



## BRIEFING PAPER

Number 07517, 29 February 2016

# Planning and flood risk

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## Summary

This briefing paper sets out the Government's planning policy on flooding and relates to England only. For an overview of the key planning policies and documents in the other UK countries see the joint Library briefing paper [Comparison of the planning systems in the four UK countries: 2016 update](#).

Government planning guidance, based on [maps](#) produced by the Environment Agency, divides the country up into different types of flood risk zone: land in zone 1 where there is a low probability of flooding (a less than a 1 in 1000 annual probability); land in zone 2 where there is a medium risk (land having between a 1 in 100 and 1 in 1,000 annual probability); and land in zone 3 where there is high risk (land with a 1 in 100 or greater annual probability).

The Government's [National Planning Policy Framework](#) (NPPF) and the accompanying online Planning Practice Guidance (PPG) on [Flood Risk and Coastal Change](#) sets "sequential" and "exemption" tests and thresholds to protect property from flooding which all local planning authorities (LPAs) are expected to follow. Where these tests/thresholds are not met, new development should not be allowed.

Local authorities should undertake a "Strategic Flood Risk Assessment" to fully understand the flood risk in the area and to inform local plan preparation. Certain types of planning applications should be accompanied by a Flood Risk Assessment (FRA) prepared by or on behalf of the applicant. There is a statutory requirement for local planning authorities to consult the Environment Agency for developments in areas at risk of flooding before granting planning permission. The [Government has said that](#), "between April 2011 and March 2015, over 99 per cent of proposed new homes had planning outcomes in line with Environment Agency advice where they had objected because of concerns about flood risk and had been made aware of the decision."

Under PPG revised in March 2015, new development should only be considered appropriate in areas at risk of flooding if priority has been given to the use of sustainable drainage systems. It directs that sustainable drainage systems should be provided unless demonstrated to be "inappropriate", which is further defined in the guidance. Planning authorities must consult Lead Local Flood Authorities for major developments in relation to surface water drainage.

Figures from Government provided in a [PQ](#) from February 2016 state that in 2013-14, 7 percent of new residential addresses were created in the National Flood Zone 3. This equates to an estimated 9,100 homes being built in National Flood Zone 3 in 2013-14.

Rory Stewart, Parliamentary Under Secretary of State for Environment and Rural Affairs, responded to an [oral question](#) in Parliament in December 2015 to say that "I absolutely agree that we should not be building houses on flood plains." Parliamentary Under Secretary of State for Communities and Local Government, Baroness Williams of Trafford, said in response to a [written PQ](#) in February 2016 however, that development "can not be ruled out in high flood risk areas"

Shadow Housing and Planning Minister John Healey was quoted in December 2015 as calling on the Government to "make sure planning policy keeps up" with climate change and that "despite the housing shortage, planning should take increasing flood risk into account in deciding where new homes should be built." In 2015 the Environment Audit Committee called for the Environment Agency's statutory consultee role to be extended to include smaller developments.

# 1. What is a flood zone?

The Government's Planning Practice Guidance (PPG) sets out what is meant by a flood risk area for planning purposes. It states:

For the purposes of applying the National Planning Policy Framework, "flood risk" is a combination of the probability and the potential consequences of flooding from all sources – including from rivers and the sea, directly from rainfall on the ground surface and rising groundwater, overwhelmed sewers and drainage systems, and from reservoirs, canals and lakes and other artificial sources.<sup>1</sup>

[Table 1](#) in the PPG, as reproduced below, sets out the definitions of the Flood Zones, from low to high probability of river and sea flooding, ignoring the presence of defences. It refers to Environment Agency's [Flood Map for Planning \(Rivers and Sea\)](#), available on the Environment Agency's website. According to the PPG, these flood zones do not take account of the possible impacts of climate change and consequent changes in the future probability of flooding.<sup>2</sup>

**Table 1**

<b>Flood Zone</b>	<b>Definition</b>
Zone 1 Low Probability	Land having a less than 1 in 1,000 annual probability of river or sea flooding. (Shown as 'clear' on the Flood Map – all land outside Zones 2 and 3)
Zone 2 Medium Probability	Land having between a 1 in 100 and 1 in 1,000 annual probability of river flooding; or Land having between a 1 in 200 and 1 in 1,000 annual probability of sea flooding. (Land shown in light blue on the Flood Map)
Zone 3a High Probability	Land having a 1 in 100 or greater annual probability of river flooding; or Land having a 1 in 200 or greater annual probability of sea flooding. (Land shown in dark blue on the Flood Map)
Zone 3b The Functional Floodplain	This zone comprises land where water has to flow or be stored in times of flood. Local planning authorities should identify in their Strategic Flood Risk Assessments areas of functional floodplain and its boundaries accordingly, in agreement with the Environment Agency. (Not separately distinguished from Zone 3a on the Flood Map) <sup>3</sup>

<sup>1</sup> HM Government, Planning Practice Guidance, [Planning and flood risk](#), Paragraph: 002 Reference ID: 7-002-20140306, revision date 6 March 2014

<sup>2</sup> HM Government, Planning Practice Guidance, [Flood Zone and Flood Risk Tables](#), Paragraph: 065 Reference ID: 7-065-20140306, revision date 6 March 2014

<sup>3</sup> HM Government, Planning Practice Guidance, [Flood Zone and Flood Risk Tables](#), Paragraph: 065 Reference ID: 7-065-20140306, revision date 6 March 2014

## 2. National planning policy on development in flood risk areas

The Government's [National Planning Policy Framework](#) (NPPF) and the accompanying online Planning Practice Guidance (PPG) on [Flood Risk and Coastal Change](#) provide tests and thresholds to protect property from flooding which all local planning authorities (LPAs) are expected to follow. Where these tests/thresholds are not met, new development should not be allowed. The NPPF specifically [states](#) that:

Inappropriate development in areas at risk of flooding should be avoided by directing development away from areas at highest risk, but where development is necessary, making it safe without increasing flood risk elsewhere.

