

# BRICKS

&

# WATER

A PLAN OF ACTION FOR BUILDING HOMES AND MANAGING WATER IN ENGLAND

**“Building the number of homes we need has become a pressing issue – we haven’t built enough in this country for a long time. As we increase the number of new homes, we must manage water sustainably and efficiently on a catchment-scale.**

**WSBF’s in-depth year-long inquiry into housing, water and planning policy strongly concludes that the government needs to act now to improve guidance and standards for the houses that are being built. Water is a precious resource and we must use it wisely.**

**The government needs to ensure we are building the green, water-efficient, flood-resilient communities that our children and grandchildren deserve.”**

**Baroness McIntosh of Pickering and Angela Smith MP**  
Inquiry Co-Chairs

# Foreword

Bricks and Water is a report that addresses tough and complex issues – how to build the number of homes we need in England while at the same time ensuring we improve flood resilience and water availability, and avoid putting costs on future generations. The Westminster Sustainable Business Forum (WSBF) is unique in bringing together the housebuilding, water and planning sectors, and we are most grateful to all those who gave their expertise – both across and within all these sectors. Such collaboration is essential as we go forward with this conversation to improve the housing we build and safeguard our water resources for the long term. We would particularly like to thank the sponsors of this report: headline sponsor Anglian Water, and co-sponsors Affinity Water, Thames Water, the British Board of Agrément, Yorkshire Water and the Wildfowl & Wetlands Trust.



As inquiry co-chairs, we recognise that there are strong views within the WSBF and expect that not all consultees may agree with all of the report's recommendations. Indeed, we would have been astonished to have found consensus within each of the sectors let alone across the sectors; if there were simple answers they would have been found already.

As politicians we are passionate about this agenda, and have long been frustrated by the lack of a clear strategic framework and rules, and the diminishing capacity to take the right planning decisions. This report makes firm recommendations on a tougher and simpler planning framework, action at scale on both catchment management and water efficiency, and on a strategic, truly independent body to make these things happen in practice. It does not pretend to have all the answers, but the implementation of its key recommendations by the government is an essential first step. The time is right for this, with the introduction of an Environment Bill as part of our exit from the EU, and with consideration given to how best to spend public money for public goods post-Common Agricultural Policy (CAP).

As this report makes clear, the government needs to go further and faster in that work and in setting up the mechanisms to turn ambition and frameworks into reality. For our part, we propose to continue this conversation across the sectors, and to drill down into specific aspects in follow-up work on this complex and difficult issue of how to achieve housing growth and successfully address water management challenges.



**Baroness McIntosh of Pickering,  
Inquiry Co-Chair**

A handwritten signature in white ink that reads "Anne McIntosh".



**Angela Smith,  
Member of Parliament for  
Penistone and Stocksbridge,  
Inquiry Co-Chair**

A handwritten signature in white ink that reads "Angela Smith".

# Key Findings

## The challenges and barriers

**1**

The existing housing shortage will be exacerbated by a projected 8.7 million increase in the population in England by 2050. The homes needed for these people will place a significant additional demand on water and sewerage services. By 2050 water demand could exceed supply by up to 22%.

**2**

Flood risk will also be severely exacerbated by population and housing growth. 4.48% of homes in England are currently at risk of flooding. By 2050, 129% more homes are projected to be at risk of flooding – nearly 2.5 million in total. This is as a result of climate change trends, a 15% increase in population in England, and the large number of new homes that will be built which adds particularly to the risk of surface water flooding.

**3**

At the same time, water shortages will become an increasing problem in London and the South East of England, as well as the Yorkshire, Humber and East Anglia regions. An extra 4 billion litres of water is estimated to be needed every day by 2050 to ensure that the water network is resilient, and there is currently a planned resilience shortfall in the water sector of 1,000 Ml/day.

**4**

Most of the houses that we are building now will be around for the next 50-100 years at least. Unless these houses are designed to be water efficient and flood resilient, it will be future generations who have to pay, and the costs of retrofit or crisis responses are inevitably higher. These houses need to be built in the right locations to the right design standards. For example, the cost to the taxpayer of dealing with the damage caused by flooding is already over £1bn every year.

**5**

The Environment Agency has suffered 19% staff cuts in the past five years, including 40% of the 'planning and development control' staff. Natural England's budget has been cut 60% since 2009, losing many of its policy specialists. At a local council level, Lead Local Flood Authorities (LLFAs) are also struggling with a lack of funding and expertise. Some LLFAs do not even employ specialist flood management experts. This casts doubt on the capacity and independence required by environmental bodies to fulfil their responsibilities.

