
Discussion Summary

How can sustainable drainage (SuDS) improve our built environment?

Top Lines

- **Sustainable Drainage Systems (SuDS) increase urban greenspace and have multiple societal benefits.** The four pillars of SuDS are improving water quality; better water runoff control and managing flood risk; biodiversity benefits through creating habitats for nature; amenity and placemaking benefits for residents.
- **Much of the drainage that is currently built in housing estates is not sustainable.** SuDS mimic natural processes by attenuating water through topsoil and a vegetated layer, rather than allowing rainwater to run off a hard impermeable surfaces like concrete. SuDS include green infrastructure features such as grass buffer strips, swales and ponds.
- **The planning service is underfunded and overburdened, which is causing delays to housing growth and sub-optimal development.** Local authority planners continue to be hampered by lack of capacity and in some cases knowledge and experience. Whilst the Government plans to update SuDS guidance, planners are struggling to implement existing guidance to a satisfactory standard.
- **Early engagement in planning is crucial for delivering SuDS.** For SuDS to achieve multiple benefits they need to be designed into housing developments from the earliest stage possible, before the planning application is submitted. Early engagement between the developer and the Lead Local Flood Authority (LLFA) is crucial for fully integrated SuDS to be designed and built. Ideally SuDS advocates (e.g. LLFA) need to engage before the land is bought for development.
- **The legislative framework for domestic SuDS at the moment is relatively weak.** The Flood and Water Management Act 2010 was not fully implemented, which has stunted the uptake of SuDS in some places. The removal of the Code for Sustainable Homes in 2015 was viewed as a further negative signal to the market. Updating the Non-Statutory Technical Standards (NSTS) and National Planning Policy Guidance (NPPG) to advocate for the multiple benefits of SuDS will give more power to LLFAs to demand that these multiple benefits are realised.
- **SuDS delivery on the ground remains inconsistent and fragmented across the country.** A quarter (25%) of local authorities have no formal policy on SuDS (Landscape Institute). More connection needs to be made with overarching Government policy on SuDS and how the policies are implemented on the ground by local authorities.

Recommendations

1. **Extensive development of flood plains and other high flood risk areas should be avoided and discouraged through government guidance and the planning system.** SuDS retrofit of urban environments is also crucial to achieving catchment scale management of water. Ofwat should give the water companies regional targets for SuDS retrofit, habitat restoration and tree planting.
2. **MHCLG should revise the NSTS and the NPPG for SuDS to reflect the new National Planning Policy Framework (NPPF) wording on the multiple benefits of SuDS.** Currently the government guidance only covers conveying water quantity on site to avoid flooding events. Multiple benefits should also be reflected in the new Green Infrastructure Standards that are being produced.
3. **The Government should establish a central record of SuDS features, and update the flood risk maps available to planners with the latest climate projections.** The SuDS record should be kept by DEFRA would provide data on how widely SuDS are used. This would also help update flood maps with pluvial flood risk, so that planners can make a more informed assessment on the flood risk of a planning application. The government should also review the automatic right to connect for developers to surface water drainage from the site to sewers.
4. **Water and sewerage companies in England should be encouraged to move to an area-based charging system for drainage.** There is not a financial incentive for them to do this, so Ofwat should provide incentives for them in the business planning process. Area-based charging for drainage would offer a financial motivation to fit SuDS and also reflect the polluter-pays principle of the Government's 25-year Environment Plan (25YEP). Ofwat could also give the water companies targets for SuDS retrofit, habitat restoration and tree planting.
5. **Ofwat should look to combine each company's 25-year Water Resource Management Plan (WRMP) and Drainage and Wastewater Management Plans (DWMP) into a single plan.** This would allow a full long term vision to be outlined for the catchment for each geographical region of England. Currently DWMPs and WRMPs are not even produced on the same timescale.
6. **Water companies should become statutory consultees on individual planning applications, as they are for Local Plans.** This would enable water companies to become more aware of development happening in their region and result in fewer delays to housing growth.

