

# Waterwise Evidence Base for Large-Scale Water Efficiency

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## WSG workstream objectives

- Information needs: gaps, priorities and funding

*‘Produce a set of costed scenarios for water company water efficiency programmes based upon best available knowledge, which can be used to inform water company investment and determinations in the Periodic Review.  
Extract information on costs and benefit’*

## Project Steering Group

- Part of Waterwise's WSG workstream
- Evidence Base Steering Group
- Ofwat, EA, Defra, CLG, Waterwise, UKWIR, CCWater, Water UK Regulation Group and Water Efficiency Network.
- Economics and Accounting sub groups

# Progress

- Information gathering
- Extract costs and water savings of measures
- Allocate confidence grades to measures
- Construct example scenarios
- Analyse the costs and benefits
- Produce outputs that can be used within EBSD
- Enable input to PR09 and WRMP

# Information Gathering

- Historical data from UKWIR database
- Waterwise visits to all companies to gather data
- Datasheets for around 20 large-scale projects
- Gathered international project data
- More happening in the UK than anywhere else

## Analysis - measures

tap inserts  
cistern displacement devices  
dishwashers  
restricted shower heads  
water butts  
hosepipe flow restrictors  
washing machines  
retrofit devices  
flow restrictors  
replacement toilets  
spray guns  
water audit  
drip irrigation  
low flow shower heads  
promotion and education

## Analysis – disaggregation and aggregation

- Many projects use multiple measures
- Allocate savings and costs for each measure
- Reaggregate and compare to actual savings and costs
- Calibrate and adjust savings and costs for each measure
- Produce a range of predicted savings and costs for each measure

# DRAFT

|   | Environment Agency retrofit variflush project | Essex & Suffolk Sustainable water audits - Retrofit Audit | Essex & Suffolk Sustainable water audits - Full Audit | Essex & Suffolk Sustainable water Audits in Moulsham 1997-98 | Essex & Suffolk Home Water Brentwood Phase 1 | Essex & Suffolk Home surveys in Brentwood Phase 2 | Thames Water Liquid Assets Report | SWW Water Liquid Assets Draft | Mean | Maximum | Minimum |      |
|---|---|---|---|--|--|---|-----------------------------------|-------------------------------|------|---------|---------|------|
| measured / estimated water saving       | m   | m   | m   | e  | e  | e   | m                                 | m                             | m    |         |         |      |
| single / multi measure                  | s   | m   | m   | m  | m  | m   | m                                 | m                             | s    |         |         |      |
| <b>Variflush</b>                        | 24.0  | 22.1  |   |  |  |   | 24.0                              |                               | 23.4 | 24.0    | 22.1    |      |
| <b>Ecoflush</b>                         | 16.9  | 22.1  |   |  |  |   |                                   |                               | 19.5 | 22.1    | 16.9    |      |
| <b>Ecobeta</b>                          |   |   |   |  |  |   | 11.0                              |                               | 11.0 | 11.0    | 11.0    |      |
| <b>Dudley Turbo 88</b>                  |   | 22.1  |   |  |  |   | 24.0                              | 24.4                          | 23.5 | 24.4    | 22.1    |      |
| <b>Save-a-flush</b>                     |   | 11.1  | 6.7   |  | 9.4  | 10.8  | 12.0                              | 11.0                          | 10.2 | 12.0    | 6.7     |      |
| <b>Water-butts</b>                      |   |   | 1.6   | 2.7  |  |   |                                   |                               | 2.1  | 2.7     | 1.6     |      |
| <b>Hose gun</b>                         |   |   | 1.2   |  |  |   |                                   |                               | 1.2  | 1.2     | 1.2     |      |
| <b>Cistern displacement devices</b>     |   |   |   | 32.5   |  |   |                                   | 0.0                           | 16.3 | 32.5    | 0.0     |      |
| <b>Aerated shower heads<sup>1</sup></b> |   |   |   | 9.0  | 19.1   | 22.4  | 6.5                               | 6.0                           | 12.6 | 22.4    | 6.0     |      |
| <b>Plumbing losses</b>                  |   |   |   | 5.6  |  |   |                                   |                               | 5.6  | 5.6     | 5.6     |      |
| <b>External leakage</b>                 |   |   |   | 12.0   |  |   |                                   |                               | 12.0 | 12.0    | 12.0    |      |
| <b>Tap washers</b>                      |   |   |   |  | 9.9  | 13.1  |                                   |                               | 11.5 | 13.1    | 9.9     |      |
| <b>Teeth cleaning</b>                   |   |   |   |  | 26.7   | 29.7  |                                   |                               | 28.2 | 29.7    | 26.7    |      |
| <b>Trigger hoses</b>                    |   |   |   |  | 1.6  | 1.6   |                                   |                               | 1.6  | 1.6     | 1.6     |      |
| <b>Mira Showers</b>                     |   |   |   |  |  |   |                                   | 10.8                          | 10.8 | 10.8    | 10.8    |      |
| <b>Tap inserts<sup>2</sup></b>          |   |   |   |  |  |   | 11.8                              | 10.8                          | 29.7 | 17.5    | 29.7    | 10.8 |
| <b>Digital shower alarms</b>            |   |   |   |  |  |   | 7.3                               |                               | 7.3  | 7.3     | 7.3     |      |
| <b>Egg shower timer</b>                 |   |   |   |  |  |   | 1.3                               | 1.8                           | 1.6  | 1.8     | 1.3     |      |

<sup>a</sup> A gap analysis will be conducted on the evidence collated to date. Future water efficiency projects undertaken could provide evidence for the gaps identified

<sup>b</sup> The sample size and the confidence grades for the disaggregation evidence will be added to this table for the June Reprt. This will enable outliers and the robustness of the evidence to be assessed

<sup>1</sup> There are a range of values for aerated shower heads. These will be split down into different types and different manufacturers for future reporting

<sup>2</sup> There are a range of values for aerated taps. These will also be split down into different types and manufacturers for future reporting

## Using the methodology

- Compatible with UKWIR water efficiency and EBSD projects
- Formally recognised by Ofwat (companies required to take account of this in PR09)
- Tailored to meet regulatory milestones
- Methodology provides best available knowledge on water efficiency and is flexible to allow company specific data and interpretation
- Dissemination workshop in early summer

# Timescale

- Designed by Steering Group to meet Business Plans in Aug 2008 and WRMPs in Apr 2009
- March 2008 interim report (~9 projects)
  - Waterwise website
- June 2008 main report (~19 projects)
  - Dissemination seminar
- October 2008 final report (~22 projects)
  - more project information
- UKWIR database