

Legislation Committee No.1

Response to the consultation on the Proposed Domestic Fire Safety (Wales) Measure

Home Builders Federation

CONSULTATION RESPONSE



Proposed Domestic Fire Safety (Wales) Measure

06/09/2010

Introduction

Please find below our response to the Proposed Domestic Fire Safety (Wales) Measure. Our response largely follows the questions set out in the letter LC1 dated 15th July 2010. Where our response is relevant to multiple questions, we have group those questions and provided a single response below.

Before we begin we believe it is important to point out that the HBF and our members understand the ethos behind the proposal and we remain fully committed to addressing the serious issue of fire safety in new homes. Our members pay strict regard to the requirements under Part B of the Building Regulations and are satisfied that provisions within the regulations are robust in terms of being an effective deterrent from fire in new homes and the associated hazards than often ensue.

Our members are fully committed to ensuring the safety of residents in new homes, be that in relation to fire or any other hazards that may prevail, and we are happy to work with the Welsh Assembly Government to ensure fire safety standards are adhered to and improved where necessary and appropriate.

Questions 1 and 2

- *Is there a need for proposed Measure to deliver the aim of reducing the incidence of death and injury from fires in newly created residences in Wales?*
- *Do you think the key provisions within the proposed Measure will help deliver the above aim?*

In terms of the above question, we believe it is helpful to discuss the role and remit of the proposed Measure and the objectives set out within the Explanatory Memorandum. We also believe it is necessary to consider the fire safety measures already present in new homes when compared to the older existing stock.

Role and remit of the measure

In terms of the role and remit of the proposed Measure, paragraph 8.11 of the Explanatory Memorandum states that *"It is considered that a statutory requirement to install automatic fire suppression systems in new residences in Wales is the most effective way of achieving the purpose of reducing the incidence of death and injury from fires in newly created residences in Wales."* In terms of the incidences of death and injury considered, the Explanatory Memorandum provides the following statistics. (Paragraphs 3.8 and 3.9 of the Explanatory Memorandum refer)

- Across Wales an average of 18 people lose their lives to fire in dwellings each year.
- About 80% of fire related deaths and injuries occur in the home.
- In the year to September 2009, there were
 - 12 deaths in accidental fires
 - 400 fire related injuries in dwellings in Wales
 - one death from deliberate fires
 - 87 fire related injuries from deliberate fires
 - All the above is taken from and WAG Fire Statistics Monitor, Quarter 2 and 3 2009

In terms of the above statistics and considering the purpose of the proposal is to reduce the incidences of fire and injury within newly built homes, we believe it is necessary to make a distinction between the fires that occur within the older existing stock and those that occur within newly built homes. For instance, according to the Table 1 within the Explanatory Memorandum, there are currently 1.3 million homes in Wales. Table 2 of the Explanatory Memorandum then indicates that on average, (taken over the 10 year period from 1999 to 2009), the number of homes built per year is roughly 8300 homes. Therefore as a percentage, newly built homes represent roughly 0.64% of the total housing stock in any one year. As such, in order to ensure the objectives of the proposed Measure in terms of saving lives and reducing injuries are achieved, we believe it will be necessary to identify what proportion of the deaths and injuries from fire occur within newly built homes and what proportion occurs within the older existing stock.

In terms of the comments above, the HBF recognises that after new homes are built, they will obviously become part of the existing stock. Therefore it will be necessary in the context of this proposal to identify a certain point in time to use as a benchmark, in order to make a distinction between newly built homes that have more rigorous fire safety measures and other properties within the existing stock. In relation to this benchmark, our members state that an important milestone in the

improvement of fire safety came with the requirement to install hard wired smoke detectors within all newly built dwellings, which was introduced as a result of changes to building regulations in 1992. As such, we believe it would be useful and indeed important in terms of the assertions within the proposed Measure, to identify how many of the deaths and injuries from fires identified within the Explanatory Memorandum came from homes built after 1992, when hard wired smoke detectors were made mandatory.

In order to highlight the importance of collecting this data the most compelling evidence we have found on the effectiveness of hard wired smoke detectors comes from the South Wales Fire and Rescue Service. From our discussions with the service, we have found that between the years 2000 to 2009 there were 11561 fires in homes, with 72 deaths. However, only one of those deaths came from a house with a hard wired smoke alarm fitted and that alarm did not actuate. Therefore, in terms of this information we must assume that there could only have been one death from a new build home in this period, as all the homes built throughout this period would have hard wired smoke detectors fitted. However, in terms of the one death, we still cannot definitely say it originated from a new build home, as it could actually have originated from an older home with a hard wired smoke detector fitted.

In addition to this, again taking information from the South Wales Fire and Rescue Service, where there were incidents recorded from fires in homes (fatal and non-fatal) with hard wired smoke detectors fitted, these only happened in 2 of the 9 years studied. In the first year (2000-2001) there were a total of 47 non fatal injuries from homes with hard wired smoke detectors fitted and in the 4th year (2003-2004) there was one death, which is discussed above. Therefore in terms of non fatal injuries, out of the 2348 non fatal injuries that occurred from fires in homes within South Wales between the years 2000 and 2009, just 47 of these occurred in homes with hard wired smoke detectors fitted. Again, from this information we must assume that there could only have been 47 non fatal injuries from newly built homes in this period, as all newly built homes built throughout this period would have hard wired smoke detectors fitted as standard. However, in terms of these injuries, we still cannot definitely say they all originated from newly built homes, as they could actually have originated from older homes with hard wired smoke detectors fitted. More information on these statistics can be obtained from South Wales Fire and Rescue Service - <http://www.southwales-fire.gov.uk>

Further to the above, discussions with industry experts also suggest that new homes are far safer from the risks of fire compared to the existing stock and we believe that the instances of deaths and injuries from newly built homes across Wales are much lower when compared to those that occur within older stock, particularly in homes built after 1992 when hard wired smoke detectors became mandatory. Therefore, in light of the above, if we do not identify the type of dwellings that contribute most to the problem, then the introduction of fire suppression systems in newly built homes might prove to be rather ineffective as a solution to the problems highlighted within the proposed Measure.

