

# Effectiveness of Piggybacking Initiatives: A Scoping Study

An *Evidence Base* project

Final Report, May 2013

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## Executive Summary

Piggybacking water efficiency work, specifically water efficiency home visit retrofits, onto other activities has been previously recommended as an effective way to deliver large-scale water efficiency in terms of both reducing costs and increasing installation rates. Piggybacking initiatives have become increasingly popular with water companies, with a variety taking place over recent years. This report gathers together data and experiences from across the water industry, and for the first time examines how effective such water efficiency initiatives have been. Achievements in terms of homes visited, devices installed and water saved are scrutinised.

A first step involved dividing piggybacking initiatives into three different types; *internal piggybacking*, those that coordinate water efficiency retrofits & advice with other water company activities; *external piggybacking*, where an external partner/s (other than the water company) plans to visit a household for a different purpose, and water efficiency support can also take place as part of that visit; and *reverse piggybacking*, where additional elements are added on to a water efficiency retrofit but are in fact the main driver for the visit (e.g. installing energy measures alongside water efficiency devices). These distinctions are important, as this report shows that there can be specific benefits and barriers encountered dependent upon the type of piggybacking initiative being undertaken.

Through this research, there have emerged a number of clear advantages to piggybacking water efficiency retrofitting onto other activities. The first is that where a piggybacking initiative is successful, it can provide extremely cost-efficient water savings for the water company, as a result of the lack of, or at least reduced, costs associated with recruiting and visiting households. Piggybacking initiatives also have the potential to reach a range of households that a straight-forward retrofit programme may not, either through the influence of other partner organisations or as a result of the preliminary contact being related to another issue. Finally, this type of initiative can add value for a water company by assisting with other internal aims.

Problems or disadvantages identified include lower than anticipated installation rates in a number of projects, an issue that is discussed at length within this report. A range of project management and delivery issues have also emerged, the majority of which relate to buy-in from other departments or partners as well as problems stemming from a lack of direct control over delivery. A further issue is that it is much more difficult for water companies to measure actual water savings when they are distant from the delivery of retrofits.

In order to support future activities, recommendations and emerging best practice are outlined, based upon the successes and difficulties of the projects reviewed in this report.

## 1. Introduction

One of the conclusions from the 2008 Waterwise-WRc *Evidence Base* report<sup>1</sup> was that piggybacking is an effective way to deliver large-scale water efficiency retrofit programmes in terms of reducing costs and increasing installation rates. In particular piggybacking on other water company activities such as metering or leakage projects or through partnerships with other organisations working with householders such as a social housing provider or an energy company. Piggybacking/working in partnership had the perceived potential of spreading costs, risk and increasing engagement.

Since then several water companies have launched such initiatives by piggybacking water efficiency onto other activities, either internally or through partnerships with external organisations. Piggybacking partnerships of this sort continue to be developed, and more are likely to follow as the Green Deal gets under way, however it remains unclear whether these activities are as effective overall as direct water company-led installs.

This report focuses on piggybacking opportunities for water companies particularly with respect to home-visit retrofit projects. By gathering together the available evidence in project reports, and talking to water company practitioners and project managers involved, this report brings together and examines experiences to date, in order to start understanding the effectiveness of a piggybacking approach. It also aims to draw out some recommendations for those thinking about using this approach in the future.

## 2. Piggybacking Projects

The following are a selection of water efficiency retrofit programmes that have been piggybacked on to other activities being carried out with household water users such as metering visits or retrofit visits from energy companies. The examples have been under the headings internal, external or reverse piggybacking depending on the way they work with other projects/partners.

### 2.1 Internal Piggybacking Projects

Internal piggybacking projects can be defined as those that coordinate water efficiency retrofits & advice with other water company activities. The following are examples:

- **Adding water efficiency initiatives onto metering programmes** - e.g. the *Ipswich Enhanced Metering* project run by Anglian Water and their current value-add approach to offering their '*Bits & Bobs*' scheme to customers.
- **Piggybacking Water Efficiency onto Targeted Customer Care Schemes** - e.g. South West Water's *WaterCare* Scheme which is aimed at customers currently in debt with their water bills.