**6**

Progress on adapting English communities to climate change has been very limited and any prior momentum has stalled. Fewer than half (42%) of local authorities have a climate change strategy or adaptation plan. We are building hard urban catchments, thereby increasing the risk of surface water flooding in many places, as the water has nowhere to go. For example, urban greenspace in England has shrunk 7% since 2001, and in the last ten years across UK 22,000 hectares of green spaces has been lost: an area of land twice the size of Liverpool has been turned from green space to hard surface.

7	Relationships between water companies, housebuilders and local authorities are complex and disjointed, with no designated forum to initiate strategic discussions about how to tackle problems at scale or nationally. Each sector has a different planning horizon leading to incoherence of approach. There is palpable distrust between some housebuilders and water companies, which is evidenced by their breakdown in communication, and this is causing costs and delays to both parties.
8	The planning system is overloaded and focussed on issues of local impact and importance to communities, with limited wider relevance. Authorities typically have a low planning eyeline- only 43% of authorities plan at least 15 years into the future. Some local planning authority budgets have almost halved (46%) since 2010, and over a third (37%) of planning policy staff have been lost.
9	Water is a low cost utility, which is shown in institutional and individual decisions. At the institutional level, the wider public benefits of green infrastructure are not sufficiently factored into value-for-money decisions, nor are the costs to the government and taxpayer of future flooding events. At the householder level, individuals do not appreciate flood risk nor are they sufficiently concerned about the importance of water efficiency measures.
10	Houses also aren't as water efficient as we think they are—evidence from Thames Water suggests that new homes built to a standard of 105 Litres per person per day (Lppd) actually tend to be using between 5-25% more than expected.
11	Sustainable Drainage Systems (SuDS) still haven't 'become the norm' with developers, drainage engineers and housebuilders, and there was a perception among the majority of respondents that a pervasive preference for traditional belowground concrete drainage solutions remains in the sector. Overground 'green' SuDS can be up to 86% cheaper to build and offer many additional benefits, but viability concerns remain over the land take of SuDS and the resulting negative effect on developer profitability.
12	The financial incentive at government level to avoid Court of Justice of the European Union (CJEU) fines and infractions (e.g. for poor water quality) will be potentially lost post-Brexit, which raises questions over who will provide the independent oversight. There is a risk the UK will revert to being the "dirty man" of Europe if environmental standards are no longer legally enforced independently.
13	UK's ability post-CAP (Common Agricultural Policy) to set its own environmental goods in return for public subsidy provides an opportunity to include water-related public goods, in the shift of public money from the current Pillar 1 to Pillar 2 type payments to payments for improving water quality and quantity, and managing flood risk can be brought up the agenda.

# Executive Summary and Key Recommendations

Driving up the quantity of new houses we need in England while tackling problems of water quantity, quality, and flooding risk is a significant challenge for all involved. The factors we need to address, set out in Section 1 of this report, make stark reading. They point to the need for urgent action now to ensure our housing stock – the 1.5 million new homes planned by 2022, not forgetting the existing stock – provides quality homes now and over their lifetime of the next 50-100 years. For example, by 2050 there could be 2.5 million homes at high risk of flooding, at an annual cost of £2.2bn, and over the same timeframe the current water surplus of 12% is due to change to a water deficit of up to 22% of total water demand. Coupled with the effects of climate change, we conclude that, without urgent action, the Government's commitments on protecting citizens from flooding and on reversing the decline of nature cannot be achieved.

There are however many opportunities to put things right. Section 2 sets out examples of good practice and techniques to manage and improve our use of water. These include sustainable drainage systems, water efficiency in the home, and natural flood management. We do not need to wait for new technological solutions – they already exist.

Grasping existing opportunities and applying patchy good practice universally is not straightforward or simple – if it were there would already be systematic action in hand across England, which is not the case. Section 3 of this report sets out a number of critical barriers to achieving the Government's ambitions on water and housing: complex, inconsistent and unclear "rules" in planning and building regulations which results in a general disincentive to all builders; confusion and overlapping responsibilities hindering robust accountability; governance and leadership gaps at the national and sub-national level; loss of capacity and skills in public bodies and at the local authority planning level; inconsistency in the time horizons of the plethora of plans; and lack of information to water consumers to allow them to make informed decisions on water efficiency and flood resilience measures. All these factors hinder a joined-up and systematic approach to decision-making and implementation.

Section 4 describes what needs to be done to achieve the ambition of 1.5 million new homes in England by 2022 while improving water management and resilience. It sets out that the Government needs to provide an unambiguous, consistent and clear planning framework – housebuilders are willing to accept tougher rules providing they are applied equally and fairly across the industry. Tougher and simpler regulation should set ambitious minimum standards on water efficiency of 100 litres per person per day (taking the lead from what some developers and water companies are already doing to drive water efficiency and reuse in the

home), and the provision of green infrastructure becoming the norm. To deliver change quickly, we are pressing for a clear, unambiguous ‘Bricks and Water’ Sustainability Code to be introduced as a matter of urgency, with building regulations amended in due course to provide a stable long-term planning framework.

