

CIWEM's Big SuDS Survey

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Safe&SuRe Water management

Plans for a million homes 'raises the flood risk': Fears drainage system will be overwhelmed if new properties are built

- Planning laws make it too easy to connect homes to existing mains drainage
- Surface water flooding happens when too much water arrives too quickly
- Flooding cost the UK £3.2bn in 2007 – which led to Parliament requiring all new developers to consider sustainable drainage options before connecting to mains

By COLIN FERNANDEZ FOR THE DAILY MAIL

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Britain's drains will be overwhelmed by the construction of nearly a million new homes, according to a survey of engineers and flooding experts.

A survey of 539 industry professionals including engineers and flooding consultants said current planning laws make it too easy to connect homes to existing mains drainage – which are already over capacity.

studies and examples.



What do we know about SuDS?

- 1) Are SuDS an important sector for TWENTY65?
- 2) What is the scale of UK SuDS? (*Number of installations, market age, scale of tanks, market value, comparison to RWH market*)
- 3) What systems and solutions prevail?
- 4) Do prevailing systems achieve “Sustainable Drainage”?
- 5) How can we measure “Sustainable Drainage”? (ODIs, Metrics?)
- 6) What does this all mean for us?



Tailored silver basket of solutions delivering positive impact on health, the environment, the economy, and society - in North Wales or Pacific Northwest America or Borneo

Challenge: Large infrastructure systems for few people, more rainfall

T4 Community Water Resources

T1 Demand Based Treatment

T6 Mobilisation

T1 Demand Based Treatment

T2 Water-Energy Systems

Q1 – Why Sustainable Drainage. Three reasons?

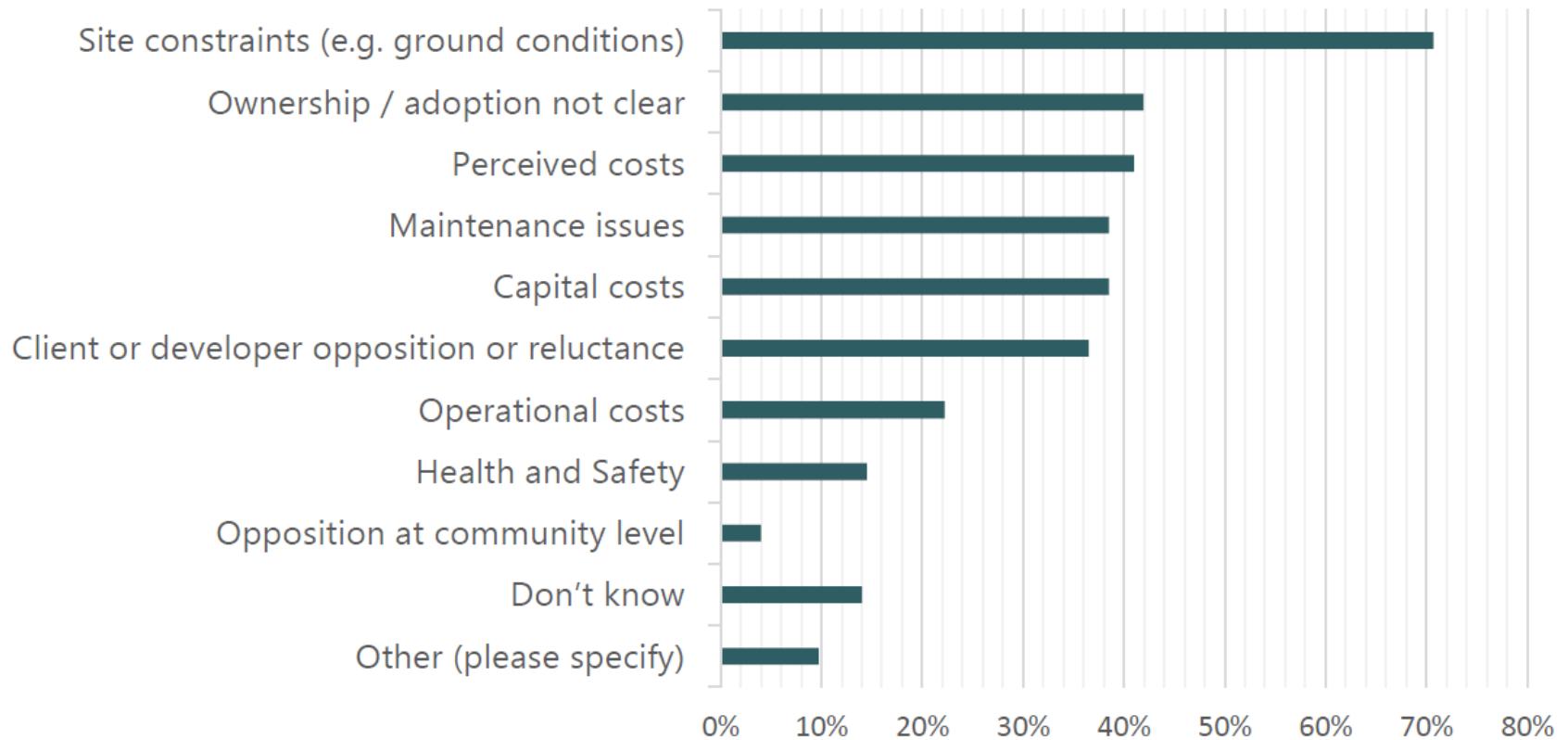
Why sustainable drainage?