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<sup>1</sup> Waterwise, 'The Evidence Base for Large Scale Water Efficiency in Homes', 2009

### 2.1.1. Piggybacking with Metering Programmes

#### **Anglian Water - Enhanced Metering Project, Ipswich Trial**

The *Enhanced Metering Project* was set up by Anglian Water in 2009 to extend domestic metering penetration in the Ipswich area. The project aimed for the most cost-efficient option of fitting meters to domestic properties by working on all suitable properties within a single area. In order to make full use of the meter once fitted, the customer ideally needs to agree to measured charging or otherwise the property continues to pay on an unmeasured basis until change of ownership takes place.

Anglian Water decided to offer 1000 of its customers being targeted by this project the additional option of a free water efficiency audit and the retrofitting of simple devices. The aim was to target this water efficiency offer to households not planning to switch to measured charging (the theory being that once they felt more water efficient they would be more willing to switch to this type of charging). Initially participants were voluntarily recruited from the houses being fitted with water meters in the *Enhanced Metering Project*, however recruiting sufficient numbers from this group to take up the water efficiency service was found to be difficult. Recruitment was then extended to all postcode areas within Ipswich covering houses which already had a meter in place.

A total of 1000 properties received water efficiency audits and 663 of those had devices fitted. Customers were recruited by the meter installers as well as through other methods such as stands in shopping centres. The retrofits occurred separately to any actual meter fitting visits as they were carried out by a different contractor. Meter readings were taken before and after fitting any retrofit devices and actual water savings measured, the number and type of devices installed was also recorded and questionnaires were collated (both a long and short version).

Overall, where retrofitting took place water savings were measured as an average of 41.5 litres of water saved per property per day (a mean reduction in water use of 14.2%). The majority of these savings relate to the ecoBETA toilet retrofit device, shower flow regulators and replacement shower heads fitted within customers' properties.

The project demonstrated that significant, measurable water savings can be achieved by piggybacking water efficiency retrofits onto metering work and also found an increased take up of measured charging from customers having new meters fitted where efficiency work was also carried out. However the project also highlighted that it can be difficult recruiting customers to take up water efficiency advice as part of another service (i.e. the metering programme) hence the need to also recruit customers for the audits from other sources.<sup>2</sup>

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<sup>2</sup> Waterwise, Anglian Water Ipswich Water Efficiency Trial - Project Report, April 2010 & Interview (March 2013)

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### **Anglian Water - Value Added 'Bits & Bobs' Offer**

Since April 2010 Anglian Water has offered a free water efficiency audit/retrofit service (branded 'Bits & Bobs') to any household receiving engineering services from the company. In most cases this offer is tagged on to a water meter fit or exchange (so that the company's own plumbers/contractors can install the devices), though the promotion can happen via any department in the company including customer contact from water quality scientists, network technicians and even debt recovery officers. Members of the metering team all have targets set to promote this service and relevant staff in other departments receive regular, updated briefings on the offer to keep its promotion fresh in their mind. The water efficiency audit/retrofit may take place at the same time as a meter fitting visit or at a later date depending on circumstances.

This last year (2012/2013) 25,000 *Bits & Bobs* audits in total have been carried out by Anglian Water and around 8,000 of these arose through piggybacking this offer onto other work. Actual water savings are not calculated for the retrofits installed via this piggybacking method as most of the properties receiving the service are having a replacement meter fitted which means previous meter readings cannot be accessed. However, where measured savings have been calculated from large numbers of other *Bits & Bobs* audits, these averaged at 40l/household/day - a sizeable level of savings.

A perceived downside to delivering the water efficiency service piggybacked on to metering work by the company is that the level of behavioural change is not measured and may possibly be lower than from those customers proactively requesting a *Bits & Bobs* audit. However, piggybacking the offer of a *Bits & Bobs* audit/retrofit onto other works being carried is considered a worthwhile activity as costs of promoting the offer are lowered, a greater number of households are engaged on water efficiency and customers feel they are getting a good all-round service from their water supplier.<sup>3</sup>

#### **2.1.2 Piggybacking with Targeted Customer Care Schemes**

##### **South West Water - WaterCare**

*WaterCare*, a programme run by South West Water, is designed to offer practical help and assistance to customers who are having problems paying their bills and are subsequently in debt with the water company. *WaterCare* offers a benefit entitlement check, a check to ensure the customer is on the right water tariff and the chance to sign up to a debt management scheme/appropriate payment plan. As part of this (primarily debt management) package they are also offered water efficiency advice and a home water audit where they can have simple water saving products installed for free.