### 2.1 The sequential test

Together, the NPPF and the PPG provide for what is known as a "sequential test" designed to ensure that areas at little or no risk of flooding from any source are developed in preference to areas at higher risk. The aim is to keep development out of medium and high flood risk areas (Flood Zones 2 and 3) and other areas affected by other sources of flooding where possible. A sequential approach should be used in areas known to be at risk from any form of flooding. Where there are no reasonably available sites in Flood Zone 1, local planning authorities can then consider reasonably available sites in Flood Zone 2, applying what is known as "the exception test". Only where there are no reasonably available sites in Flood Zones 1 or 2 should the suitability of sites in Flood Zone 3 be considered, taking into account the flood risk vulnerability of land uses and applying the exception test if required.<sup>4</sup>

### 2.2 The exception test

The exception test is set out in the NPPF as follows:

For the Exception Test to be passed:

- it must be demonstrated that the development provides wider sustainability benefits to the community that outweigh flood risk, informed by a Strategic Flood Risk Assessment where one has been prepared; and
- a site-specific flood risk assessment must demonstrate that the development will be safe for its lifetime taking account of the vulnerability of its users, without increasing flood risk elsewhere, and, where possible, will reduce flood risk overall.

Both elements of the test will have to be passed for development to be allocated or permitted.<sup>5</sup>

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<sup>4</sup> HM Government, Planning Practice Guidance, [Flood risk and coastal change](#), Paragraph: 019 Reference ID: 7-019-20140306, revision date 6 March 2014

<sup>5</sup> HM Government, [National Planning Policy Framework](#), March 2012, para 102

## 3. Understanding flood risk for planning purposes in local areas

### 3.1 The Lead Local Flood Authority

The *Flood and Water Management Act 2010* assigned the lead responsibility for managing local flood risk from surface water, groundwater and ordinary watercourses to Lead Local Flood Authorities (LLFAs) in upper tier authorities (county and unitary councils). The role of the Lead Local Flood Authority includes assessing the risk of surface water flooding across its boundaries as well as working with organisations responsible for water management across the authority. LLFAs are also required to maintain a register of structures and features which are likely to have a significant effect on flood risk in their area.

LLFAs must develop, maintain and monitor local flood risk management strategies. Local flood risk includes flooding from surface water, groundwater and ordinary water courses. In evidence provided to the Public Accounts Committee in January 2016, Defra confirmed that as at March 2015, 102 LLFAs had published their strategies and about 50 had not. The Government is encouraging all LLFAs to have their strategies published by the end of March 2016.<sup>6</sup>

### 3.2 Local plans and strategic flood risk assessment

Provision in the [Planning and Compulsory Purchase Act 2004](#) enables LPAs to make a local plan covering their area, although there is no statutory requirement to actually do so. According to the PPG local plans set out “a vision and a framework for the future development of the area, addressing needs and opportunities in relation to housing, the economy, community facilities and infrastructure – as well as a basis for safeguarding the environment, adapting to climate change and securing good design.”<sup>7</sup> Local plans are also used to guide decisions about individual development proposals and, (together with any neighbourhood plans that have been made), are the starting-point for considering whether applications can be approved.

The PPG directs LPAs to undertake a “Strategic Flood Risk Assessment” to fully understand the flood risk in the area and to inform local plan preparation. A strategic flood risk assessment is defined in the PPG as follows:

A Strategic Flood Risk Assessment is a study carried out by one or more local planning authorities to assess the risk to an area from flooding from all sources, now and in the future, taking account

<sup>6</sup> Public Accounts Committee, Oral evidence: Strategic Flood Risk Management progress review, [HC 759](#), 25 January 2016, Q6

<sup>7</sup> HM Government, Planning Practice Guidance, [Local Plans](#), Paragraph: 001 Reference ID: 12-001-20140306, revision date 6 March 2014

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of the impacts of [climate change](#), and to assess the impact that land use changes and development in the area will have on flood risk.<sup>8</sup>

The Government guidance on [preparing a Strategic Flood Risk Assessment](#) states that it should include a list of locations that may have an increased flood risk if there is additional development. The PPG directs that the assessment should:

- determine the variations in risk from all sources of flooding across their areas, and also the risks to and from surrounding areas in the same flood catchment;
- inform the [sustainability appraisal](#) of the Local Plan, so that flood risk is fully taken into account when considering allocation options and in the preparation of plan policies, including policies for flood risk management to ensure that flood risk is not increased;
- apply the [Sequential Test](#) and, where necessary, the [Exception Test](#) when determining land use allocations;
- identify the requirements for site-specific flood risk assessments in particular locations, including those at risk from sources other than river and sea flooding;
- determine the acceptability of flood risk in relation to emergency planning capability;
- consider opportunities to reduce flood risk to existing communities and developments through better management of surface water, provision for conveyance and of storage for flood water.<sup>9</sup>

The findings from the strategic flood risk assessment should then be fed into the sustainability appraisal - the systematic process that must be carried out during the preparation of a local plan.

The PPG directs that local authorities should take advice from the following bodies when making local plans:

**Lead local flood authorities** (unitary authorities or county councils) are responsible for managing local flood risk, including from surface water, ground water and ordinary watercourses, and for preparing local flood risk management strategies. Local planning authorities should work with lead local flood authorities to secure Local Plan policies compatible with the local flood risk management strategy.

Local planning authorities should also take advice where relevant, from:

- **Internal drainage boards:** local planning authorities should confer with internal drainage boards where they exist to identify the scope of their interests.
- **Reservoir undertakers:** local planning authorities should discuss their proposed site allocations with reservoir undertakers to:

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<sup>8</sup> HM Government, Planning Practice Guidance, [Flood Risk and Coastal Change](#), Paragraph: 009 Reference ID: 7-009-20140306, revision date 6 march 2014

<sup>9</sup> HM Government, Planning Practice Guidance, [Taking flood risk into account in the preparation of Local Plans](#), Paragraph: 010 Reference ID: 7-010-20140306, revision date 6 March 2014

- avoid an intensification of development within areas at risk from reservoir failure, and;
- ensure that reservoir undertakers can assess the cost implications of any reservoir safety improvements required due to changes in land use downstream of their assets.

**Navigation authorities:** Navigation authorities should be consulted by the local planning authority in relation to sites adjacent to, or which discharge into, canals – especially where these are impounded above natural ground level.<sup>10</sup>

All Local Plans have to go through a period of public consultation and be examined by an independent inspector to test for legal compliance and soundness. Only once the Plan has been through this examination and found to be sound can it be formally adopted by the local authority.