Speakers

- **Baroness McIntosh of Pickering**, Chair – Bricks & Water report co-chair, Conservative Peer and former Chair of the EFRA Select Committee
- **Innes Thomson**, Association of Drainage Authorities
- **Andrew Taylor**, Countryside Properties
- **Clare Warburton**, Natural England

Overview

Hosted by the Westminster Sustainable Business Forum (WSBF), this policy roundtable on 29th January 2019 built on the findings and recommendations from WSBF's recent [Bricks & Water](#) report published in June 2018, which outlined a plan of action for building homes and managing water in England.

This was the third of four follow-up events, which looked at urban green space and sustainable drainage in England. The *Bricks & Water* report exhibited that there is growing concern about increasing hard-surface area in urban catchments as they are vulnerable to climate change and pluvial flooding. This type of flooding is hard to predict, meaning that housing developments should be fitted with SuDS. However as highlighted in the report, urban green space in England is shrinking (-7% since 2001). SuDs look to manage surface water by mimicking pre-developed natural systems, thereby holding multiple benefits such as filtration to improve water quality and increasing site biodiversity by creating habitats for wildlife. This roundtable discussion looked to answer:

- How much progress have we made on uptake of sustainable drainage systems (SuDS) in developments, and what's been preventing it?
- Who pays for the installation of SuDS? How do volume low margin house builders pass the cost on to the buyer? Do house builders have the proper incentives to build SuDS?
- Who should be responsible for the maintenance of SuDS - councils, management companies or water companies?
- Should the automatic right to connect surface water run-off from developments to sewers be removed, and what effects could this have?
- Do we properly account for the multiple benefits (biodiversity, water quality etc) of SuDs?

This roundtable was kindly chaired by Baroness Anne McIntosh, Conservative Peer of the House of Lords, former chair of the EFRA Select Committee, and Bricks & Water report co-chair.

Speaker Summary

Innes Thomson – Association of Drainage Authorities

- ADA is an advocate for more catchment management with water, so that water is carefully managed from source to sea.
- Natural flood management (NFM) measures have a big role to play in catchment management to complement the existing more engineered flood defenses. NFM initiatives include the deliberate

flooding of buffer areas and fields so that water is held in the upper catchment to prevent flooding downstream. This must be balanced against being able to properly and efficiently evacuate flood waters from these areas when the risk subsides. Restoration of wetlands and peatlands is an important part of creating 'sponges' that can hold water and let it out slowly, to slow the flow of nearby water courses. In conjunction with other solutions, NFM can help to offer cost-effective solutions for communities at risk from flooding who might otherwise qualify for more traditional FCERM (flood and coastal erosion risk management) investment.

- The new 25-year DWMPs that water companies are being required to produce need to be fully supported by the regulator Ofwat.
- Housing growth needs to be sustainable with a long term maintenance plan for any installed drainage systems, so that these communities can thrive and prosper for decades to come.
- The Government's 25-year Environment Plan (25YEP) highlights the need for biodiversity net gain in developments, and SuDS are a good way to achieve that if we properly account for their multiple benefits. The many public benefits of SuDS should be recognized, such as providing flood storage to prevent flooding of homes.
- SuDS delivery remains inconsistent across the country, so to try to help provide consistency and share best practice, local authorities are forming a new organization: the Association of SuDS Authorities (ASA). This will help authorities offer a consistent and robust service to developers.

“Sustainable drainage systems can provide many public benefits which need to be realised. As well as achieving the biodiversity net gain desired in DEFRA’s 25-year Environment Plan, SuDS can provide flood storage for water that would otherwise damage peoples’ homes.”