As stated above, the mandate of the proposed Measure is solely focussed on installing fire suppression systems within new build homes and states that doing so will significantly reduce fatal and non fatal injuries and property loss from house fires. In this context, Tables 5 and 6 within the proposed Measure compare the deaths and injuries witnessed from fires and the potential to reduce

deaths and injuries from fires by introducing fire suppression systems. In this context, paragraph 8.65 explains this in more detail and goes on to make the assumption that for every 10,000 homes in Wales, there are 0.13 deaths and 3.70 injuries from fire. However, whilst this might be the case, the paragraph then goes on to make the assumption that if 10,000 new homes are built in Wales with fire suppression systems fitted, these deaths and injuries could be reduced by the percentages given within Table 6. As such, what this paragraph attempts to infer is that when 10,000 homes are built in Wales, there will be 0.13 deaths and 3.70 injuries from those dwellings, which is clearly a very different assumption to the original statistic of 0.13 deaths and 3.70 injuries per 10,000 dwellings, which is actually compared with the entire housing stock. This implicitly assumes that the risk of fire from new homes is identical to the risk of fire from the existing stock, which clearly cannot be a sound assumption to make. As we have stated above, new homes now have far better fire safety measures incorporated as a requirement, which is likely to make them far safer than homes without such measure included. A key example of this can be seen from the statistics on hard wired smoke detectors given above. In light of this evidence, we believe it is entirely reasonable to assume that that newly built homes, particularly homes built after 1992 when hard wired smoke detectors became mandatory, will be far more effective at reducing the risks from fire, than homes built before this period. Further to this, advances in fire safety measures that have been required from revisions to Part B of building regulations, all suggest that new homes built today will be far more effective in terms of fire safety than older dwellings. As such, we do not believe it is appropriate to make the assumption that any deaths and injuries recorded from fires in the existing stock will be consistently replicated in newly built homes going forward.

In addition to the above, paragraph 8.64 of the proposed Measure states that the annual number of primary fires in dwellings in Wales for the last two years has been approximately 2,240 fires. The paragraph goes on to state that this has the potential to cost £40 million for Wales as a whole. However, in the context of trying to reduce this figure and remembering that the remit of the proposed Measure is to solely target newly built homes, again we believe it would be important to establish how many of these fires occurred in newly built dwellings with improved fire safety measures (e.g. hard wired smoke detectors), as opposed to those that occurred within the existing stock without these measures. Again, we believe also it would be important to consider the amount of fires that occurred within dwellings built after 1992 when hard wired smoke detectors became mandatory. If most of the fires originated in dwellings that pre-date this period, it is likely that the installation of fire suppression systems in new homes would do little to reduce the figures quoted above. Whereas a requirement for smoke detectors to be fitted into properties that currently don't have them installed, might prove to be far more beneficial in terms of achieving the desired cost savings.

In a similar context, paragraph 8.69 of the Explanatory Memorandum discusses the property loss costs for primary fires in dwellings each year in Wales. However, again, we do not believe it is appropriate to make a comparison with the existing stock and then relate that to newly built dwellings going forward, which have to adhere to much higher standards in terms of fire safety than older stock. We reiterate our comments above, in that if we cannot identify what type of property is the main cause of the problem, it is impossible to tell whether or not the installation of fire suppression systems in all

newly built homes would have the desired impact in terms of reducing the property loss costs as described within the proposed Measure.

In light of the above, in order to ensure the proposed Measure effectively tackles the objectives set out, we believe it is imperative that more work needs to be done to identify main source of the problem. If we cannot identify whether or not it is newly built homes with improved fire safety measure installed (e.g. hard wired smoke detectors), or the older stock without these improvements that is the mainstay of the problem, it is impossible to tell whether or not the installation of fire suppression systems within all newly built homes would have the desired impact of reducing the instances of injuries or deaths from house fires in Wales, or the savings in terms of property damage and loss, as stated within the proposed Measure.

The definition of a “home”

In light of the specific focus on newly built homes, we also believe there is a requirement to identify what is meant by the term “dwelling” or “home” within the proposed Measure. In this context, the term “residence” is described within the Explanatory Memorandum, however this description includes the term “dwellings” as a definition, which could relate to a number of different forms of residence. For example, whether or not the majority of fires originate from flats will be key point to establish, as flats have very different characteristics when compared to single dwellings, e.g. means of escape, size of rooms, proximity of other residences etc. In addition to this, many of our members already fit fire suppression systems within certain blocks of flats, where it proves more effective to do so. Also, according to the Fire Statistics report (2006) from the CLG, the terms dwellings can be defined as including caravans, houseboats and other non-building structures used solely as a permanent dwelling. In light of this, because the proposed measure specifically targets new build housing, we believe it will be necessary to dissect the term “dwelling” in order to identify the various types of dwellings that relate to the fire statistics provided within the proposed Measure.

Initial questions raised

In terms of the issues raised above, we have asked a number of questions of the Assembly Government in order to help us understand where the majority of the problems associated with house fires stems. We reiterate these questions below.