There is no statutory obligation for a local authority to produce a local plan. In September 2015 the Government reported that 216 of 336 local planning authorities in England (64%) have an adopted and 276 (82%) published a local plan.<sup>11</sup>

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<sup>10</sup> HM Government, Planning Practice Guidance, [Taking flood risk into account in the preparation of Local Plans](#), Paragraph: 006 Reference ID: 7-006-20140306, revision date 6 March 2014

<sup>11</sup> [Local plans: written question – 9724](#) 9 September 2015

## 4. Flood risk and planning decisions for new development

### 4.1 The role of the local planning authority

The NPPF directs that when determining planning applications, local planning authorities (LPAs) should ensure flood risk is not increased elsewhere and only consider development appropriate in areas at risk of flooding where, (informed by a site-specific flood risk assessment following the Sequential Test, and if required the Exception Test), it can be demonstrated that:

- within the site, the most vulnerable development is located in areas of lowest flood risk unless there are overriding reasons to prefer a different location; and
- development is appropriately flood resilient and resistant, including safe access and escape routes where required, and that any residual risk can be safely managed, including by emergency planning; and it gives priority to the use of sustainable drainage systems.<sup>12</sup>

Where development needs to be in locations where there is a risk of flooding (i.e. because alternative sites are not available), LPAs and developers should ensure development is appropriately “flood resilient and resistant”, “safe” for its users for the development’s “lifetime”, and will not increase flood risk overall. These terms are further defined in the Government’s online [PPG](#).

The NPPF makes clear that a site-specific flood risk assessment is required for proposals of 1 hectare or greater in Flood Zone 1; all proposals for new development (including minor development and change of use) in Flood Zones 2 and 3, or in an area within Flood Zone 1 which has critical drainage problems (as notified to the local planning authority by the Environment Agency); and where proposed development or a change of use to a more vulnerable class may be subject to other sources of flooding.<sup>13</sup>

When taking planning decisions, the decision maker must weigh up all “material considerations”. The strategic flood risk assessment, the Flood Risk Assessment prepared by the applicant and their supporting evidence would be material considerations in the planning process and would be factors for the decision taker to weigh up in reaching their conclusions.

There is a statutory requirement for local planning authorities to consult the Environment Agency for developments in areas at risk of flooding (as defined in the [Town and Country Planning \(Development Management Procedure\) \(England\) Order 2015](#) before granting planning permission.

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<sup>12</sup> HM Government, [National Planning Policy Framework](#), March 2012, para 103

<sup>13</sup> HM Government, [National Planning Policy Framework](#), March 2012, footnote 20

For advice on surface water drainage when considering major development the local planning authority *should* consult the lead local flood authority. For other developments the local planning authority will want to *consider* the circumstances where it would be beneficial to seek advice from the lead local flood authority. The PPG states that LPAs are advised to consult the following bodies as appropriate:

1. The relevant sewerage undertaker where a connection with a public sewer is proposed.
2. The Environment Agency, if the drainage system directly or indirectly involves the discharge of water into a watercourse
3. The relevant highway authority for an affected road
4. The Canal and River Trust, if the drainage system may directly or indirectly involve the discharge of water into or under a waterway managed by them
5. An internal drainage board, if the drainage system may directly or indirectly involve the discharge of water into an ordinary watercourse (within the meaning of section 72 of the Land Drainage Act 1991) within the board's district.<sup>14</sup>

If the LPA has not followed the Government's policy and or failed to consult the appropriate bodies then a complaint may be possible to the Local Government Ombudsman (LGO). The LGO website has a factsheet on [Complaints about flooding and land drainage issues](#), which sets out what the LGO can look at, what it can do, and gives examples of cases in this area it has considered.

## 4.2 The role of the Environment Agency

The Environment Agency (EA) is a statutory consultee to LPAs on all non-minor planning applications within Flood Zones 2 and 3 and also for anything greater than 1ha in Flood Zone 1. In addition to this it is a consultee for sites that are less than 1ha in Flood Zone 1 and which are located in an area which has critical drainage problems and has been notified as such by the EA to the LPA. It is also a statutory consultee for applications for prior approval for some change of use. Being a statutory consultee means that the EA has to be consulted by the planning authority and has 21 days to respond, as well as being required to report annually on its responses in general. According to a PQ answered by the Government in February 2016, "between April 2011 and March 2015, over 99 per cent of proposed new homes had planning outcomes in line with Environment Agency advice where they had objected because of concerns about flood risk and had been made aware of the decision."<sup>15</sup>

The EA's report, [Managing flood and coastal erosion risks in England 1 April 2014- 31 March 2015](#) provides further information about the planning applications that it commented on:

In 2014 to 2015 the Environment Agency provided detailed technical comments on 11,010 planning applications. The

<sup>14</sup> HM Government, Planning Practice Guidance, [Reducing the causes and impacts of flooding](#), Paragraph: 086 Reference ID: 7-086-20150323

<sup>15</sup> [Housing: Construction: Written question - HL5516](#) answered on 10 February 2016

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Environment Agency initially objected to 3,237 applications and continues to work with local planning authorities (LPAs) and developers to resolve issues so that, in many cases, the initial objection can be removed before a planning decision is made.

During 2014 to 2015, the Environment Agency was made aware of 2,272 outcomes of planning applications to which it had objected in the past. These include:

- initial objections that were later removed because a solution was found before the LPA made its decision
- sustained objections, where no solution could be found before the LPA made its decision whether to grant or refuse the application

Based on the 2,272 outcomes:

- across all development types, 96.4% of planning outcomes were in line with Environment Agency flood risk advice
- for applications for development of new homes in 2014 to 2015, over 98% of 77,125 new homes had planning outcomes in line with Environment Agency advice. Between April 2011 and March 2015 this was 99.1% of 249,672 new homes.

Planning outcomes are counted as being in line with the Environment Agency's advice when applications with flood risk issues have been:

- refused by the LPA
- withdrawn by the applicant before an LPA decision could be made
- found to be acceptable following further investigation, for example, when a suitable Flood Risk Assessment was provided by the developer
- redesigned by the developer to be more flood resilient following detailed discussions with the Environment Agency and other technical advisers.<sup>16</sup>

Information about planning outcomes can be found in the following EA reports:

- [Managing flood and coastal erosion risks in England 1 April 2014-31 March 2015](#)
- [Managing flood and coastal erosion risk: April 2013 to March 2014](#)
- [Managing flood and coastal erosion risk: April 2012 to March 2013](#)
- [Managing flood and coastal erosion risks in England: 1 April 2011 to 31 March 2012](#)
- Reports covering 2008-2011 are contained in the EA's [Development and flood risk in England Annual Monitoring Reports](#), which are available from the National Archives version of the Environment Agency's former website.