Innes Thomson – Association of Drainage Authorities

Andrew Taylor – Countryside Properties

- SuDS are very important for landscaping a new housing development and creating a sense of place for residents. By improving the environment for prospective home buyers, the developer can make a clear business case for urban green space.
- The land take of SuDS can make them unattractive to house builders as they eat into profit margins. However, SuDS don't have to take away from the buildable area on a development as the planner can utilize the open space for multiple functions such as a combined drainage and sport recreation area. Some builders may also be concerned about procurement problems of having to mix lots of different kinds of materials together.
- There is a worrying lack of experience and capacity in local authorities when it comes to the planning process which is hampering housing growth and designing the best possible developments.
- SuDS long term maintenance is the difficult issue. Developers want to design an estate which is self-sufficient. The problem with SuDS is that they require active maintenance (moving, clearing etc) that concrete solutions do not.

“SuDS are very important for the landscaping of a new housing development and creating a sense of place for residents – this represents a clear business case for SuDS for the builder.”

Andrew Taylor – Countryside Properties

Clare Warburton – Natural England

- DEFRA is currently consulting on the biodiversity net gain principle set out in the 25YEP. The government is looking for a 10% net increase in biodiversity for developments.
- Natural England is developing an eco-metric tool that can help housing and other infrastructure developers and land managers to measure natural capital net gains from land use change, and can help projects to maximise benefits such as flood protection, recreation and improved water and air quality, at early options and design stages.
- The Government is also developing its approach to local Natural Capital Plans as set out in the 25 year environment plan, which will contribute to creating resilient places that people want to live, learn, work and visit. These will have links with Local Industrial Strategies.
- Natural England is working with Defra, MHCLG, Public Health England, the EA and a variety of other Departments on the production of a framework of Green Infrastructure (GI) Standards, which will be embedded in the NPPF and supporting Planning Policy Guidance. They will provide a practical framework of standards that can be easily used by GI planners, designers, local planning authorities and communities to deliver more good quality, interconnected GI, at a local and landscape scale. Natural England would particularly like to increase the multi-functionality of greenspace, so that it provides multiple benefits for local communities including green SUDs-type services for water management as well as recreation and engagement with nature in deprived communities. These standards will be tested in late 2019 and published in 2020.
- There is the ongoing Water Resilient Cities project led by Business in the Community in Manchester. The project has emphasised that by using SuDS to disconnect areas of a site from wastewater system, it is possible for business customers to move down a charging band for drainage and make annual financial savings that can offset the cost of the SuDS, delivering a return on investment in 5 years for around 250 institutions such as schools and NHS sites.

“The Government’s 25-year Environment Plan embeds the principle of net gain in legislation. For housing developments the government is looking for a net biodiversity gain on site of 10%, and green sustainable drainage systems are an excellent way to achieve that.”

Clare Warburton – Natural England

Open Discussion

The open discussion around the table covered various topics, including:

- The Government's policies on housing growth (MHCLG) and flooding reduction (DEFRA) are in conflict. More houses and associated hard surfaces (roofs, paths, roads etc) mean less permeable surface and more risk of surface water flooding. When combined sewers get overloaded with rainwater they can also cause sewer flooding and pollution. Increased flooding risk can be ameliorated by fitting housing estates with integrated SuDS networks, and managing water over the whole catchment using natural processes.
- The Government should introduce a legal duty on local authorities to deliver sustainable development in England. This would aid the wider crisis of lack of purpose in the planning system, and ensure that housing growth is well planned in location and design for resilience. The government should look at implementing the 'water neutrality' concept for new developments. This principle would require offset of increased water usage and runoff from housing developments to be used to fund a communal pot which could be used for SuDS retrofit in other areas of the catchment.
- The government should investigate rolling out natural capital accounting to local authorities to properly account for the multiple societal benefits of SuDS. However more clarity is needed from the Government on how the natural capital plans are going to work in practice and how they join up. One possibility is the Government could require mandatory net gain on environmental metrics like biodiversity for all new developments.
- LLFAs need more training on the benefits of green infrastructure to improve their interrogation of planning applications. This would enable them to provide better planning application feedback to developers and result in improved build quality for SuDS.
- England should move to an area-based surface water drainage charging regime. This provides a financial incentive to remove impermeable surfaces through installing SuDS, and has been used in Germany to greatly increase the coverage of green infrastructure. This has prevented some of the surface water flooding impacts of urban creep, with impermeable carparks being particularly targeted.
- There were some concerns that water companies have no financial incentive to introduce area-based drainage charging. The companies will have to completely change to way they charge for drainage to a more specific targeted method, and will not receive additional revenue for doing so, in fact they may actually receive less revenue through offering savings for SuDS.
- Repealing the automatic right for developers to connect surface water drainage from a new development to existing drains was discussed. Many felt that this would offer a strong incentive for developers to provide a SuDS network on their development, but some felt that this could put developers in an awkward position if the water company declined surface water runoff going into their drains. Some sewerage companies are now offering a proportional rebate to the developer on drainage charges depending on the size of the SuDS network they have on the development.
- The planning system is too fragmented in England to currently deliver effective SuDS solutions on the ground.