South West Water collected a large and thorough database of information on the water-efficiency audits carried out as part of the *WaterCare* service including an assessment of actual change in water consumption and customers' water-using behaviour. An average reduction in

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<sup>3</sup> Information from Anglian Water via Waterwise Survey (December 2012) & Interview (March 2013)



consumption of 16.79 litres per property per day was achieved from the installation of water efficient products and the advice provided to customers, with 62.3% of properties seeing a decrease in their water consumption.<sup>4</sup>

The programme is still running (now as *WaterCare+*) and water efficiency help is still offered as an add-on to it. Actual water savings achieved via this particular piggybacking scheme are no longer monitored, though the number of households taking up the water audits and devices fitted are and these remain in line with trends seen during the more detailed measurement phase - indicating savings are still being made. Reducing water use by customers in debt who are not paying their bills has the added benefit of reducing the amount of unpaid-for water being supplied by the water company.<sup>5</sup>

Overall, the proportion of water-saving achieved through this scheme is small for the company as although it has been demonstrated that useful water savings per household can be achieved through it, the scheme itself is focused on a relatively small group of targeted customers. However, the primary focus of *WaterCare+* is to address affordability, particularly for vulnerable customers and including water efficiency as part of this package is seen as a value-add both for the customer and South West Water.<sup>6</sup>

## 2.2 External Piggybacking

External piggybacking is where an external partner/s (other than the water company) plans to visit a household, for example to deliver an energy efficiency retrofit or a plumbing service, and water efficiency support can also take place as part of that visit. Some examples of such partnerships are:

- **Partnerships with Social Housing Providers** - an increasing number of social housing providers see the benefit of including water efficiency when refurbishing or maintaining their properties as well as when communicating with their tenants. An example of this is the *Plug In* project which involved South Staffs Water and Severn Trent Water.
- **Partnerships with home plumbing companies/services** – such as partnerships with British Gas Dyno and Homeserve.
- **Partnerships with projects primarily delivering energy retrofits** – for example The *RE:NEW* project or Kent County Council's work retrofitting properties in its area for energy efficiency.
- **Green Deal Partnerships** - the Green Deal is a recently launched programme designed to offer householders (and small businesses) affordable energy efficiency support. The service is being delivered to householders through Green Deal Providers who may be a Local Authority or a private registered provider. The focus of the support will be energy

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<sup>4</sup> Waterwise, South West Water WaterCare Scheme, Home Audit Project Analysis - Final Report September 2011

<sup>5</sup> Interview with South West Water (March 2013)

<sup>6</sup> Interview with South West Water (March 2013)

efficiency measures but there is potential to include water efficiency advice and installations at the same time.

### 2.2.1 Partnerships with Social Housing Providers

Many water companies have worked with social housing providers (SHPs) to some degree and will have on-going relationships with many if not all in their area. South West Water for example make a point of keeping a dialogue going with the SHPs in their area throughout the year so that they can step-in to assist them when needed - for example attending an outreach surgery (e.g. on managing your bills).

Feedback from a few of the interviewees during this research has indicated that projects with SHPs work better at times than at others. Issues that seem to arise are the following:

- Selling the concept of including water efficiency with other services provided by the SHP is not particularly difficult, but ensuring retrofits actually happen effectively can be more challenging once the additional workload of doing so is realised (e.g. managing stock, explaining and fitting products and getting maintenance contractors on board with the work).
- A SHP's stock may cover more than one water company area. The SHP will likely wish to work with this stock in the same way and therefore want all participating water companies to work along similar lines. This can be difficult if the water companies do not want to work in the same way.

#### ***South-Staffs Water & Severn Trent Water - The Plug In Project***

The on-going *Plug In* project commenced in April 2011. It involves a large partnership in the Midlands consisting of the Environment Agency, South Staffs Water, Severn Trent Water and ten SHPs. The focus is on both water and energy saving (though mainly water) as well as behavioural change and awareness training for SHP staff and residents. The project hopes to reach 10,000 homes; to date 4623 homes have had a total of 7244 devices fitted.