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<sup>16</sup> Environment Agency, [Managing flood and coastal erosion risks in England 1 April 2014- 31 March 2015](#), 2015, p20-21

### 4.3 The role of the applicant/ developer

Certain types of planning applications should be accompanied by a Flood Risk Assessment (FRA) prepared by or on behalf of the applicant. According to Government guidance this includes developments:

- in flood zone 2 or 3 including [minor development](#) and [change of use](#)
- more than 1 hectare (ha) in flood zone 1
- less than 1 ha in flood zone 1, including a change of use in development type to a more vulnerable class (eg from commercial to residential), where they could be affected by sources of flooding other than rivers and the sea (eg, surface water drains, reservoirs)
- in an area within flood zone 1 which has critical drainage problems as notified by the Environment Agency<sup>17</sup>

The EA produces [guidance](#) about what sorts of factors should be considered in a FRA for different sizes of development in these zones.

This [guidance](#), for example, directs that the FRA will need to show (among other things), how raised flood embankments or changes to ground levels could affect water flow, and how developments or infrastructure within a functional flood plain avoid blocking water flows or increasing flood risk elsewhere.

Government guidance on [Flood risk assessment for planning applications](#) states that while someone would “usually” need to pay a flood risk specialist to carry out the flood risk assessment that someone may be able to do it for themselves if it is “for a simple, low risk development, e.g. a house extension.” It states that if someone is unsure that they can contact the [Environment Agency](#) for advice. A planning application may be refused by a local planning authority if it does not include a flood risk assessment or if it is not satisfactory. Guidance about what an FRA needs to include and how to complete it is provided on the [gov.uk website](#). There is also a checklist in the [planning practice guidance](#) that can be followed.

### 4.4 Sustainable drainage systems (SuDS)

Sustainable drainage systems (SuDS) are designed to control surface water run off close to where it falls and mimic natural drainage as closely as possible. One of their uses is to reduce the causes and impacts of surface water flooding (sometimes referred to as flash flooding). SuDS include a number of different practices or mechanisms designed to drain or soak up surface water in a more sustainable approach to the conventional practice of draining water run-off through a pipe into a sewer. Practical examples include soakaways (draining water through permeable surfaces into the ground) and ponds (draining water into a surface water body).

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<sup>17</sup> HM Government, [Flood risk assessment for planning applications](#), updated 28 October 2015

## Previous legislative proposals

The independent Pitt Review [Learning lessons from the 2007 floods](#) recommended that the Government should urgently resolve the question of responsibility for ownership and maintenance of SuDS.<sup>18</sup>

The Government accepted this recommendation and included a number of sustainable drainage provisions in the [Flood and Water Management Act 2010](#) with an intention to commence the provisions in 2012.<sup>19</sup>

In relation to sustainable drainage, [Schedule 3](#) of the [Flood Water Management Act 2010](#):

- makes provision for the publication of national standards for the design, construction, maintenance and operation of new SuDS;
- establishes unitary or county councils as SuDS approval bodies (SABs);
- requires all construction work which has “drainage implications” to gain approval for its drainage system from a SAB before it commenced.
- requires the SAB to consult with a number of bodies, including the Environment Agency, any relevant internal drainage board and any relevant sewerage company when considering the application
- provide the SAB with the power to attach conditions to any approval it granted, including the provision of a non-performance bond.<sup>20</sup>

However, the sustainable drainage provisions were never brought into force and do not therefore apply to any developments.<sup>21</sup>

More background information on SuDS is provided in the Library Briefing Paper on [Winter Floods 2013/14](#).

## Government consultation on changes to the planning system

Rather than implement the Flood and Water Management Act 2010 provisions, the Coalition Government launched a consultation to deliver effective sustainable drainage systems in England.<sup>22</sup>

The Government response was published on 18 December 2014. In an accompanying written statement, the then Secretary of State for Communities and Local Government (Rt. Hon Sir Eric Pickles MP) explained that the Government would strengthen existing planning policy “to make clear that the Government’s expectation is that

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<sup>18</sup> Cabinet Office, Pitt Review [Learning lessons from the 2007 floods](#), June 2008, Recommendation 20 [accessed 18 February 2016]

<sup>19</sup> Defra, [Government response to Sir Michael Pitt’s Review of the summer 2007 floods. Final Progress Report](#), 27 January 2012 [accessed 18 February 2016]

<sup>20</sup> The value of the bond would be payable to the SAB if the SuDS were not constructed in accordance with the approved proposals or were unlikely to be completed.

<sup>21</sup> The implementation of these provisions was delayed on a number of occasions and the Environment, Food and Rural Affairs Select Committee repeatedly called for the swift implementation of the SuDS provisions throughout the 2010-15 Parliament. For example, see: Environment, Food and Rural Affairs Committee, Ninth Report of Session 2014-15, [Work of the Committee: 2010–15](#), HC 942

<sup>22</sup> Defra & DCLG Consultation, [Sustainable Drainage Systems: changes to the planning system](#) 12 September 2014 [accessed 18 February 2016]

sustainable drainage systems will be provided in new developments wherever this is appropriate” for planning applications relating to major development – developments of 10 dwellings or more.<sup>23</sup>

Changes to the planning system took effect from 6 April 2015 and are summarised below.

## Current planning policy on SuDS

According to Government Planning Practice Guidance (PPG), new development should only be considered appropriate in areas at risk of flooding if priority has been given to the use of sustainable drainage systems.<sup>24</sup> More widely, when considering major development (which includes the creation of ten or more dwelling houses or a site of over 0.5 hectares<sup>25</sup>), sustainable drainage systems should be provided unless demonstrated to be “inappropriate”.<sup>26</sup> The PPG gives further guidance on what “inappropriate” means:

The decision on whether a sustainable drainage system would be inappropriate in relation to a particular development proposal is a matter of judgement for the local planning authority. In making this judgement the local planning authority will seek [advice from the relevant flood risk management bodies](#), principally the lead local flood authority, including on what sort of sustainable drainage system they would consider to be reasonably [practicable](#).