How does this present research opportunities?

Q2 – Why Not SuDS

What are the reasons cited in planning applications for not implementing SuDS?

Please tick all that apply



Role of respondents?

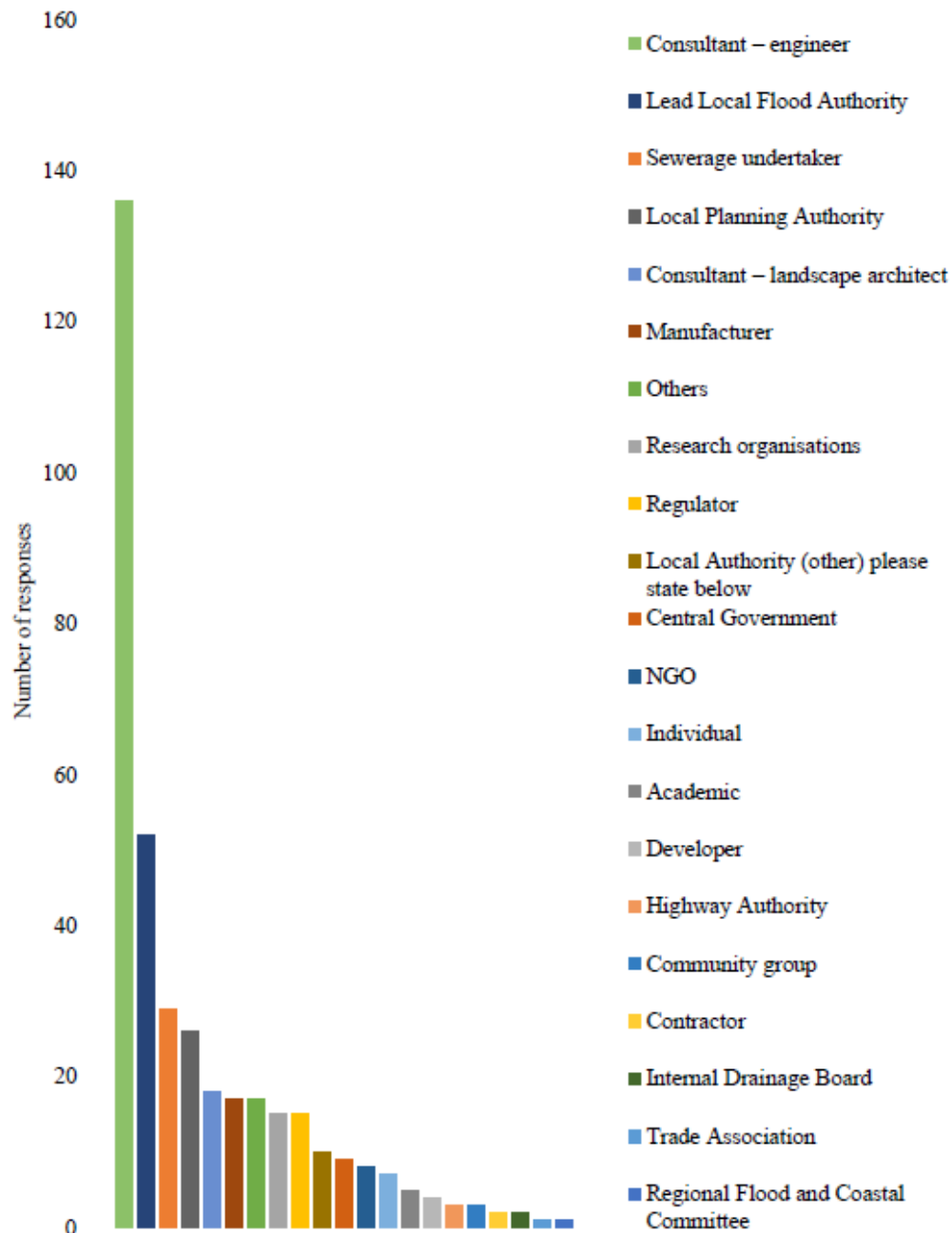


Chart 1. Job role of the respondents

3) Does policy promote SuDS sufficiently?

