

# Assessing Barriers and Potential Drivers to Adoption of Water Re-use in the UK

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Phillip Mills  
Policy Consulting Network

# The Problem

Suggestion – conflicting standards and codes in UK present a barrier to take up of water re-use systems.

*(Example: greywater use in washing machines – allowed in Germany, not in UK)*

# Scope of Project

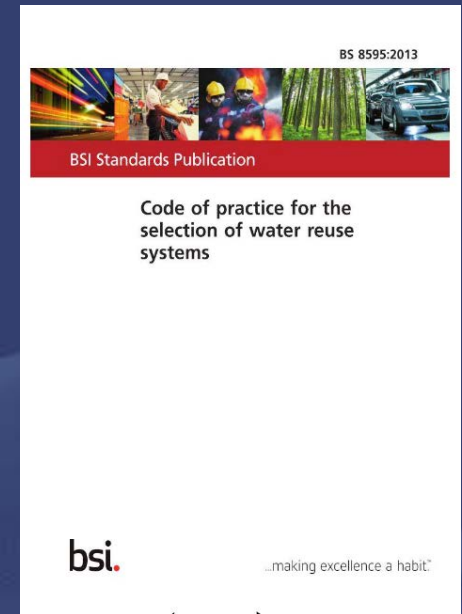
- Initial mapping exercise – identifying standards & codes.
- Explain their logic and suggest changes.
- Deliver a concise re-use guide – identifying big issues.
- Make recommendations – light touch and more radical.

# Methodology



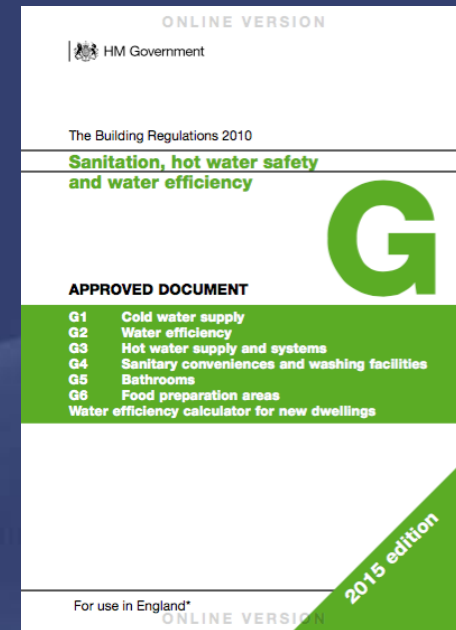
# Findings – British Standards

- BS 8515, 8525-1, 8525-2, 8595.
- BS 8595 covers scope of reuse systems.
  - ie: toilet flushing, garden watering & clothes washing machines.
- Further BS EN standard in development (?)



# Findings – Building Regulations

- Part G1 covers cold water supply.
- Allows water re-use – but risk assessment required.
- Part G2 covers water efficiency.
- Refers to re-use – but need for complex water efficiency calculation.
- If no re-use – use ‘fittings approach’
  - exercise.



# Findings – Water Industry guide

- Alternative water supplies – fluid category 5 risk.
  - a serious health risk.
- Systems require cat 5 protection.
  - ie: air gap /pipe interrupter.



# Outcomes Discussion

- No confirmation of conflict or barriers to water re-use.
- BS focus on re-use systems, not applications or end uses.
- Four separate BS can confuse. New EN standard?
- Suggestion - Any differences across EU down to water regulations.



# Findings – Other Factors

- Lack of understanding of greywater & RWH systems.
- Ensuring systems safe – now and in future.
- Reliability issues and maintenance.
- No drive from new homebuyers.
- House builders see no benefit in providing.
- Scarcity of information on benefits - ££ and payback.

# Findings – Other Factors



# Specific question – washing machines

Consulted

- AMDEA.
- Miele.

The AllWater system.

- separate mains & alternative inlets.
- n/a in UK.
- WRAS ‘health’ warning.



# Further Factors

- Change in UK marketplace for AWS.
  - Small domestic -> community or commercial.
  - More viable in combination with SuDS.
- Availability of existing infrastructure a driver for community systems.
  - benefits – risk reduction from competent operator.
- Introduction of Water Retail Market for non-households from April 2017.

# Conclusions



# Conclusions

Reasons for limited take up:

- Building Regulations part G2.
- Water Regulations –
  - prevent contamination / protect public health.
- Understanding.
- Desire.
- Costs and payback.
- Complexity & risk of failure.

# Recommendations – lighter touch

- Developers – perceptions?
- Different drivers UK cf Germany.
- Actual cost savings.
- Community re-use systems.
- Non-household re-use systems.
- Supportive case studies.

# Recommendations – regulatory interventions

- Building Regulations water efficiency calculation – remove.
- Building Regulations – promote re-use.
- New developments – integrate re-use and sustainable drainage systems.
- Promote through sustainability agendas and UK governments' Water Strategies.



# Thank you Questions?

Phillip Mills  
Policy Consulting Network

[phillmills@policyconsulting.co.uk](mailto:phillmills@policyconsulting.co.uk)

T: 020 3286 7735

M: 07713 253498

 <https://www.linkedin.com/in/phill-mills-92558117>