The judgement of what is reasonably practicable should be by reference to the [technical standards](#) published by the Department for Environment, Food and Rural Affairs and take into account [design and construction costs](#).<sup>27</sup>

The PPG goes on to set out that expecting compliance with the technical standards is “unlikely to be reasonably practicable if more expensive than complying with building regulations”:

### **Are the Department for Environment, Food and Rural Affairs’ technical standards for sustainable drainage systems mandatory?**

The [technical standards](#) provided by government relate to the design, construction, operation and maintenance of sustainable drainage systems and have been published as guidance for those designing schemes. In terms of the overall viability of a proposed development, expecting compliance with the technical standards is unlikely to be reasonably practicable if [more expensive](#) than complying with [building regulations](#) – provided that where there is a risk of flooding the development will be safe and flood risk is not increased elsewhere. Similarly, [a particular discharge route](#) would not normally be reasonable practicable when an alternative would cost less to design and construct.<sup>28</sup>

<sup>23</sup> Sustainable drainage systems: written statement – [HCWS161](#), 18 December 2014

<sup>24</sup> HM Government, Planning Practice Guidance, [Reducing the causes and impacts of flooding](#), Paragraph: 079 Reference ID: 7-079-20150415

<sup>25</sup> As defined in section 2 of the [Town and Country Planning \(Development Management Procedure\) \(England\) Order 2015](#)

<sup>26</sup> House of Commons: Written Statement ([HCWS161](#)), 18 December 2014

<sup>27</sup> HM Government, Planning Practice Guidance, [Reducing the causes and impacts of flooding](#), Paragraph: 082 Reference ID: 7-082-20150323, 23 March 2015

<sup>28</sup> HM Government, Planning Practice Guidance, [Reducing the causes and impacts of flooding](#), Paragraph: 083 Reference ID: 7-083-20150323

In considering a development that includes a sustainable drainage system the local planning authority will want to be satisfied that the proposed minimum standards of operation are appropriate and that there are clear arrangements in place for ongoing maintenance.

To support the new planning policy, the Government has made LLFAs statutory consultees on planning applications for major development in relation to surface water drainage under [Schedule 4 of the Town and Country Planning \(Development Management Procedure\) \(England\) Order 2015](#). This came into force on 15 April 2015.

## 4.5 The automatic right to connect to public sewers

Developers have an absolute right to connect new developments to public sewers once planning permission has been granted, including surface water drainage pursuant to section 106 of the Water Industry Act 1991. The Pitt Review highlighted that this places an additional strain on existing sewerage and drainage networks, which exacerbates the problems of flooding. It recommended that the automatic right to connect surface water drainage of new developments to the sewerage system should be removed.<sup>29</sup>

The Flood and Water Management Act 2010 amends section 106 of the [Water Industry Act 1991](#) to modify the automatic right to connect surface water run-off to public sewers.<sup>30</sup> However, these provisions have not yet been implemented in England and do not apply.

The Environmental Audit Committee published a report examining the Government's climate change adaptation programme in March 2015.<sup>31</sup> In this report the Committee raised concerns about the cumulative risks as a result of building on flood plains, and called on the Government to:

enforce the powers it already has under the Flood and Water Management Act to require SuDS in developments, particularly on floodplains, and remove the developers' right to connect homes to the public sewer.<sup>32</sup>

In response to this recommendation the Government said:

We recognise the need to reduce the call on the public sewer that the Pitt review recommendation, to remove the automatic right to connect to the public sewer, was seeking to achieve. However, we are confident that the changes to planning policy put in place by the previous coalition Government to promote sustainable drainage systems (SuDS) will achieve this.

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<sup>29</sup> Cabinet Office, Pitt Review [Learning lessons from the 2007 floods](#), June 2008, Recommendation 10 [accessed 18 February 2016]

<sup>30</sup> Flood and Water Management Act 2010, Schedule 3 (prohibits SuDS from being connected to public sewers unless the SuDS and its connection has been approved) and section 42 (requires section 104 agreements to be entered into before the right to connect can be exercised).

<sup>31</sup> Environmental Audit Committee, Tenth Report of Session 2014–15, [Climate Change adaptation](#), HC 453

<sup>32</sup> Ibid.

We do not therefore think it necessary to implement the second part of the recommendation related to removing the automatic right to connect new development to public sewers.<sup>33</sup>

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<sup>33</sup> House of Commons Environmental Audit Committee, [Climate change adaptation: Government Response to the Committee's Tenth Report of Session 2014–15](#), Second Special Report of Session 2015–16, HC 590, 12 November 2015, p5

## 5. Change of use and permitted development

Permitted development rights are rights to make certain changes to a building without the need to apply for planning permission. These derive from a general planning permission granted by Parliament, rather than from permission granted by the local planning authority, as set out in the [Town and Country Planning \(General Permitted Development\) \(England\) Order 2015](#) (No. 596) (the 2015 Order). Schedule 2 of this Order sets out the scope of permitted development rights.

Some permitted development rights allow for the provision of a new or replacement hard surface (such as a driveway) within the curtilage of the grounds of different sorts of buildings, such as houses, offices and industrial buildings. These permitted development rights are limited to ensure that permeable materials are used. A section on the Planning Portal explains this limitation in relation to paving over domestic gardens:

Specific rules apply for householders wanting to pave over their front gardens.

You will not need planning permission if a new or replacement driveway of any size uses permeable (or porous) surfacing which allows water to drain through, such as gravel, permeable concrete block paving or porous asphalt, or if the rainwater is directed to a lawn or border to drain naturally.

If the surface to be covered is more than five square metres planning permission will be needed for laying traditional, impermeable driveways that do not provide for the water to run to a permeable area.<sup>34</sup>

Other permitted development rights allow for change of use of existing buildings. For some change of use permitted developments there is a “prior approval” process. Prior approval means that a developer has to seek approval from the local planning authority that specified elements of the development are acceptable before work can proceed. If prior approval is refused then the change of use cannot proceed. The matters for prior approval vary depending on the type of development. Prior approval in relation to flood risk is required for the following change of use permitted development rights under the 2015 Order:

- Retail to dwellinghouses. (Paragraph M.2)
- Certain “sui generis” uses (i.e. uses that are not within an official use class) to dwellinghouses. (Paragraph N.2)
- Offices to dwellinghouses. (Paragraph O.2)
- Storage or distribution centre use to dwellinghouses. (Paragraph P.2)
- Agricultural building to dwellinghouses. (Paragraph Q.2)

There is also a prior approval process for permitted development rights relating to large extensions of dwellinghouses (as set out in paragraphs

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<sup>34</sup> Planning Portal website, [Paving your front garden](#) [on 22 February 2016]

A.1(g) and A.4(7) to (12) of the 2015 Order) in relation to the impact of development on amenity of adjoining premises.