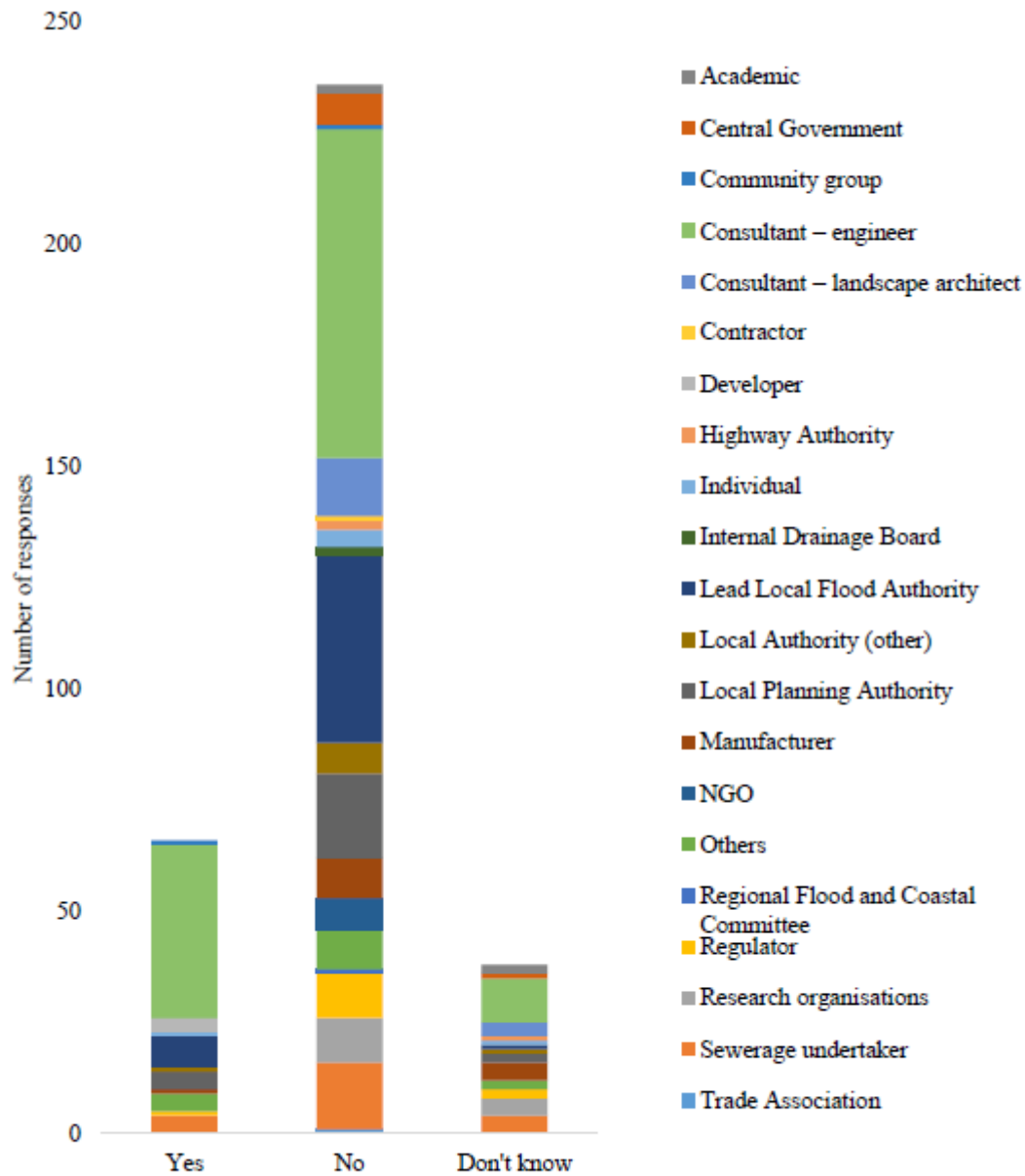


Chart 7. Do current SuDS policies sufficiently encourage SuDS?

4) Are SuDS used at large Sites?