- The long term maintenance adoption of SuDS and the costs associated with this remains the big issues that have yet to be effectively resolved after the Government failed to completely enact the Flood and Water Management Act 2010, which would have legislated for SABs (SuDS Adoption Bodies). The water companies can now adopt more SuDS due to Water UK's work on the Sewers for Adoption 8 guidance, which helps the water companies with some of the funding for maintenance issue.
- The Water Act 2014 emphasised that the water sector should become more sustainable and resilient. There is a feeling that the environmental side of this is being lost in favour of other forms of resilience (e.g. financial). Ofwat needs to encourage the water companies to become more innovative and trial new ways of delivering their services.
- Most water companies are keen to promote SuDS to developers in their area to try and keep surface water runoff out of combined sewers, and so avoiding pollution of watercourses. It is cheaper for companies to incentivise developers through a rebate on drainage charges to build SuDS if it extends the life of the drains and sewers.
- SuDS retro-fit of urban environments is also crucial to achieving catchment scale management of water. Ofwat should give the water companies targets for SuDS retrofit, habitat restoration and tree planting.
- The Government should require mandatory net gain on environmental metrics like biodiversity for new developments for the planning application to be approved. Extensive development of flood plains and other high flood risk areas should be avoided and discouraged.
- The recent LLFA survey conducted by the Landscape Institute showed that many of the delays in planning is caused by developers submitting incomplete or inadequate information to the planning authority: 96% had concerns about the quality of the information that they received, and so were made to back to the developer to request more information.
- SuDS and other natural flood management measures alone won't remove flooding risk to housing, but they can reduce the risk by allowing water to attenuate to ground.
- Whilst updating the NSTS and the NPPG on SuDS will help, the planning service is already overburdened with enacting current guidance and processing applications. The Government is also developing cross-Departmental Green Infrastructure Standards.
- Problems can occur when the development site is sold on several times, as what is eventually designed in terms of integrated SuDS is not what is eventually built.
- There is a lack of integration in between Local Planning Authorities and LLFAs so that the planners don't know when to consult the LLFA on an application.
- Communities need to be encouraged to become more engaged in maintaining and improving their urban greenspace and SuDS. The specific benefits of SuDS should be emphasised by the government to the local community which it serves, so that they are more willing to pay to maintain them. This has worked effectively in other countries like in Portland in the US

About the organisers

The Westminster Sustainable Business Forum (WSBF) is a high-level coalition of key UK businesses, Parliamentarians, Civil Servants and other organisations. Providing a politically neutral environment for knowledge sharing and discussion on sustainability policy, we help to inform the wider sustainability agenda in government and are a trusted source of independent information and advice for policymakers. We publish authoritative research reports; impact on government policy through our in-depth round table policy discussions and outputs; and inform the wider sustainability debate by convening Parliamentarians, senior Civil Servants, business experts and other stakeholders at our larger policy events and seminars. The WSBF works in the policy areas of construction, infrastructure, water, sustainable planning, green finance and natural capital. We are cross-party, independent and not-for-profit.

For more information on our activities, please visit: www.policyconnect.org.uk/wsbf or alternatively please contact Jim Clark at jim.clark@policyconnect.org.uk.

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