1. *Information as to how many of the deaths or injuries from fire recorded in Wales occur in homes constructed after hard wired smoke detectors were required to be installed.*
2. *With reference to paragraph 3.8 of the Explanatory Memorandum, of the 18 deaths from fire that occur in dwellings in Wales each year:-*
 - a. *In what types of dwellings did the fires occur e.g. houses, flats, caravans etc?*
 - b. *How many of these deaths occurred in newly built homes.*

3. *With reference to paragraph 3.9 of the Explanatory Memorandum, of the 12 deaths in accidental fires and 400 fire related injuries in dwellings in Wales in the year up to September 2009:-*

a. *In what types of dwellings did the fires occur e.g. houses, flats, caravans etc?*

b. *How many of these deaths occurred in newly built homes.*

4. *With reference to paragraph 3.9 of the Explanatory Memorandum, of the 87 fire related injuries from deliberate fires in dwellings in Wales in the year up to September 2009:-*

a. *In what types of dwellings did the fires occur e.g. houses, flats, caravans etc?*

b. *How many of these deaths occurred in newly built homes.*

In light of the specific nature of the proposed Measure to focus on newly built homes, we believe it is imperative that more work needs to be done in order to identify where the problem lies in terms of fires in homes in Wales. Clearly if the instances of death, injury and property loss in newly built homes are minimal when compared to the older housing stock, then the inclusion of automatic fire suppression systems within newly built homes would not provide the most appropriate method of achieving the objectives set out within the proposed Measure. In this respect, we believe that before the Measure is considered, additional work needs to be undertaken in order to deal with the issues raised above and identify the various types of dwellings that relate to the fire statistics provided within the Explanatory memorandum, in order to ensure the focus on newly built homes is the most sound and appropriate methodology to adopt.

Other factors related to fire risk – groups most at risk

In a similar context to the above, we also believe it is important to identify where the risks of fire are most prevalent in Wales. In this respect, the CLG report - *A cost benefit analysis of options to reduce the risk of fire and rescue in areas of new build homes*, states that the instances of death, injuries and property loss from fires in homes can be affected not just by housing type, but also by factors such as age, social deprivation, and the quality of the housing stock (including the existence of any fire protection measures). As such, we believe that in order to ensure the objectives of the proposed Measure are achieved, it would be necessary to identify not just what houses are more at risk, but also what people are most at risk.

Further to this point, paragraph 10 of the original Memorandum identifies groups that are more at risk of fire than the general population, according to research again undertaken by DCLG. These groups include:-

- Single middle aged people, who drink and smoke at home (aged 40-59 male bias)
- Female single parents
- Very elderly

- Disabled/impaired
- Young people (16-24) – including students

In terms of the above, in discussions with our members, it would seem that the majority of these groups are least likely to purchase a newly built home, particularly the very elderly, disabled/impaired and young people aged 16-24, given that the average age of first time buyers is now roughly 37 years old. Therefore, we believe more work needs to be done in order to identify whether or not targeting newly built homes would in fact reduce the risk of fire for those people that are actually most at risk.

The effectiveness of smoke alarms

We mention above the potential benefits of smoke alarms in reducing the instances of death and injuries from fire, particularly the benefits of hard-wired smoke alarms that have become a mandatory requirement in new homes since 1992. As such, in terms of the role and remit of the proposed Measure, we believe it would be useful and indeed important to also consider how effective smoke alarms could be as an alternative approach to tackling the issues discussed within the proposed Measure.

In terms of smoke detectors, their effectiveness with respect to the prevention of fire related deaths and injuries is widely recognised. For example the fire service states that many of the deaths and injuries that are reported in the home could have been prevented if people had an early warning from a smoke detector and were able to get out in time. Therefore, the service states that installing a smoke alarm could not only help save lives, but can also help to save people's homes and possessions. (<http://www.fireservice.co.uk/safety/smokealarms.php>)

Further to this, the UK Government advice on smoke alarms is consistent with the fire service, stating that a smoke alarm is the easiest way to alert someone to the danger of fire, giving them precious time to escape. They also advise that smoke alarms are cheap, easy to get hold of and easy to fit and that you are more than twice as likely to die in a fire at home if you haven't got a smoke alarm. (http://www.direct.gov.uk/en/HomeAndCommunity/InYourHome/FireSafety/DG_071751)

Further benefits of smoke alarms can also be found within the CLG Report on Fire Statistics in 2006, where paragraph 2.28 states the following “... if a smoke alarm is working correctly it will provide the occupier with an early warning of fire or smoke. They can then react quickly and put out the fire so that it is less likely the fire and rescue service will be called. Findings from the 2004/05 Survey of English Housing (SEH) suggest that the fire and rescue service were called to just over a fifth of all domestic fires. This would suggest that working smoke alarms do prevent fires becoming serious on many occasions, making fire and rescue service attendance unnecessary.”

In addition to the above, within the same report, paragraph 2.32 states that dwelling fires in which smoke alarms raise the alarm continue to be discovered more rapidly after ignition, they continue to be associated with lower fatal casualty rates and continue to cause less damage as they are more often confined to the item first ignited.

The information on smoke detectors above is clearly not exhaustive or comprehensive, however, given the statistics above from the South Wales Fire and Rescue Service and the widespread recognition of the effectiveness of smoke alarms in reducing the risks from fires, we believe more work needs to be done to identify the benefits of introducing hard wired smoke detectors into homes that do not currently have them installed. As stated above, the cost of installing battery operated smoke alarms is relatively small and there are many fire services within the UK that will fit them for free as part of promotional and educational campaigns they employ. As an example, the North Wales Fire and Rescue Service offers a free smoke alarm and installation service, along with a home fire safety check, which will help provide advice on how to make your home safe from fire. <http://www.freesmokealarm.co.uk/>. As such, we believe that promoting this type of opportunity to the general public could be an extremely effective way of reducing the risks of fires that occur in homes in Wales. It would also represent an extremely cost efficient way of introducing smoke detectors into homes that currently do not benefit from them.