Strategic leadership on water management will be needed through the new environmental body proposed by the Environment Secretary. The inquiry agrees with the Government that the new body needs to provide national level input to the government’s policies and plans—especially in the Housing Ministry and Environment Department, and have the independence, authority and powers to assess the impact of the government’s work across England and advise the Supreme Court of the UK or whichever element of the judicial system takes over the CJEU role on delivery against statutory targets and infraction action.

In addition, however, capacity is needed at the sub-national level, to create partnerships across the country at what we have called the water catchment level. It is at this level that there is a serious gap in proactive planning and decisions on housing and water management at scale, and in the provision of strategic planning advice to democratic leaders (local planning committees) on water and green infrastructure at scale. We have suggested the proposed new body could provide a leadership role, with water companies given statutory consultee status on individual planning applications, helping them to work with developers from the early stages of an application.

The legislation to establish the new environmental body must provide true independence, power and authority to hold the whole of government to account on sustainable housing and water, secondly, the capacity to provide the leadership needed to make things happen on the ground, and thirdly be future-proofed to allow for further innovation in water management.

More can and must be done to adapt new and existing housing to the challenges faced by climate change, by making them flood resilient and water efficient, and to maximise water reuse. The targets set out in our proposed ‘Bricks and Water’ Code will only be sustained if consumers are provided with a practical understanding of the costs and benefits of water management, through the introduction of a mandatory Property Resilience Certificate (covering a home’s flood risk and water efficiency) and a mandatory water efficiency labelling system for water fixtures and fittings, building on good international examples in the EU, USA and Australia.

Green infrastructure such as SuDS is a nationally important asset; a register needs to be established and monitored, to drive at-scale decisions including retrofit. Existing guidance (such as the “SuDS for Adoption” standards being developed by Water UK) on incorporating green infrastructure into developments and communities, and their subsequent management needs to be firmed up and included in the ‘Bricks and Water’ Sustainability Code.

Section 4 finally seeks to address water management issues up-stream, noting that this is relevant to housing due to the great potential for improving water quantity and quality, and reducing flooding risk. It sets out that improving the up-stream quality of water and reducing the risk at source of river flooding should be brought up the agenda when considering public money for public goods, in the government’s introduction of a post-CAP framework.

# Recommendations

The key recommendations arising from this inquiry are set out below; but these are not the end of what is a highly complex and long-term issue. Section 4 of the report therefore also touches on some of the issues that should be addressed as the report is taken forward and as the Westminster Sustainable Business Forum drills down into particular findings and recommendations in this report. The WSBF has not attempted in this report to cost the recommendations, though a key theme has been to recommend action to avoid pushing costs onto future generations.

## Recommendation 1

The Government should urgently introduce a fairer, tougher and simpler planning framework supported by building regulations. This will level the playing field to current best industry practice and support all developers, large and small, to deliver the very highest water efficiency and flood resilience standards. To make this happen quickly the Government should introduce a mandatory 'Bricks and Water' Sustainability Code.

## Recommendation 2

The new strategic body proposed by the Environment Secretary must be truly independent, have the powers to fully hold the government to account, and provide the leadership on water management to make things happen on the ground. It should face the Housing Ministry as well as the Environment Department.

## Recommendation 3

Water issues need to be addressed at sub-national as well as national level (we've called this catchment scale) in order to address the challenges of flooding, water quality and quantity; ensure strategic engagement between housebuilders, water companies and other bodies; and provide strategic advice to democratic decision-makers about planning decisions. This could be achieved through the proposed new environmental body.

#### **Recommendation 4**

Water efficiency, reuse and flood resilience needs to be driven up the agenda through mandatory Property Resilience Certificates (based on the BRE Home Quality Mark), and mandatory water efficiency labelling for fixtures and fittings.

#### **Recommendation 6**

Post-CAP incentives being developed by DEFRA should prioritise the management of water as a public good, to ensure up-stream action in river catchments is taken to reduce flooding and improve water quality.

#### **Recommendation 5**

Green infrastructure must be the norm for homes and communities, not concrete infrastructure. A national register of significant sustainable drainage systems needs to be developed to inform decisions and prioritise action, and the proposal in the draft National Planning Policy Framework on maintenance responsibility for green infrastructure should be firmed up and included in the 'Bricks and Water' Sustainability Code to ensure it becomes embedded quickly.