The Environment Agency have provided an important role in recruiting SHPs to the project. The water companies have provided local project management and the water efficiency devices, and have also trained installers and assisted with education workshops. The SHPs provide households to work with and carry out the installation of any retrofit devices – most often during void works or planned maintenance. During year one the partners also worked with Global Action Plan and Northfield EcoCentre who provided engagement activities for both staff and residents.<sup>7</sup>

Some of the difficulties encountered during the project to date have included timing issues, with some social housing providers being able to incorporate water device installations into their maintenance programmes sooner than others. This is because it can take time to make changes to large maintenance contracts. There were also some difficulties in getting SHP staff

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<sup>7</sup> An Evaluation of the Plug In Project, June 2012 - Calendula Consulting

on board fully with the programme, an issue that the engagement activities helped but couldn't completely eliminate. Furthermore an initial lack housing stock assessment at the start of the project led to some wasted time and effort deciding which measures/devices would be most suitable for each housing providers stock.<sup>8</sup>

An evaluation of the first year of delivery has shown benefits for the project partners. The water companies have been able to ensure installation of retrofit devices into a number of their customers' homes with cost savings achieved through recruitment of households and installations being carried out by the SHPs. South Staffs Water have seen a slower take up/installation rate than Severn Trent Water and are trying to attract additional SHPs onto the project to help improve this - the project relies on the SHP's proactive installers. However, South Staffs Water do expect the install rate to increase as the project continues and to date consider the project a success thanks to the number and cost of installations made.<sup>9</sup>. The SHPs involved considered the project a success as they were able to get the right water saving kit into their properties. Overall, the SHPs involved to date have felt the project has helped to embed water efficiency into their management and maintenance systems, and report they will also felt more confident in integrating water efficiency work into any Green Deal programmes they might work with in the future.

### 2.2.2 Partnerships with Home Plumbing Services

#### ***British Gas Dyno Plumbing - Device Install Programme***

Over the past couple of years, seven UK water companies have partnered with British Gas Dyno Plumbing on a scheme in which British Gas Dyno plumbers install water saving devices (on top of their plumbing activity) when carrying out home visits. British Gas Dyno has led the partnership and Save Water Save Money (SWSM) handled distribution of water efficient products to homes, and data collection/processing on the devices fitted. The water companies cover the cost of the devices that are fitted as well as the extra time taken to fit them by plumbers. Feedback has been obtained from five water companies that have been involved in this scheme.

The consensus from the majority of water companies involved in this scheme is that the number of water efficient devices installed in households was lower than originally anticipated. The degree to which these targets have been under-hit varies with each water company's experience. The common reasoning given by water companies for the low install rates so far achieved is a lack of incentive for the British Gas Dyno plumbers to fit water efficient devices alongside carrying out their scheduled plumbing work.

Although it appears there has been no significant loss to the water companies involved in the project (as the bulk of project management has been covered by British Gas Dyno and water

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<sup>8</sup> An Evaluation of the Plug In Project, June 2012 - Calendula Consulting

<sup>9</sup> Information from South Staffs Water via Waterwise Survey (December 2012)

companies only paid a price per install) it could be considered a missed opportunity to achieve water saving in a number of customer households at a low cost.<sup>10</sup>

Affinity Water began a partnership with British Gas Dyno in March 2012 which is on-going. A total of 1500 homes were to be targeted and so far just under 1250 have been fitted with water efficiency devices (also any leaking toilets are repaired). A detailed record of devices installed is recorded and savings calculated. The project got off to a slow start with installer motivation an issue, however further training for them seems to have improved uptake.<sup>11</sup>