Questions 3 and 4

- ***What are the practical implications of the proposed Measure, in particular do you think there are any potential barriers to implementing the provisions contained in the proposed Measure?***
- ***4. What are the financial implications of the proposed Measure, if any? In answering this question you may wish to consider Part 2 of the Explanatory Memorandum (Regulatory Impact Assessment), which estimates the costs and benefits of implementation of the proposed Measure.***

In terms of the practical issues of the proposed measure, including issues related to the capital costs related to its implementation, we believe there might be significant issues relating to the impact of the Measure on development viability and the delivery of homes in Wales. We also believe there are significant issues to be addressed in terms of the costs and benefits of the proposal, in light of the various studies and reports that have been written to take account of these issues.

Costs and Benefits

Firstly, we would like to deal with the costs and benefits of the proposed Measure.

In terms of the cost/benefit analysis of the proposal, there are a number of studies referenced within the Explanatory Memorandum as being relevant. In terms of these studies, there are 2 that have been undertaken with direct relevance to the UK, namely the ODPM-BRE Report – *Effectiveness of Sprinklers in Residential Premises* and the CLG Report - *A Cost Benefit Analysis of Options to Reduce the Risk of Fire and Rescue in Areas of New Build Homes*. We deal with the results of these studies below.

ODPM-BRE Report – *Effectiveness of Sprinklers in Residential Premises*

In terms of the BRE Report, we commented on the conclusions of this report within our original submission to the LCO committee. In summary, the research made a number of conclusions in terms of cost-benefit analysis of introducing fire sprinklers into residential dwellings and found that the installation of fire sprinklers in single residential dwellings would not be a cost effective course of action. Our comments are summarised below for ease of reference.

In arriving at this conclusion, the BRE research provides a detailed analysis of the estimated costs in relation to the installation of fire sprinklers in new homes. The research takes information from the Fire Sprinkler Association (FSA) and provides detail with regard to the installation of sprinklers into a number of different accommodation types. For example, the research provides a cost estimate for installing sprinklers into a newly built three bedroom home, which is given as ranging from £1500-£1800 per dwelling. However, this estimate is taken at the lower end of the installation costs, and assumes there are no unusual circumstances to hinder the installation.

The research also provides costs from actual projects that have been undertaken, which show a substantial increase in the costs given by the FSA. In this context, one-off installation costs for a three bedroom property could range from £2000 - £3000 per home and a four bedroom property could range from £3000 - £4000 per home.

A critical factor to be taken into account with these figures is that they assume no extra water storage facilities or pumps are required for residential schemes and that sprinklers can use the mains water supply at no additional cost. In Wales, we have been advised that there may be issues with connecting sprinkler systems to mains water supplies and there is no evidence to suggest that pumps and storage facilities will not be required. The BRE research provides a number of costs taken from actual projects associated with providing water storage facilities and pumps. For a residential system, costs can range from £2500 - £3000 per installation and for smaller domestic systems the cost is quoted as being £1500 per installation.

In addition to this, the research shows that the cost of connecting to the mains water supply can differ between areas, and even if no storage or pump facilities are required, the cost of connecting to the mains supply can range from £600 to £1500. Again this is based on actual projects.

The BRE research sums up the installation costs using the FSA's figures, even though they have quoted the lower end of installation costs, assuming no unusual circumstances and that connection to the mains water supply is possible. Taking these issues into account, the estimated cost of installing a fire sprinkler into a newly built three-bedroom home would range from £1500 - £2730 per property, depending on the cost of connecting to the mains water supply (given in the research as an estimate ranging from 0 - £930)

However, if we use the figures taken from actual projects shown within the report, there is evidence to show that the costs could be a lot higher, especially if additional storage facilities and pumps are required.

In summary, considering the costs discussed within the study, the BRE report made a clear conclusion that it would not be cost effective to introduce fire sprinklers into all newly built homes.

CLG Report - A Cost Benefit Analysis of Options to Reduce the Risk of Fire and Rescue in Areas of New Build Homes – Thames Gateway Proposal

The second report to consider the cost effectiveness of introducing fire sprinklers into residential dwellings in the UK is the cost benefit analysis report from CLG, which was undertaken to inform the Thames Gateway proposal. Throughout the Explanatory Memorandum, the proposal makes reference to the need to consider a myriad of different issues, when discussing the costs and benefits of introducing fire sprinklers into residential dwellings. Many, if not all, of these issues are also covered within this CLG report, which therefore could provide a good comparison of the costs and benefits of introducing a similar proposal within Wales.

In terms of the detail of the CLG report, it states clearly that previous research has demonstrated that, for most property types, the costs of installing and maintaining sprinkler systems are at present generally too high to justify the risk reduction that they would provide (CLG report paragraph 1.2). In addition to this, page 8 of the Executive Summary clearly states that the findings from the modelling undertaken are consistent with previous studies in suggesting that the benefits of installing sprinklers in all new housing, in terms of reduced fatalities, injuries and property loss, would fall far short of the costs.

Further to the above, in a detailed analysis of the costs and benefits, including non – monetised costs and benefits, Chapter 5.5 states that the costs of installing sprinklers in all new housing in the Thames Gateway would greatly exceed the social benefits. This applies whether they take the 'baseline' (or 'benchmark') as 'do nothing', or 'additional FRS resources' (Option III). The report goes on to conclude that even with the non-monetised benefits (benefits from planning gains and environmental gains etc) included, they are unlikely to be of a sufficient scale to provide an economic justification for installing fire sprinklers in all new homes.

In this context, even if the report does not prove conclusively that the conclusions would also hold true in Wales, we believe there is every likelihood they could. In this context, there are some caveats listed within the report with simply applying the conclusions of this work onto other areas of the UK, however, despite this, page 9 of the Executive Summary states that the conclusions of the modelling hold true even though each of the areas tested have different socioeconomic, environmental, and housing characteristics.