Government guidance sets out that a Flood Risk Assessment (FRA) should be prepared by or on behalf of the applicant should in relation to the following types of change of use development:

- in flood zone 2 or 3 including [minor development](#) and [change of use](#)
- more than 1 hectare (ha) in flood zone 1
- less than 1 ha in flood zone 1, including a change of use in development type to a more vulnerable class (eg from commercial to residential), where they could be affected by sources of flooding other than rivers and the sea (eg, surface water drains, reservoirs)
- in an area within flood zone 1 which has critical drainage problems as notified by the Environment Agency<sup>35</sup>

The PPG also states that to assist LPAs in their determination of an application as to whether their prior approval is required in an area at risk of flooding, the applicant should provide with their application “an assessment of flood risk. This should demonstrate how the flood risks to the development will be managed so that it remains safe through its lifetime.”<sup>36</sup>

In some circumstances local planning authorities can suspend permitted development rights in their area. Local planning authorities have powers under Article 4 of the 2015 Order to remove permitted development rights. While article 4 directions are confirmed by local planning authorities, the Secretary of State must be notified, and has wide powers to modify or cancel most article 4 directions. A section from the PPG sets out that when considering the potential impacts of permitted development on local flood risk, an LPA “may consider” making an article 4 direction to “protect local amenity or the well-being of an area.”<sup>37</sup>

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<sup>35</sup> HM Government, [Flood risk assessment for planning applications](#), updated 28 October 2015

<sup>36</sup> HM Government, Planning Practice Guidance, [Permitted development rights and flood risk](#), Paragraph: 049 Reference ID: 7-049-20150415, revision date 15.04.2015

<sup>37</sup> HM Government, Planning Practice Guidance, [Permitted development rights and flood risk](#), Paragraph: 049 Reference ID: 7-049-20150415, revision date 15.04.2015

## 6. New homes built in flood risk areas

The Government answered a PQ in February 2016 on the proportion of new houses built on flood risk areas as follows:

Answered by: [Baroness Williams of Trafford](#)

The department's latest land use change statistics provide estimates on the proportion of new residential addresses created in National Flood Zone 3 in England. The latest figures show that in 2013-14, 7 percent of new residential addresses were created in the National Flood Zone 3. This equates to an estimated 9,100 homes being built in National Flood Zone 3 in 2013-14.

Prior to the publication of 2013-14 figures land use change statistics were calculated using a different methodology so they are not directly comparable to the 2013-14 figures. Figures produced using the previous methodology were last published for the calendar year 2011 and are provided in the [attached table](#).<sup>38</sup>

The Committee on Climate Change Adaptation Sub-Committee published its [Progress in preparing for climate change 2015 Report](#) to Parliament in June 2015, in which it assessed the progress being made on the actions and policies in the national adaptation plan and elsewhere to address identified climate risks. One of these is to avoid inappropriate development in flood risk areas. The Report examined the number of new homes built in flood risk areas

According to the ASC's [Adaptation Sub-Committee] analysis, more than 251,000 new homes have been built in the floodplain between 2001 and 2014. This makes up around 12% of all new residential development in England over that time.

Nearly three-quarters (73%) of floodplain development has been in areas that are at low risk or well protected by existing river and coastal flood defences (i.e. areas with between a 1-in-100 and 1-in-1000 annual chance of flooding). These tend to be major population centres located on the river floodplain or on the coast that have a reasonably high standard of flood defences in place.

However, 27% of floodplain development since 2001 (68,000 new homes) has been in areas with a 1-in-100 or greater annual chance of flooding. Around 23,000 new homes (9% of floodplain development) have been built in areas with a high likelihood of flooding, with a 1-in-30 or greater annual chance of flooding from rivers or the sea, even where flood defences are in place.

This is the highest category of flood risk shown on the Environment Agency's maps, and is where flood insurance is least likely to be available and affordable. New properties built in these areas will not be eligible for the Flood Re subsidised insurance scheme. This is an appropriate safeguard but in extreme cases may leave the owners of these new homes with uninsurable risks.

Development in high risk parts of the floodplain appears to be mostly occurring outside major population centres, in more sparsely populated parts of the country. Community-level flood defences are more difficult to justify on cost-benefit terms in these

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<sup>38</sup> [Housing: Floods Lords HL5515](#) answered on 4 February 2016

areas. They are therefore likely to remain poorly protected and at increasing flood risk with climate change. Places already with a relatively high proportion (between one-quarter and three-quarters) of residential properties in high risk areas include parts of Kent, the Isle of Wight, Cornwall and rural Devon, the outer Thames valley, Norfolk and Suffolk, North Yorkshire, Northumberland and parts of the north-west. Data for new development in each local authority area are available in an annex to this report on the CCC's website.<sup>39</sup>

## 6.1 Household flood insurance scheme

A new household flood insurance scheme (known as Flood Re) will be launched in April 2016, which aims to provide affordable flood insurance for those households at highest risk of flooding. However, properties will only be eligible if they **are built before 1 January 2009**. When Flood Re was being developed, the [Government explained](#) that this is because: "new housing development should be located to avoid flood risk, or where development in a flood risk area is necessary, it should be designed to be safe, appropriately resilient to flooding and not increase flood risk elsewhere in line with the national planning policies in place."<sup>40</sup>

For further information about flood insurance and Flood Re see the Library briefing paper, [Flood Insurance](#).

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<sup>39</sup> Committee on Climate Change, [Progress in preparing for climate change: 2015 Report to Parliament](#), June 2015, p64

<sup>40</sup> Department for Environment, Food and Rural Affairs, [Water Bill: Part 4 - Flood Insurance Scope of Flood Re](#), March 2014, p1

## 7. Views on development in flood risk areas

### Government

Rory Stewart, Parliamentary Under Secretary of State for Environment and Rural Affairs, responded to an oral question in Parliament in December 2015 to say that “I absolutely agree that we should not be building houses on flood plains.”<sup>41</sup> Parliamentary Under Secretary of State for Communities and Local Government, Baroness Williams of Trafford, said in response to a written PQ in February 2016 however, that development “can not be ruled out in high flood risk areas”:

Development can not be ruled out in high flood risk areas as around 10 percent of England, including large parts of major cities, such as Hull, Portsmouth and central London are located in these areas. All local planning authorities are expected to follow the strict tests set out in national planning policy and guidance, which includes steering development away from flood risk areas. Where development in flood risk areas is considered, national planning policy is clear that it should be safe, resilient and not increase flood risk elsewhere.<sup>42</sup>