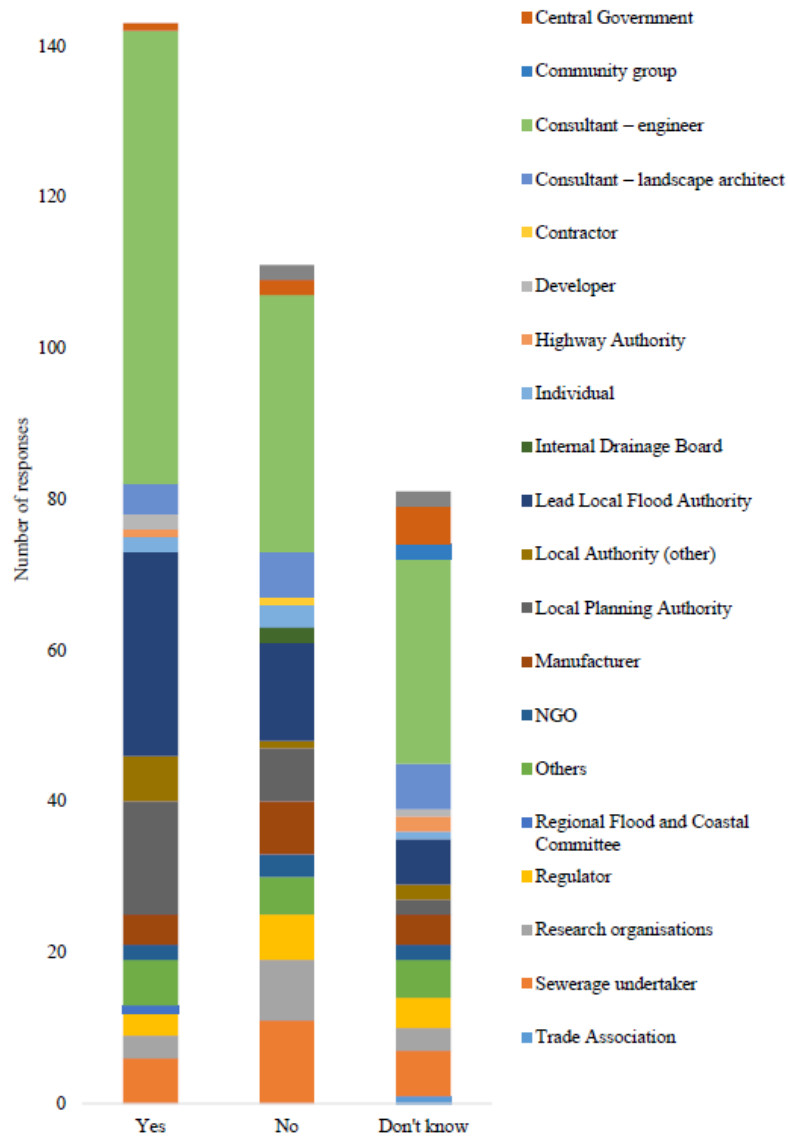


Chart 8. Are SuDS incorporated into the majority of housing schemes with ten or more properties?

5) At what stage should SuDS be considered?

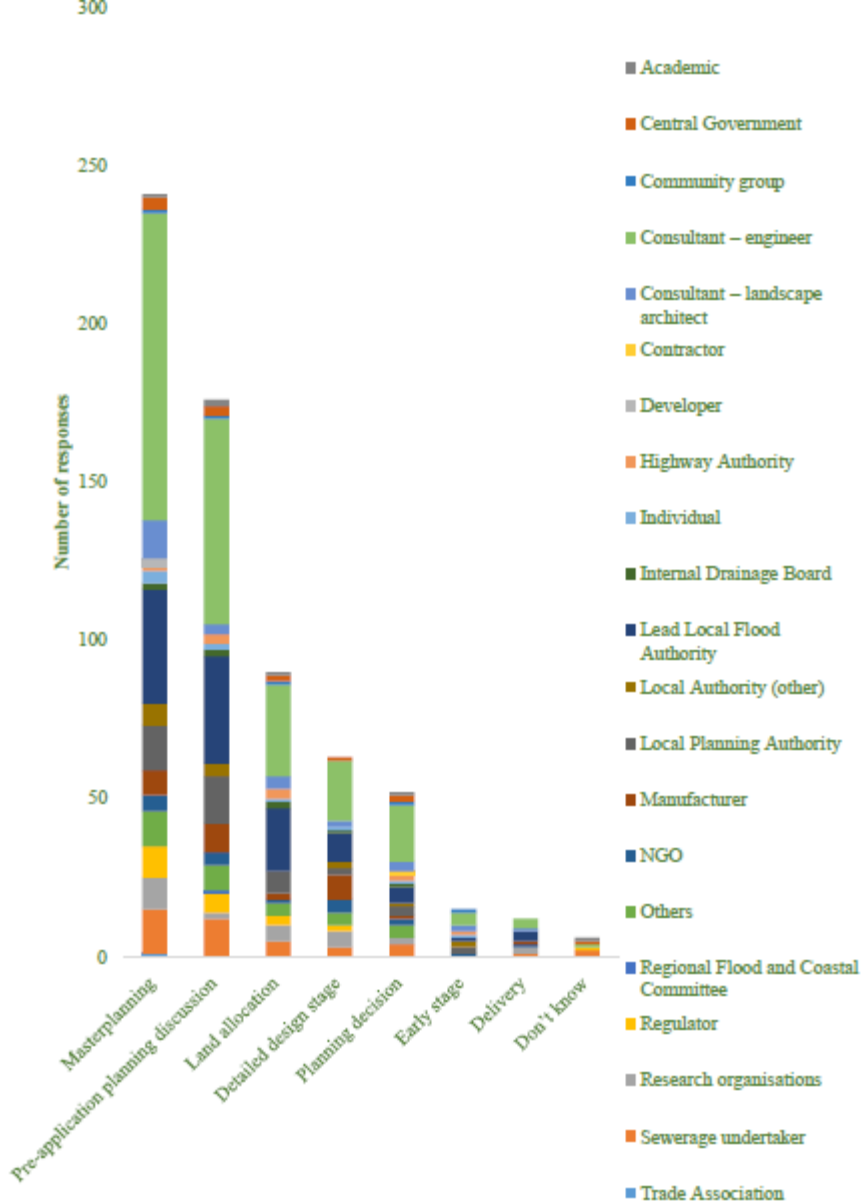


Chart 10. What is the best stage to integrate SuDS into schemes?

In your experience are SuDS incorporated into the majority of housing schemes above ten dwellings?

■ Yes ■ No ■ Don't know

In your experience are SuDS incorporated into major commercial schemes? (as defined by planning policy)

■ Yes ■ No ■ Don't know

8) What SuDS are actually being used at large sites?