In addition to this, when considering the requirement for fire sprinklers in the Thames Gateway, the UK Government found it necessary to undertake this detailed level of work in order to ensure it was the correct course of action to pursue. This was despite the recognition that numerous studies had been undertaken in the past, particularly those undertaken within the UK which state that the introduction of fire sprinklers in all new homes would not be cost effective. As such, should the Welsh Assembly Government decide not to rely on this piece of work to inform their own decision, we believe it is imperative, if the WAG proposes to adopt the provisions of the Measure, that a similar detailed piece of work is undertaken in order to establish how an actual cost benefit analysis of the current proposal would perform and to ensure the proposal represents the most efficient and cost effective method of achieving the objectives of the proposed Measure.

One conclusion to note within the CLG report was that of the usefulness of a myriad of different fire prevention measures, relative to the introduction of just one measure. In this context, the chapter 5.5. of the CLG report states that it seems likely that some combination of fire prevention measures targeted at the highest risk areas (whether from domestic sprinklers in social housing, smoke alarms, education or other measures) and additional fire cover will be more beneficial than the discrete options considered in their study. Therefore, we reiterate our believe above that further investigation is warranted on the effectiveness of smoke detectors and the requirement for smoke detectors to be installed in the existing housing stock, particularly in areas that represent the highest risks from fire.

Cost Benefit Analysis Conclusions

It is clear from the two reports listed above, that the installation of fire sprinklers in all new homes would not be a cost effective course of action to take. In fact, the latest report by the CLG actually states that the benefits of installing sprinklers in all new housing, in terms of reduced fatalities, injuries and property loss, would fall far short of the costs.

In light of this, despite the Explanatory Memorandum estimating what the proposal might cost in Wales, there is still no evidence that these assumed costs would outweigh the benefits of the proposed Measure if it were introduced. As we understand it, before a building regulation can be introduced, it must be proven to be cost effective and demonstrate how the benefits outweigh the costs. Therefore given the level of detail within the reports listed above, which has not been replicated for the proposed Measure, and the conclusions reached by the reports, we believe that a similar exercise must be undertaken for the current proposed Measure, in order to ensure the costs of the proposal do not outweigh the benefits.

Costs and potential barriers to the proposed Measure

Costs of installation

In terms of the costs given within the report on the installation of fire suppression systems, there are numerous examples of the costs provided, which are based largely on evidence taken from various studies undertaken that relate to this issue and also some costs provided by CHC on actual projects. In the context of the costs taken from studies such as the BRE-CLG report and the 2010 CLG report, we believe it is important to remember that the overarching conclusion from both reports was that introducing fire sprinkler systems within all new dwellings was not cost effective despite the level of cost assumed. As such, we reiterate our concerns that despite the level of cost suggested within the proposed Measure, the cost/benefit analysis of those costs is still yet to be established and therefore this work needs to be undertaken before the proposed Measure is considered.

Further to the above, we also do not believe it is appropriate to simply ignore the costs provided by CHC, as this is a project that is directly related to Wales, which came about as a result of the work of the Community Fire Safety Working Group and funded by the Welsh Assembly Government. Therefore, the project and its difficulties might prove to be particularly relevant in terms of the requirements and objectives of the proposed Measure.

In addition to this, we have also been informed by our members that the costs of installation could significantly exceed the costs provided within the proposed Measure. In this context, one of our members has stated that they have received quotes for the installation of fire sprinklers within a number of their typical house types. As an example, a quote for a small 'starter home' was given as between £1800 - £2500 for a 6 head sprinkler system with a minimum of another £1000 for a tank & pump per plot. The developer goes on to make the point that this is the smallest house type they have to offer. The same developer has also been quoted for the installation of fire sprinklers within a two bed apartment, which was given as £2730 (assuming the flow & guaranteed incoming pressure are sufficient to negate the need for a tank & pump system) for a 7 head sprinkler system. As you can see, these costs are far exceed the costs provided within the proposed Measure.

In light of the above, we believe that considerably more work needs to be done on the capital costs of installation. The costs provided by the HBF member company above amount to more than double the costs described within the proposed Measure, and these are provided for the smallest house type they have to offer. In light of this, we believe the costs within the proposed Measure are not sufficiently evidence-based in order to inform what the implementation of the proposal would actually cost in Wales and therefore we believe that further detailed examination of the costs involved is essential, in order to ensure the impact of the proposal on development viability and cost effectiveness can be properly assessed.

Accuracy of cost assumptions

In terms of the accuracy of the assumptions on costs within the proposed Measure, paragraph 8.20 of the Explanatory Memorandum states that cost estimates are derived from the CLG report 2010, and that adjustments have been made as the estimates in this report are not for Wales, but are obtained using data for an area with relatively low water pressure. In this respect within the subtext to Table 3 of the CLG report it states that *"the CLG report based its calculations on data for an area which does not have as good water supply as Wales. Hence costs for the installation of pumps and tanks which were included in their cost analyses are not included in this analysis."* (Further detail on this particular assumption is given below.)

However, we believe there is some confusion over the costs described within the CLG report and the costs given within the proposed Measure. For instance, Table 4.1 of the CLG report presents a number of costs that are associated with the installation of fire sprinklers and these costs are far greater than the costs provided within Table 3 of the proposed Measure. In addition to this, contrary to the statement that these costs include the provision of pumps and tanks, paragraph 4.2.2 of the CLG report clearly states that the cost estimates given within Table 4.1 are excluding the need for pumps and tanks, which is dealt with through sensitivity analysis. As such, we believe the costs provided within the proposed Measure might have been underestimated when compared to the CLG report, which further reinforces our belief that the cost assumptions need to be revisited before the proposed Measure is considered.