### Opposition

Shadow Housing and Planning Minister John Healey was quoted in the Financial Times in December 2015 as calling on the Government to “make sure planning policy keeps up” with climate change and that “despite the housing shortage, planning should take increasing flood risk into account in deciding where new homes should be built.”<sup>43</sup>

### Debates in Parliament

In debates in Parliament on flooding on [5 January 2016](#) and on [6 January 2016](#), a number of MPs questioned whether building on flood plains was appropriate.<sup>44</sup>

For example, Labour MP for Workington, Sue Hayman, said:

Secondly, on planning and development, we have to stop building on floodplains and consider the potential impact of all proposed developments on other properties. In Dearham, I visited properties that had never flooded before, and across the beck at the back of them was a new housing development, while in Cockermouth, a development at Strawberry How is strongly opposed by local people, in part because it would straddle a zone 2 flood area, the Tom Rudd beck.<sup>45</sup>

Nigel Evans, Conservative MP for Ribble Valley said:

Building on floodplains is absolutely bonkers. There was a famous scene on Facebook of one of the fields in my constituency, where permission had been given for 39 houses to be built—it was well underwater. We have to look for the sponges that exist

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<sup>41</sup> [HC Deb 17 Dec 2015 c1684](#)

<sup>42</sup> [Housing: Floods Lords HL5515](#) answered on 4 February 2016

<sup>43</sup> “UK building 10,000 homes a year on floodplains” Financial Times, 28 December 2015

<sup>44</sup> [HC Deb 5 Jan 2016 cc69](#) and [HC Deb 6 Jan 2016 cc349](#)

<sup>45</sup> [HC Deb 6 Jan 2016 c376](#)

throughout our constituencies so that they can take the flood waters. The extra building that is going on is insane and we need to examine that, as well as the use of woodland, which has been mentioned.<sup>46</sup>

Conservative MP for Pudsey, Stuart Andrew raised the issue of unintended consequences of development upstream affecting flood risk for downstream housing:

It is also important to ensure that we get it right further downstream. In communities further down the line, such as Elmet and Rothwell and Brigg and Goole, we need to make sure that there are no unintended consequences. Upstream, what we do in areas like mine will have a knock-on effect. I have raised on many occasions my concern about plans to build on the green belt. The council is planning to build more than 70,000 homes, which means that we need to find the sites for them. In my constituency, we have built on the brownfield sites and now we have only the green belt to look at, and some of those sites are flooding now. The Ings Lane site, where 300 houses are proposed to be built, looked like a lake. In the Wills Gill gate area, where hundreds of houses are proposed, it was exactly the same picture. In Horsford, over 700 houses are being built on the field between the A65 and the River Aire. If we are going to build there, we need to be sure that we know where that water is going to go.<sup>47</sup>

## Committee on Climate Change

In an article in the specialist publication *Planning*, Daniel Johns, Head of Adaptation UK, Committee on Climate Change, suggested a review of the need to build housing in high flood risk areas:

"The NPPF helps control the level of flood plain development, but a small proportion still takes place in the flood plain - the NPPF isn't preventing it," he says. "We would like a fresh look at the pattern of new development in the flood plain to ensure that it is not going to build up as a problem in future."<sup>48</sup>

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<sup>46</sup> [HC Deb 6 Jan 2016 c367-8](#)

<sup>47</sup> [HC Deb 6 Jan 2016 c371](#)

<sup>48</sup> "How local planning authorities can meet housing need without worsening flood risk" [Planning](#), 22 January 2016

## 8. Views on the strength of the planning policy

### Government

Parliamentary Under Secretary of State for Communities and Local Government, Baroness Williams of Trafford answered a question on whether the Government intends to review planning guidance in light of recent flooding on 10 February 2016. It highlighted the Government's [National Flood Resilience Review](#) which is expected to report in summer 2016:

Asked by [The Lord Bishop of St Albans](#)

Asked on: 27 January 2016

To ask Her Majesty's Government whether, in the light of the recent extensive flooding, they intend to review the sections of the planning practice guidance relating to flood risk.

Answered by: [Baroness Williams of Trafford](#)

Answered on: 10 February 2016

Our planning guidance is clear that councils need to consider the strict tests set out in national planning policy, and where these are not met, new development on flood risk sites should not be allowed. These tests, set out in the National Planning Policy Framework, are designed to protect people and property from flooding and give councils the robust ability to reject inappropriate planning applications.

Councils are expected to avoid inappropriate development in areas at risk of flooding by directing development away from areas at highest risk, including floodplains. Where development is necessary, it must be demonstrated that it is safe and will not increase flood risk elsewhere.

We are always looking to see what lessons can be learned and what changes should be considered including how local councils plan for development, where they allow building and the account they take of the strict tests set out in national policy to protect people and property from flooding.

My rt. hon. Friend the Chancellor of the Duchy of Lancaster (Oliver Letwin), has already announced that he will chair a National Flood Resilience Review to assess how the country and our communities can be better protected from future flooding and extreme weather events. Additionally, my rt. hon. Friend the Secretary of State for the Environment, Food and Rural Affairs (Elizabeth Truss), has announced that the new Cumbria Floods Partnership group will consider and identify what additional flood protection measures may be needed in Cumbria.<sup>49</sup>

Another question asked whether the Government planned to "strengthen" its guidance on planning application and flooding:

Asked by [Lord Greaves](#)

Asked on: 21 January 2016

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<sup>49</sup> [Housing: Floods: Written question - HL5517](#) answered on 10 February 2016

HL5305

To ask Her Majesty's Government whether they will amend guidance to planning authorities in order to strengthen their advice on (1) measures for the prevention and alleviation of flooding when determining planning applications, including off-site improvement works funded by section 106 obligations and the Community Infrastructure Levy; (2) effective sustainable drainage systems; and (3) restrictions on building on flood plains and other sites with a high liability to flooding.

Answered by: [Baroness Williams of Trafford](#)

Answered on: 03 February 2016

We already have clear, robust planning policy and guidance on flood risk in place. There are strict tests in the National Planning Policy Framework to protect people and property from flooding which all local planning authorities are expected to follow, underpinned by our on-line planning practice guidance.

(...)