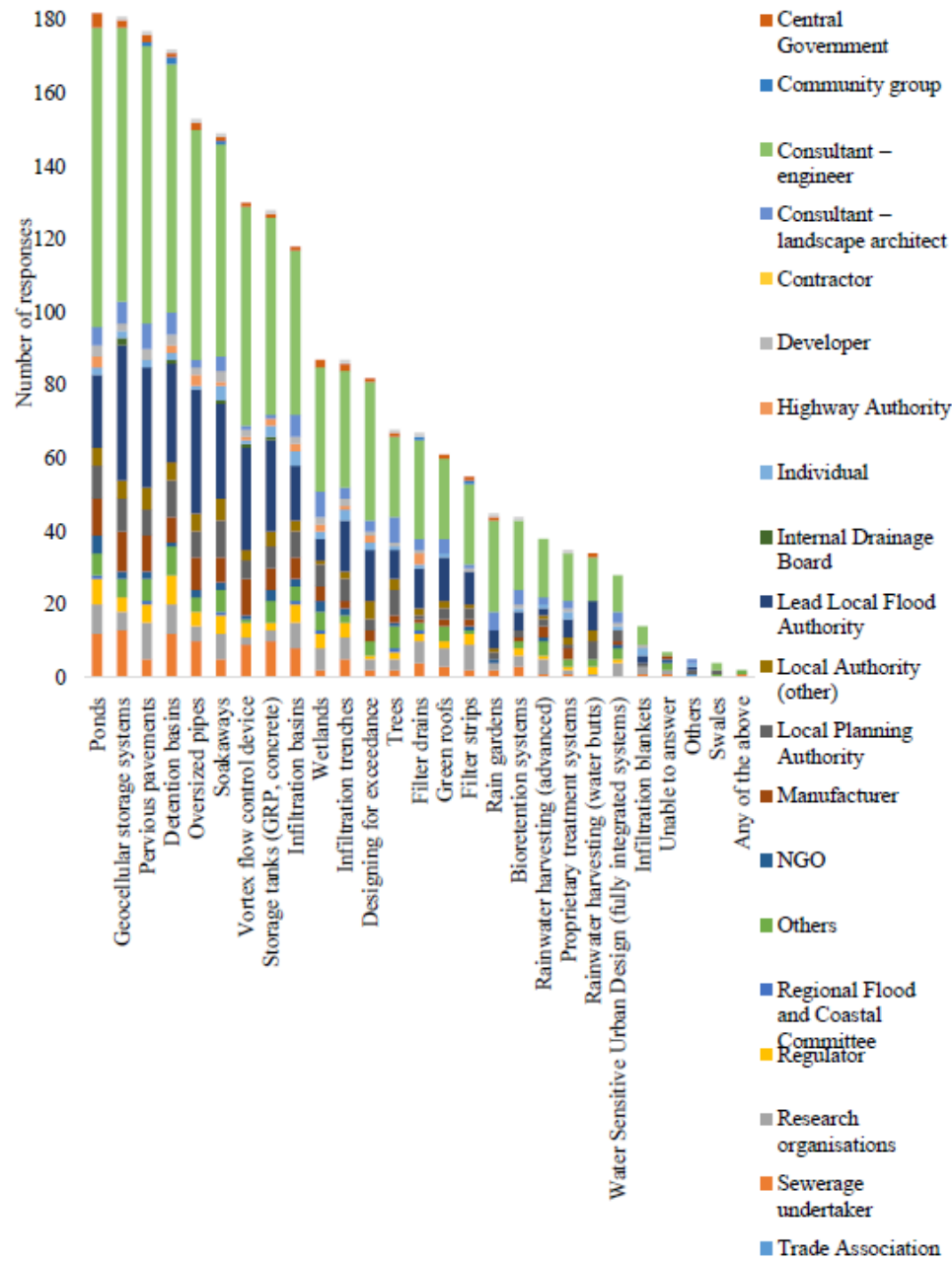


Chart 13. What form does SuDS take on large sites?

Is Policy Perfect? Does it lead to great SuDS?