Water supply assumptions

In terms of the cost and other assumptions in relation to water supply, a number of issues have been raised within the BRE and CLG reports on the issue of supplying water to the heads of sprinklers systems, to ensure they operate effectively. In this respect, to further compound these issues, within paragraph 8.16 of the Explanatory Memorandum Welsh Water make the comment that the cost of water supply should not be underestimated. However, in this context, we are not aware of any work that has been done to estimate these costs, (in order to ensure they have not been underestimated), and as such, we believe this work needs to be undertaken before the proposed Measure is considered.

As mentioned above, a further issue to arise with the supply of water for fire suppression systems is the possible requirement for pumps and water storage tanks. In this respect Table 3 within the Explanatory Memorandum states that the installation of pumps and tanks are not included in the analysis, due to the assumption that Wales will not require any pumps or tanks to augment the water supply, as would be required within the Thames Gateway proposal. However, in terms of the Thames Gateway proposal, the CLG report 2010 states that as water pressure in the Thames Gateway is low, water tanks and pumps are likely to be required in *some* areas, but not all areas. In this context, in relation to the statement within the proposed Measure that pumps and tanks will not be required in any part of Wales, we are unaware of any work undertaken to establish whether or not this would be actually be the case. Indeed, there might be areas of Wales that suffer from reduced water pressure, or other issues that might require a pump and a tank to be installed and therefore, in those particular cases, the costs associated with the provision of the proposed Measure (particularly Table 3 and paragraph 8.21) are likely to be a lot higher than estimated. Therefore, we do not believe it is appropriate to merely rely on the assumption that no developments in Wales will need water pumps or storage tanks in order to ensure sprinklers systems will operate effectively. This assumption clearly has not been thoroughly tested and more work needs to be done on this issue before the proposed Measure is considered.

In light of the above, it is clear that more works needs to be done to establish the how the fire suppression systems discussed within the proposed Measure will be connected to a water supply and what costs then need to be assumed in order to implement the proposal. In addition to this, whether or not pumps and tanks are required we believe it is important to remember that according to Welsh Water, the costs of connecting to the water mains in Wales cannot be underestimated. As such, there also needs to be additional work undertaken in order to establish the practicalities and costs associated with connecting the systems to the water mains, and to determine the impact of those practicalities and costs on installation and development viability.

Cost of systems that do not use water

We note that the consultation now makes reference to “fire suppression systems” rather than “fire sprinklers”, largely due to the recognition that separate systems might be required where water would not represent a suitable medium to extinguish certain types of fire. In this context, there is nothing within the Explanatory Memorandum to suggest what other type of fire suppression system would be

required, nor does it stipulate the detail of any different suppression systems or what these systems might cost.

In light of the above, we believe this work needs to be undertaken before the proposed Measure is considered.

Concerns with maintenance assumptions

In terms of the assumptions within the proposed Measure on the cost of maintenance, paragraph 8.7 states that these costs are not included within the proposal as they would be negligible. However, again, we do not believe it is appropriate to merely rely on this assumption to inform the proposal. We believe more work needs to be done to establish what the exact maintenance costs would be, particularly in light of the possibility that different types of suppression systems might be required to effectively achieve the objectives of the proposed Measure.

In addition to this, we are concerned that if systems are not maintained properly they will not operate efficiently and might also pose a risk to insurance validity. Clearly the effective operation of a fire suppression system will rely on the owner of the system maintaining it properly. In this context, we believe it is important to note that we cannot rely on the fact that 100% of people with fire suppression systems will get them regularly maintained and serviced. Indeed, if we make a comparison with the number of people that service their gas boilers, the figures are alarming. According to our research, less than 30% of people with a gas boiler have a service agreement to have them serviced regularly, despite the widespread recognition that a non-serviced boiler can pose significant risks to health and safety. In addition to this, with the average service agreement costing as little as £10 a month, it is clear that ensuring people properly maintain their appliances is not a straightforward task.

In addition to the above, we understand from the Explanatory Memorandum that the incidences of false alarm are not common with fire suppression systems. However, we believe it is reasonable to assume that this will probably rely on the systems being maintained properly and regularly. If they are not properly maintained, it might be the case that false alarms could occur more often, which could in turn cause concern for insurance companies. The owner might also find themselves in a difficult position with insurance claims, if a system malfunctions which has not been appropriately maintained.

In light of the above, we understand that maintenance of household appliances is entirely the responsibility of the owner, however, considering that the objectives of the proposed Measure rely on the effective operation of fire suppression systems, which in turn relies on regular and proper maintenance of those systems, we believe the issue of maintenance is something that needs particular consideration, before the proposed Measure is considered for adoption.

The cost of the proposed Measure and potential effect on development viability

In terms of the cost of implementing the proposed Measure, there are numerous paragraphs that provide an estimation of the costs involved and how these costs will be satisfied. In this context, paragraph 8.6 of the Explanatory Memorandum states that the majority of costs associated with the provisions of the proposed Measure will initially fall on those building new homes or converting the

usage of existing properties to residential use. However, the proposed Measure does not give any consideration to the potential impact the Measure might have on development viability and hence housing delivery in Wales.

House prices and land values

Within the CLG Report - *A cost benefit analysis of options to reduce the risk of fire and rescue in areas of new build homes*, chapter 5.6 of the report touches on this issue and arrives at the conclusion that due to the high house prices and land values within the Thames Gateway area, the requirement for sprinkler installation would not have a significant impact on the supply, demand, or affordability of housing. However, as the Explanatory Memorandum rightly points out, the Thames Gateway proposal has land values and house prices that are considerably higher than those in experienced in Wales. In terms of house prices, the CLG report states that the average house price for the Thames Gateway area is between £260,000 and £310,000, where as in Wales the average house price is £150,000 and can fall to as low as £75,000 in the valleys areas (Land Registry of England and Wales 2010).

