorporating the BREEAM and CfSH requirements into the Welsh Building Regulations. This included current British Standards, various responsible sourcing certification schemes for construction products used around the world and international guidelines on environmental and social responsibility.

The consultation revealed that a majority of respondents agreed with the content of the consultation proposals. Respondents unanimously agreed that a regulatory approach to responsible sourcing was not preferable at this moment in time. The most important obstacle to regulation identified by respondents was related to the logistical and economic implications for SMEs against a lack of clear commercial benefits. It must be noted that the research organisation expressed their belief that SMEs would indeed benefit from taking part in responsible sourcing schemes. Most other respondents expressed a belief that achieving responsible sourcing certification was a very demanding process that requires significant resource and investment.

Respondents generally agreed that the industry would benefit from increased awareness of responsible sourcing. It was suggested that this could be achieved by working closely with trade associations to develop guidance documents. However, it was also noted that raised awareness would not overcome the financial and logistical barriers associated with responsible sourcing.

There was a mixed response regarding the suggestion of introducing a scaled back set of regulations for SMEs and more demanding ones for larger companies. Some respondents thought that this will reduce the gap between SMEs and larger companies with regards to meeting responsible sourcing requirements, while others felt this would shift the disadvantages to larger companies.

It is clear from the respondents, who were all unanimous in their agreement, that the construction industry does not feel that now is the right time to introduce regulation for

responsible sourcing of materials at this time. Despite this, there is still a good opportunity available to further promote responsible sourcing and the numerous schemes that certify products throughout the industry and therefore maximise the benefits this can bring. In order to achieve this it is proposed to consider how best to raise awareness engaging with current certification schemes, manufacturers, suppliers and contractors.

Create guidance and raise awareness

Clear guidance on responsible sourcing certification could be produced as part of awareness raising of the issue. A particular target audience of this should be SMEs. Without learning about the purpose behind third party responsible sourcing certification and the benefits it can bring, many companies could not hope to comply with any requirements within any future building regulations, which would have a severe detrimental effect on their business.

To help ensure effectiveness it would be very useful to engage with the organisations that carry out responsible sourcing certification as these parties have the most in-depth knowledge of the issue. This would allow them to provide advice on the best methods for achieving certification and to put forward the positive case that certification would benefit companies. Examples of organisations to engage on this would include the BRE, Forest Stewardship Council, PEFC, CARES and Groundwork Wales (for Green Dragon Certification).

In terms of raising awareness of this guidance and responsible sourcing certification in general, some respondents suggested that trade associations could be approached and asked for their assistance on this. Trade associations would be able to reach a wider audience within the industry and would be in a strong position to inform all of their members on the current responsible sourcing challenges facing Wales and the wider UK, as well as promoting the available guidance on achieving certification. Welsh Government will engage with relevant trade associations to see whether a concerted approach would be practical and beneficial.

Engaging with manufacturers and contractors

There has been a question raised as to whether this is an issue more relevant to contractors or one where the focus is more on manufacturers. Based upon the responses to this consultation and the type of respondents, the majority being manufacturers, it would seem that this is more of a manufacturer related issue. Responsible sourcing does of course have an effect on contractors. On the majority of projects they have the final input with regards to what materials are used in the construction of the building, and if there is a requirement to use materials which have responsible sourcing certification then they are responsible for collating this information from their supply chain. As mentioned throughout this consultation, this can be a time consuming and costly process. This may not be such an issue for larger contractors with adequate resources but it is an obstacle for smaller contractors, especially if the manufacturers in their supply chain are inexperienced when it comes to responsible sourcing certification and it may take them longer to provide the required information.

However, contractors do not actually have to seek certification themselves; they only need to collect the information from the supply chain. This means that if more of an emphasis was placed on enabling smaller manufacturers to put themselves in a better position to achieve certification and being able to organise and store the required documentation, this would make the process of collating the information much more straightforward for Contractors, particular smaller ones, therefore reducing costs.

Engaging with suppliers

The focus should not just be placed on manufacturers and it is important that we consider suppliers in this approach. Larger building merchants provide a selection of thousands of products from a large variety of manufacturers and smaller suppliers. They can play an important role in encouraging their supply chain to seek certification and can then advertise the selection of responsibly sourced products that are available to customers. The result of this should hopefully be that the contractors can approach these larger building merchants safe in the knowledge that they are purchasing products which have achieved responsible sourcing certification and have all of the documentation readily available. This would go a long way to eliminating concerns for contractors.