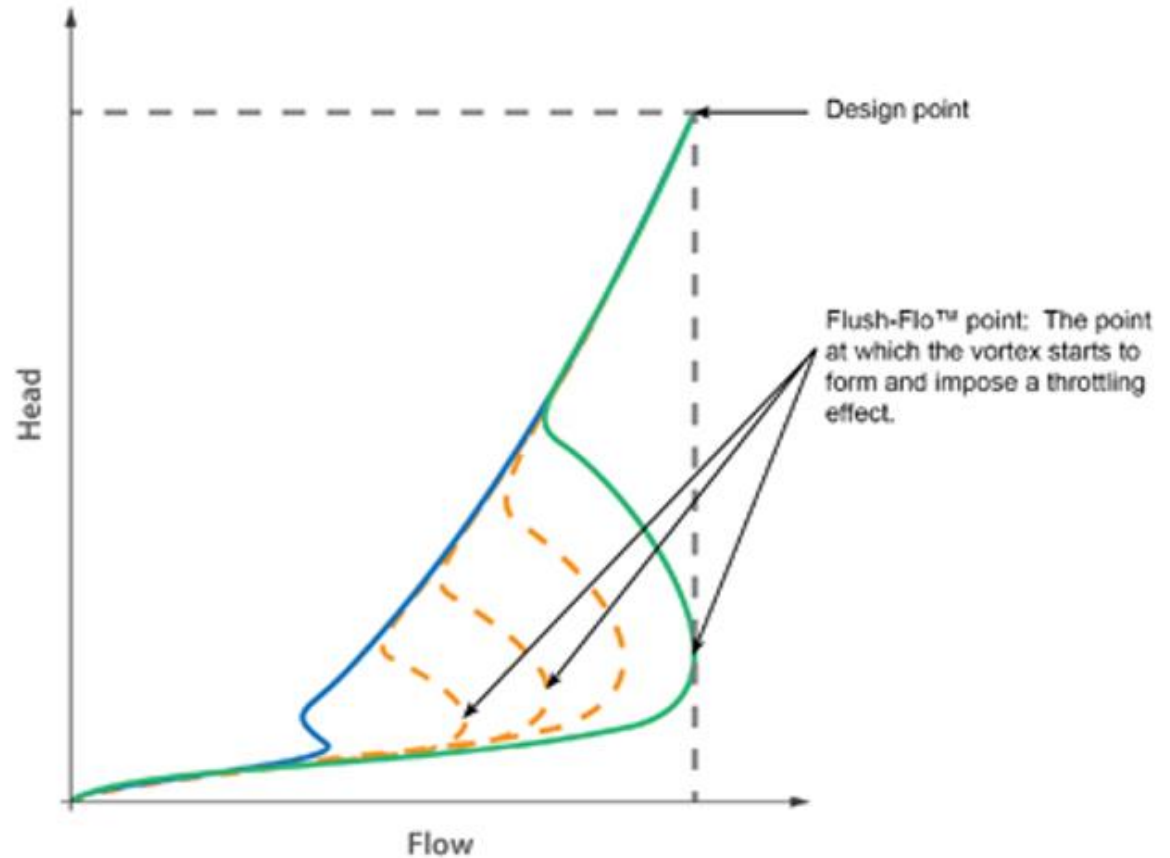


Figure 1 – Vortex Flow Control and the “Kick Back Curve”²

9) Do practitioners quantify SuDS Costs and Benefits



BeST (Benefits of SuDS Tool)