In light of the above, it is clear that the CLG study recognises the need to consider the impact of its proposals on development viability, despite the existence of high house prices and land values. Therefore considering the disparity between the Thames Gateway land values and house prices and those found in Wales, we believe the further work to establish the impact of the proposed Measure on development viability must be undertaken before it is given consideration.

Current and future regulatory impacts affecting the housebuilding industry

In addition to the above issues with costs, we also must consider the increased requirements placed on housing in Wales as a result of national and local policy. In terms of developing homes in Wales, a particular concern for our members is the WAG's policy approach to sustainable buildings and the current and future requirements of that policy approach, particularly the revisions proposed for Part L of the building regulations in 2013.

In this respect it is important to stress that the HBF and our members recognise the importance of ensuring homes are energy efficient and contribute positively to the environment, however, it is currently proving very difficult to establish the actual cost of achieving necessary requirements needed to satisfy this particular policy agenda. This issue has been intensified by the Welsh Assembly adopting a policy approach for all new developments in Wales to achieve Code for Sustainable Homes Level 3 plus 6 credits, without undertaking proper analysis of the costs associated with achieving this standard.

The issue of cost in terms of sustainable building has been at the forefront of UK Government research. In this context, the UK Zero Carbon Hub has undertaken work in order to establish the costs of achieving higher energy standards in new homes. Their latest results presented to us, based on an average cost across all types of dwellings, indicate that in order to achieve the various levels of the Code for Sustainable Homes (for the energy element alone), the average costs could be as follows:-

- Code Level 3 = £6000 per plot
- Code Level 4 = £10,000 per plot
- Code Level 5 = £25,000 per plot plus

In the context of these figures, it is important to note that the UK Zero Carbon Hub costs are only related to achieving the energy requirements of different Code levels. The costs of achieving additional requirements of the Code for Sustainable Homes could potentially be considerably more than this. e.g. Achieving the provisions of SUR1 surface water requirements, where our members have estimated that it can cost up to 50%-100% more to achieve these credits.

To put this into context with the requirements of National Guidance, taking the above evidence into account, this would put the requirement somewhere between Code level 3 and Code level 4, which would mean an average cost of between £6000 and £10000 extra per plot, for the energy requirements alone. In light of this, to achieve the WAG's sustainable building standard, again for energy alone, this would mean an average of approximately £8,000 extra per plot. As mentioned above, our members state that to achieve the other mandatory credits under the code, SUR1 being the most onerous, could increase the cost by between 50% and 100%. Therefore, taking a conservative approach, to achieve the WAG's current sustainable buildings requirements could cost an extra £12,000 per plot (average cost). Let us also not forget that the WAG's proposals for building regulations changes in 2013 will put the cost at somewhere between Code 4 and Code 5, which could be well in excess of £20,000 per dwelling.

In light of this, there clearly needs to be more work undertaken to establish the costs of achieving the policy requirements of the sustainable buildings agenda. This is recognised by the WAG and as such this work continues under the auspices of the Wales Low/Zero Carbon Hub. Whatever the final cost, it is clear this will need to be considered alongside the costs of implementing the proposed Measure, when they are properly established, in order to ensure land values can support these extra requirements and that the development of land for housing in Wales remains viable and deliverable.

In addition to this, as both of these policy agendas are not currently being considered by the UK Government, we believe it is important to ensure that the affects of these policy agendas on the competitiveness and success of Wales as a whole are considered. One important factor to consider is that if the regulatory burden in Wales is greater than in other areas of the UK, there is a very real risk of developers focusing their attentions away from Wales, which will have a significant impact not only on the delivery of housing and affordable housing, but also on the social and economic success of Wales as a whole. This is a very real concern, which is being voiced by our members on a more regular basis than ever before. In the context of current planning requirements and land values, we are already starting to witness landowners refusing to sell land which they were willing to release before these new policy requirements were enforced.

Cumulative impact of regulatory requirements

With each review of the planning system, it seems that the requirement for planning obligations has increased. The new requirements for sustainable buildings and the Assembly Government's commitment to increase affordable housing are two prime examples of this, which have added to the growing list of requirements from local authorities and their LDP's.

However, the lack of consideration for viability within policy on planning obligations often results in land values not being able to support the full range of planning requirements. Even though it might not be the case that one single policy has a negative effect on viability, the accumulative requirements of other planning obligations policies might be enough to render a development unviable unless a proper analysis of the impact of each policy is undertaken.

Planning obligations such as affordable housing are presently having a significant impact on the viability of housing developments in Wales. Indeed, national guidance recognises this and sets out a clear mandate for viability to play a key role in policy setting. In terms of affordable housing delivery, many proposed affordable housing policies within development plans are being reduced as a result of affordable housing viability assessments, due to the fact that land values cannot support the particular requirements of the local authority. To further compound this issue, the WAG has stated that public funding to help deliver affordable housing will be limited going forward, which will be exacerbated even further by the cuts that will inevitably be faced by all WAG departments over the next few years. Therefore, in order to deliver affordable housing through conventional means, it is reasonable to assume that private subsidy from land values captured through S106 agreements would need to form a substantial part of the funding. In light of this, we must therefore ensure that in order to deliver affordable housing, the increased subsidy out of land values through S106 agreements, including the requirements of this proposed Measure, will not reduce the supply of financially viable residential land.