Updated planning guidance is designed to support local planning authorities in the effective implementation of these policies. This includes guidance on sustainable drainage systems which was strengthened last year and the use of mitigation measures to make development safe. Where appropriate, local planning authorities can secure off-site works through planning obligations or the Community Infrastructure Levy. We have made very clear in the guidance that where the Framework's tests to protect people and property from flooding are not met new development should not be allowed.<sup>50</sup>

## Committee on Climate Change

In evidence given to the House of Commons Environmental Audit Committee on 27 January 2016, Lord Krebs, Chair of the Adaptation Sub-Committee, Committee on Climate Change put forward his views on the difference between what the planning guidance provides for in theory and what happens in practice:

**Q14 Caroline Lucas:** The Government says that the National Planning Policy Framework provides strict tests to protect people and property from flooding. Do you agree with that?

**Lord Krebs:** The answer is that in theory it does. The question is what is happening on the ground in practice. In our analysis and review of this, we found a number of possible lacunae, a certain lack of transparency. For example, the responsibility ultimately lies with the local authority and the planning authority but they consult the Environment Agency on flood risk. It is not always clear what response the local authority makes to the Environment Agency's recommendations. They do not always feed back to the Environment Agency what decision they have taken. It is not clear that the Environment Agency is able, given its staff reductions, to scrutinise every application, particularly small ones. I think the answer is that, in theory, yes it ought to provide a robust mechanism; in practice it probably does not.<sup>51</sup>

<sup>50</sup> [Property Development: Floods: Written question - HL5305](#) answered on 3 February 2016

<sup>51</sup> Environmental Audit Committee [Oral evidence: Flooding: Cooperation Across Government inquiry](#), HC 768 Wednesday 27 January 2016

## Environmental Audit Committee

In its March 2015 report on [Climate Change Adaptation](#), the House of Commons Environmental Audit Committee recommended that the Environment Agency should be a statutory consultee for smaller developments:

56. Despite the clear flooding risks of building on floodplains, this continues. The Environment Agency's advice against doing so is largely followed by planning authorities, but the Agency does not consider smaller developments which can still in aggregate have a significant effect on flooding risk, and the potential knock-on effects for communities downstream from a proposed development can be missed. The Government should require the Environment Agency to provide flood risk advice on all sizes of development, including small developments currently exempted. The Government should reassess the Environment Agency's future resources, skills and financial needs, to ensure that these reflect the increasing risks from flooding in the years ahead, and the volume of work needed to deal with these.<sup>52</sup>

The Government's [response](#) to this report was published in November 2015. In relation to the above recommendation it said:

The Environment Agency is a consultee for all developments in areas at most risk of flooding (i.e. in flood zones 2 and 3), except for householder development (e.g. sheds, garages and games rooms within the curtilage of a home) or small extensions to nonresidential buildings and external alterations. Depending on the risk posed, it provides bespoke flood risk advice or refers developers and local authorities to its flood risk standing advice for these developments. The Environment Agency also has to be consulted on developments in areas identified as having critical drainage problems in flood zone 1.

In response to reduced budgets across Government to tackle the deficit, the Environment Agency's Climate Ready Support Service is going through a process of review to ensure it focuses on high priority work, supporting the development of key departmental policy and operational activities. The review covers the progress that the CRSS has made towards completing the relevant actions in the National Adaptation Programme and what further work might be necessary to complete those actions. Ministers will consider options in due course on future work and their decisions will need to take into account the outcome of the spending review which is in progress.

We are working closely with the EA to ensure that funding for Climate Change Adaptation is unaffected on high priority work (e.g. managing future flood risks) and that urgent and ongoing projects are completed.<sup>53</sup>

## Environment, Food and Rural Affairs Committee

In its July 2013 report on [Managing Flood Risk](#) the House of Commons Environment, Food and Rural Affairs (Efra) Committee expressed disappointment about continuing building on flood plains:

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<sup>52</sup> House of Commons Environmental Audit Committee, [Climate Change Adaptation](#), Tenth Report session 2014-15, HC 453, 11 March 2015

<sup>53</sup> House of Commons Environmental Audit Committee, [Climate change adaptation: Government Response to the Committee's Tenth Report of Session 2014-15](#), Second Special Report of Session 2015-16, HC 590, 12 November 2015, p4-5

15. We are disappointed that the coalition agreement's commitment to end unnecessary building in flood plains has not yet been translated into effective action. Planning guidance allows building to take place too readily in areas at high flood risk. Local planning authorities need stronger support from the Government to resist inappropriate developments in such places.<sup>54</sup>

The [Government's response](#) to this recommendation highlighted the policy in the NPPF:

When the National Planning Policy Framework was published last year, we were quite clear that we consider this met the coalition agreement's commitment to end unnecessary building in flood plains. The Framework retains the key elements of the policy endorsed by the Pitt Review into the 2007 floods, to avoid and manage flood risk to development. The Framework is very clear that inappropriate development in areas at risk of flooding should be avoided by directing development away from areas at highest risk. Where development is necessary it should be made safe without increasing flood risk elsewhere. Technical guidance was published alongside the Framework so as to ensure effective implementation of the policy.<sup>55</sup>

## Professor Dieter Helm

A January 2016 paper by economist Professor Dieter Helm CBE, [Flood defence: time for a radical rethink](#), suggested that planning regulation should explicitly internalise the "true cost" of locational decisions:

There is a significant difference between existing houses and the obvious distress and hardship caused to them by floods, and the treatment of new housing developments. Existing houses cannot be easily moved to better locations. New houses can be put in better places. In the absence of the appropriate private incentives based on the true risk costs, the alternative is proper planning, based upon the spatial choices as if the developer faced the true economic costs.

16. The need for such explicit planning regulation is all the greater as the government targets a major house building programme. This reflects the increase in single and low occupancy housing demand, and the scheduled population rise of around 10 million over the next two decades or so (a more than 20% increase in the total population). The major infrastructure developments (in addition to the house building programme) add to the flooding risk and the importance of spatial planning. In combination, this is potentially the largest scale allocation of land for many decades. The scale is awesome.

17. The planning system does not currently properly internalise these true costs of locational decisions. The result is that new houses and other developments are being built in the wrong places, and once built will present a long term and continuing flood management problem.<sup>56</sup>

<sup>54</sup> House of Commons Environment, Food and Rural Affairs Committee, [Managing Flood Risk](#), Third Report of Session 2013–14, HC 330, 4 July 2013

<sup>55</sup> House of Commons Environment, Food and Rural Affairs Committee, [Managing Flood Risk: Government Response to the Committee's Third Report of Session 2013–14](#), Fourth Special Report of Session 2013–14, HC 706, 16 October 2013, p8

<sup>56</sup> Professor Dieter Helm CBE, [Flood defence: time for a radical rethink](#), January 2016

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