W045c BeST - Technical Guidance

Release version 1
July 2015

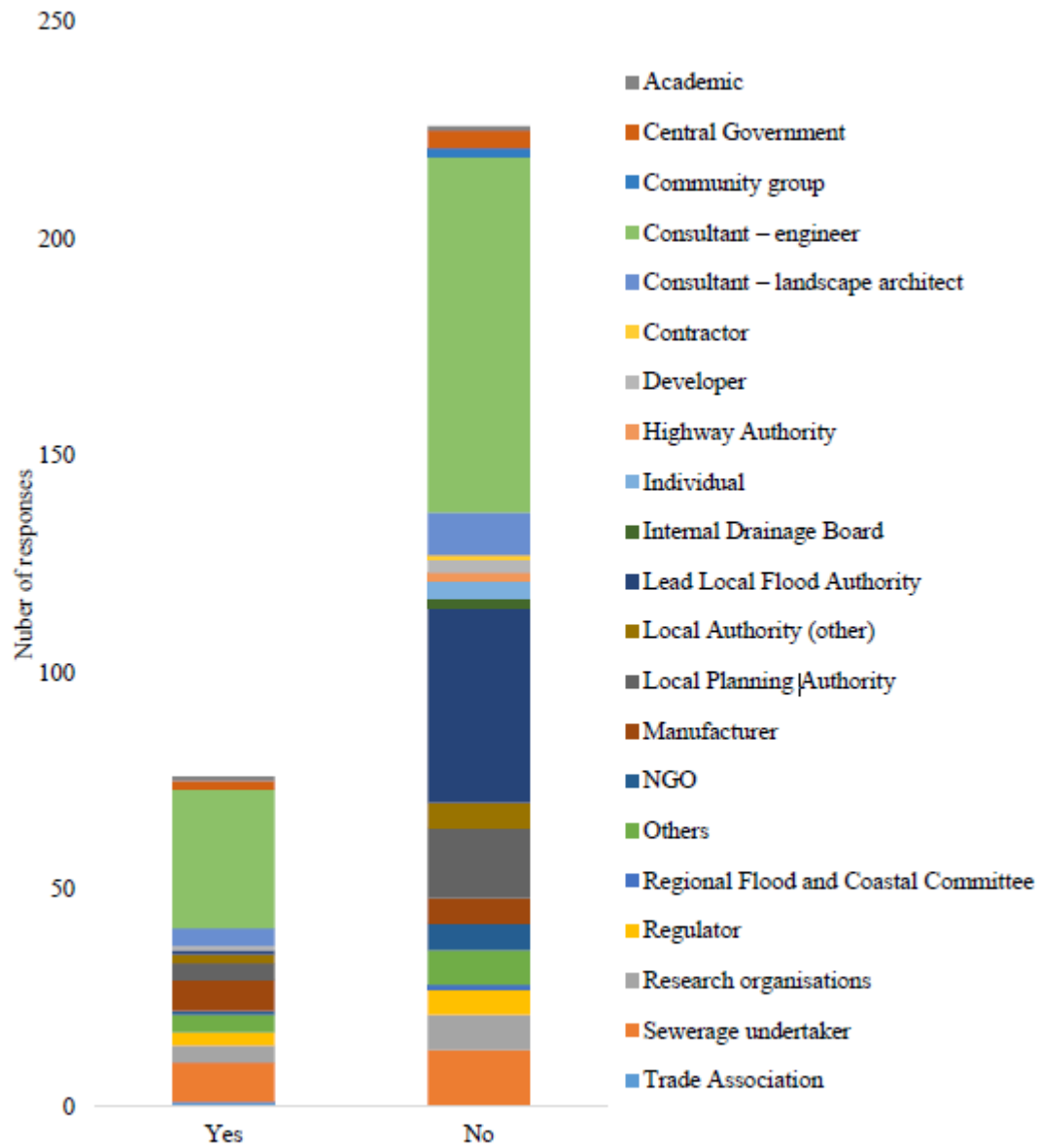
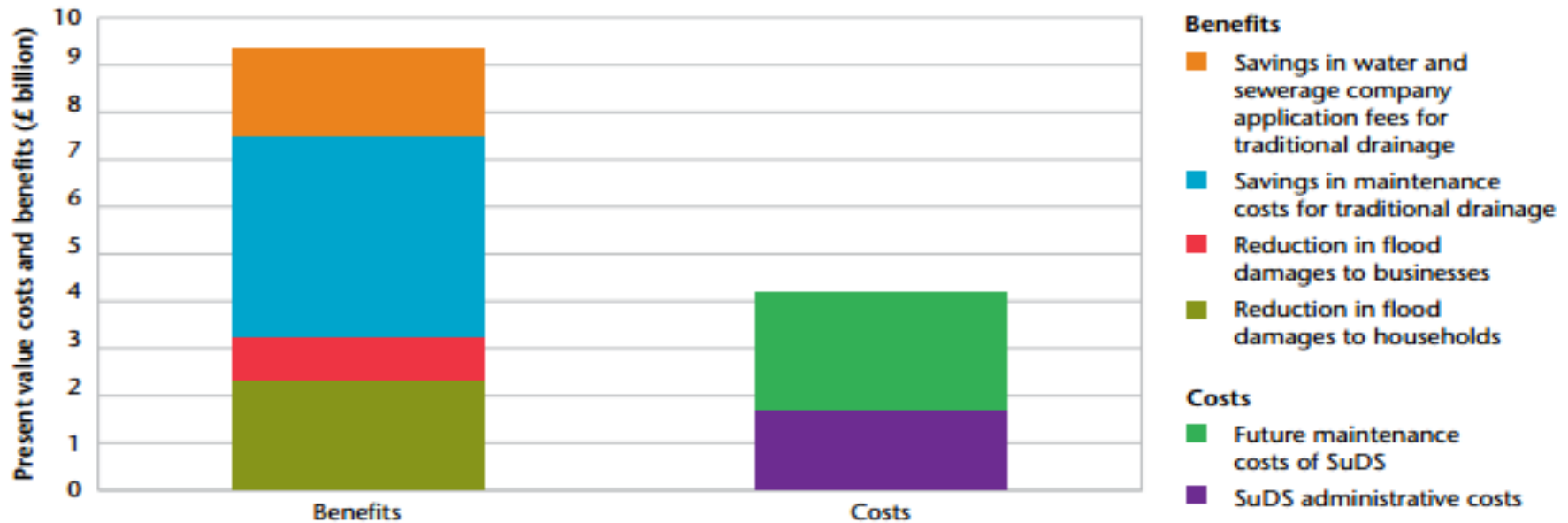


Chart 16. Do you quantify costs and benefits of SuDS schemes?

What are Costs vs. Benefits

Figure 2.9: Total costs and benefits of incorporating SuDS schemes for all new developments across England



Source: Department for Environment Food and Rural Affairs (2012a).

Notes: The Impact Assessment monetises costs and benefits over 50 year period. Here we present the scenario that all new major and minor developments install SuDS, in line with the current policy. The benefit and cost numbers show the total values for England based on assumptions of flood damage reduction. The assessment assumes capital costs are the same for SuDS and conventional drainage which is why those costs are not presented here.