In terms of other planning obligations, it is fair to state that there are certain planning obligations that cannot be compromised i.e. Highways and education etc. It is also fair to state that there are certain requirements of a development that are necessary to allow the development to proceed. An example of such a requirement is the need for remediation works in order to overcome any abnormal site constraints, particularly when considering development of brownfield land. In this context, in relation to the physical delivery of the site, it is reasonable to assume that there are 'essential' and 'non essential' categories of planning obligations, despite the acceptance that some planning requirements in the 'non essential' category are intrinsically important. In light of this, more often than not, and particularly in the current climate, there will be a need to renegotiate the planning requirements that are not 'essential' to enable the development to proceed. That is, where there is an overwhelming requirement for transport improvements and the site has significant constraints, these issues will need to be addressed in order for the site to actually be developed. The same urgency in terms of planning requirements cannot be attributed to requirements for affordable housing and sustainable buildings, despite their requirement being equally as important in many cases, in order to create a sustainable development. Again, the cost impact of the proposed Measure will clearly have to be considered alongside these planning obligations and requirements, in order to ensure its implementation will not have an adverse effect on development viability. After all, if the remit of the Measure is for fire

suppression systems to be fitted into newly built homes, a significant and important part of that remit is to ensure the homes can actually be built.

In light of the above, it is clear that there are already considerable burdens placed on the development industry at present, many of which will be necessary to allow developments to be delivered (transport and remediation works), many are Ministerial priorities (affordable housing and sustainable buildings) and many are policy requirements that are only proposed for Wales and not for the UK as a whole (which includes the proposed Measure). As such, it is clear there is still considerable work required in order to establish the cost of policy agendas that already exist within Wales and we still remain unclear as to what their impact will be on development viability and deliverability. Therefore, we believe it is absolutely essential that any new policy or regulatory requirements must also be assessed against their impact on development viability and deliverability, in order to ensure we do not compromise the delivery of much needed homes for the people of Wales.

Factors that might alleviate the impact on development viability

Assumed increase in the value of homes with sprinklers

In terms of factors that might aid with the delivery of the proposal, paragraph 8.6 of the proposed Measure makes reference to increased value of homes with fire suppression systems, however, this is not evidenced within the report and there is nothing to suggest that homes with fire suppression systems would achieve a higher premium. Even if it were the case that home buyers were willing to pay more for homes with fire suppression systems installed, there is no evidence that valuers would recognise any premium attached to houses with fire suppression systems and reflect this in any mortgage advances. The HBF has discussed this issue directly with the CML in a recent meeting and they concur with this position. Furthermore, our members have stated that new homes are always valued against the existing stock and therefore the cost of any new improvements, such as sustainable buildings improvements etc, are not recouped through sales values. Proof of this can be seen with Barratt's Code 6 development at Hanham Hall, where they specifically state that despite the properties achieving the very top level of the Code, the sustainability improvements had absolutely no bearing on the final valuations.

Potential for design freedoms and trade-offs

In terms of other issues to alleviate the cost of the proposal, the Explanatory Memorandum discusses potential trade-offs that might make the proposal more viable. In this respect, paragraph 8.14 of the Explanatory Memorandum states that trade-offs can sometimes be achieved making the installation of fire sprinklers a more cost effective approach. However, paragraph 8.23 of the Explanatory Memorandum goes on to suggest that the actual impacts of trade-offs are yet to be established and states that more work needs to be done on this issue.

Further to this, again on the subject of trade-offs, paragraph 3.7.3 of the CLG report 2010 states that the cost reductions in terms of design freedoms from the installation of sprinklers are unlikely to be significant, although there are likely to be some benefits from architectural freedoms, more open

space and more pleasing designs. Therefore, it is clear that more work needs to be done on the issue of potential trade-offs, before they are used as a justification for introducing the proposed Measure.

Conclusion and recommendations

In light of the information above we believe there is considerable work to be undertaken before the proposed Measure is considered. Below is a list of our main conclusions/recommendations that arise from the comments given above. However, these are not exhaustive and should be read in conjunction with the other issues and concerns we have set out within our response.

Firstly we believe it is important to identify the root cause of the problem and whether or not tackling the newly built homes will actually achieve the objectives set out within the proposed measure. Further work should also be undertaken to identify the sections of the population that are most at risk from fire (as suggested by the CLG report), which will help to ensure any proposed regulations are targeted appropriately.

Secondly, in terms of costs, we believe it is possible that the capital costs of installation provided within the Explanatory Memorandum have been significantly underestimated and more work needs to be done to ensure the assumed costs are sound and robust. In addition to this, considering the substantial evidence on cost benefit analysis, we believe that before any measure is considered in Wales, a similarly detailed piece of work must be undertaken in order to ensure the costs of introducing the proposed Measure would not outweigh the benefits.

Thirdly, in light of our concerns relating to development viability, particularly in view of the current policy requirements placed on developments, the low land values experienced in many parts of Wales and the fact that the post recession housing market is still in a very unstable condition, we believe it will be absolutely essential for further work to be undertaken to ensure the proposed Measure would not have an adverse impact on development viability or the delivery of housing.

Lastly, in light of the effectiveness of smoke detectors, we believe there is a considerable opportunity for many lives and injuries to be saved, as well as savings from property loss, by undertaking further research on the possibility of requiring smoke detectors into the existing homes in Wales that do not currently benefit from them. Indeed, one of the recommendations of the CLG report was that it might be beneficial to look at a variety of measures, rather than to concentrate on just one measure, when considering how to reduce the risks from fire. We would also emphasise the opportunity that exists with the current campaigns by the fire service to undertake fire safety checks and install smoke detectors free of charge. This we believe should be promoted more thoroughly in Wales, particularly in view of the fact that it is a free service and also in light of the recognised benefits of smoke detectors.

Thank you for taking the time to consult the HBF at this stage of the process, and I look forward to working with you in the future.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'R. Price', enclosed in a light grey rectangular box.

Richard Price

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