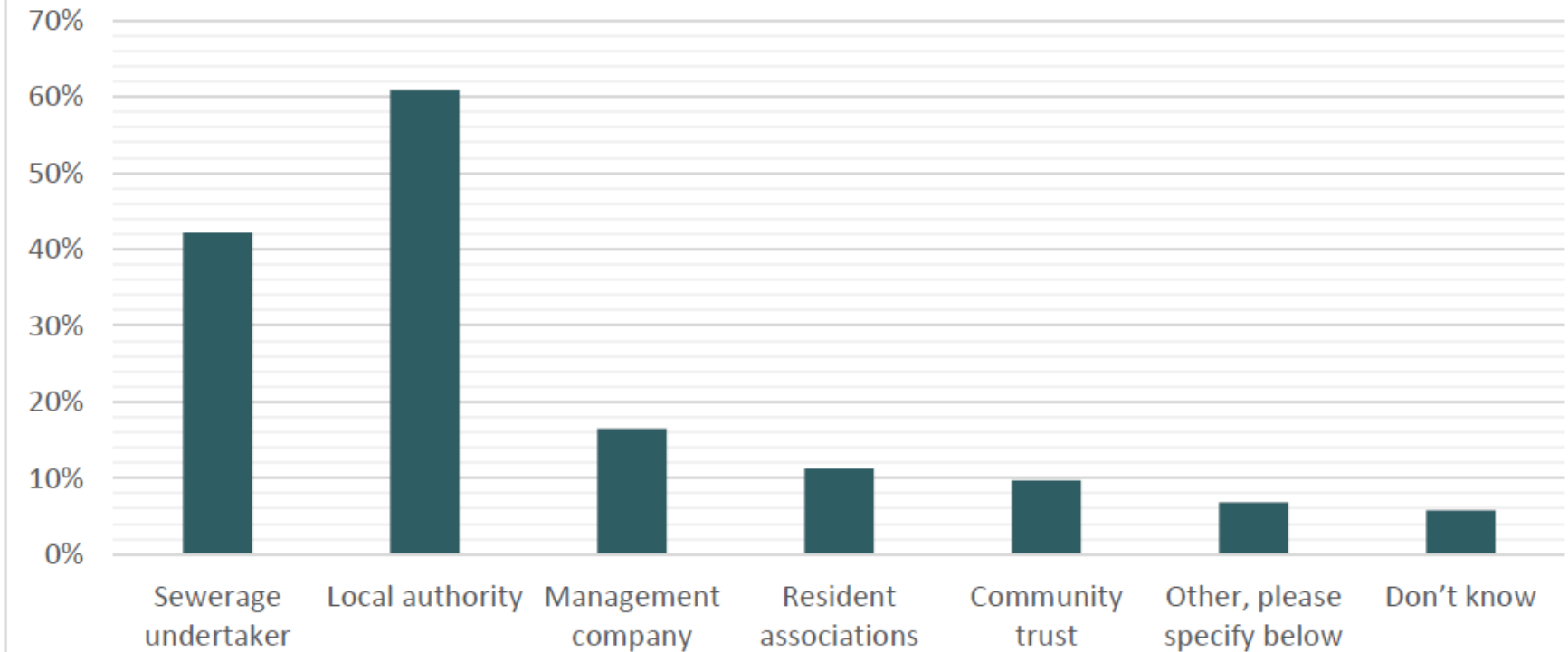
Q.24 Do you consider Local Planning Authorities have the expertise in-house to check and advise on quality SuDS deployment and challenge inappropriate planning proposals?

"As a Head of Planning I have no in house expertise to refer to, and the Lead Local Flood Authority have no capacity to assist."

"Very much depend on the advice of the Lead Local Flood Authority who are not resourced to provide this service as don't receive any planning fee."

"Further advice is needed to be provided to LPA's to enable them to understand the importance of consulting with the LLFA undertaking the Technical Assessments. The Technical Assessment should not be undertaken by the LPA but by the Lead Local Flood Authority, this needs to be clearly stated, they are two separate functions."

Who would you like to see responsible for adopting SuDS?



Survey findings

Preliminary evidence suggests that:

- (1) the use of opt-outs under the viability test for SuDS in new housing and commercial developments is widespread and sometimes unjustified
- (2) at the majority of sites the benefits of implementing SuDS are not being assessed
- (3) in many areas planning authorities do not have the capacity to judge the merits of applications properly, leading to more opt-outs than necessary on the grounds of price and practicality
- (4) where SuDS are included, they often miss opportunities to provide multiple benefits

Data gaps

Therefore, the Government's forthcoming review should include address the following data gaps:

- (1) the scale of SuDS deployment in different kinds of catchment
- (2) the quality of SuDS deployment, relating to added benefits like water quality and amenity
- (3) effectiveness of planning policy in delivery, quality and adoption of SuDS
- (4) capacity of local planning officers and lead local flood authorities to assess the merits of SuDS proposals and opt-out applications
- (5) the impact of excluding minor developments

We propose that:

1. Discharge of surface water to the sewer system should be conditional on the inclusion first of high-quality SuDS in new developments.

2. A clear decision must be taken with regard to the adoption and allocation of maintenance responsibilities for SuDS. This should have a clear and established mechanism for raising funds to ensure the continued effective maintenance and eventual replacement of all SuDS they adopt.

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3. New standards are developed aimed at optimising opportunity to achieve amenity, biodiversity and water quality benefits as well as flood risk reduction. These should reflect the needs of the adopting authority so that they can set out an approval process and adopt with confidence.

4. The Government should undertake a follow up review of the barriers to retrofitting SuDS in existing developments and make proposals on how retrofitting might be incentivised.

Discussion points?

- 1) Will we want SuDS in 2065?
- 2) Who will own them?
- 3) What will they look like?
- 4) Can we broaden the toolbox?
- 5) Can we do more to support better implementation?
- 6) Do we need ODI's to encourage Water Company SuDS?
- 7) Will SuDS be monitored?