Wessex Water began a partnership with British Gas Dyno to install water efficient devices during plumbing visits in March 2011. Around 1300 customers had water efficient devices fitted through this scheme, but activity has tailed off. Average assumed savings per household (where a device was fitted) were 26l/day. The number of households receiving devices was lower than hoped, and large variations in the number of devices fitted within households was also noted. A financial incentive introduced part-way through the scheme for the British Gas Dyno plumbers to fit as many devices as possible appears to have had little impact on installation rates. Wessex Water also attended a meeting to talk to plumbers about the scheme and to get their feedback on the devices and customer uptake. This boosted installation figures for a short while. In hindsight, Wessex Water believes it could have made a difference if they had got involved earlier on in the project, setting up clearly defined incentives/targets for the plumbers and ensuring buy-in from all levels of the partner company. Wessex Water believes that partnerships like these have the potential to deliver considerable water savings.<sup>12</sup>

Both Portsmouth Water<sup>13</sup> and Bristol Water have had a similar experience of low installation rates achieved through this partnership which they also credit to a lack of incentive on behalf of the British Gas Dyno engineers involved,<sup>14</sup> Thames Water have also had a similar experience.<sup>15</sup>

### ***Homeserve Partnerships***

A number of water companies have trialled partnerships with Homeserve in which water efficient retrofit devices were to be installed in properties where Homeserve engineers were carrying out plumbing visits. As Homeserve is a recommended partner organisation of the water companies noted below, both were keen that any selling of water efficiency support was done in a soft way and customers had the option to decline the offer if they were not interested.

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<sup>10</sup> Information from Waterwise Survey (December 2012) & interviews with Wessex Water & Thames Water (March 2013)

<sup>11</sup> Information from Affinity Water via Waterwise Survey (December 2012)

<sup>12</sup> Information from Wessex Water via Waterwise Survey (December 2012) & Interview (February 2013)

<sup>13</sup> Information from Portsmouth Water via Waterwise Survey (December 2012)

<sup>14</sup> Information from Bristol Water via Email (December 2012)

<sup>15</sup> Information from Thames Water interview (March 2013)

South West Water ran this trial recently but not as many customers received water efficiency retrofits through the scheme as anticipated. While the project management and efforts from engineers to engage customers on water efficiency were perceived to be good by the water company, overall take up was still low. The water company reports that the main issue with getting a good level of retrofits through this scheme was the customer's readiness (or lack of) to engage on water efficiency topics. Having called an engineer out to address a plumbing issue (many of which are urgent to the customer), it was felt that most customers were not in the mind-set to discuss water efficiency topics or take the time to have an audit/agree to retrofits.<sup>16</sup>

Affinity Water are currently commencing a similar partnership with Homeserve. Expectations are for 90 devices to be fitted per month via the project. In this case, to minimise the additional time needed by customers and engineers to discuss and fit water-saving devices, Homeserve are planning to only fit devices that are room-specific. For example if an engineer is fixing a kitchen-based fault they will only recommend and fit water-saving devices for that area of the house. Homeserve will provide their engineers with training about the devices and water efficiency. Affinity Water will join this training to incorporate further advice and recommendations. Follow-up visits might be incorporated by the water company to encourage behavioural change depending on the success of the project.<sup>17</sup>

### 2.2.3 Partnerships with Energy Focused Retrofit Projects

#### ***South East Water & Climate Energy***

Climate Energy lead this on-going project that works with local councils to identify residents at risk of fuel poverty and then install energy and water-saving devices into their homes where appropriate. Climate Energy are recruiting householders and performing the installations, South-East Water has provided water devices for the project. The focus of this project has been on energy and with 3,600 homes targeted so far, only around 120 have been fitted with water-saving devices. No water savings have been calculated to date as the installation rate has been so low. South-East Water believe the low installation rate of water efficient devices is due to a lack of incentive on behalf of the installers. It was noted however, that not much time has been spent training Climate Energy on installing water devices or on South East Water's requirements due to a lack of time and resources on their part to allocate to the project.<sup>18</sup>

#### ***South East Water & Kent County Council Domestic Retrofit Project***

Between October and December 2010, Kent County Council, local councils, CEN, EON and South East Water were involved in this domestic retrofitting project. EON and South East Water provided the energy and water devices respectively. Kent County Council paid for the work by CEN who project managed and provided audits and installs. The target was really energy savings but water savings were tagged on to the project. Between 1200 - 1500 homes were targeted and of these 603 had water advice and installations completed. South East Water's

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<sup>16</sup> Information from South West Water interview (March 2013)

<sup>17</sup> Information from Affinity Water via email interview (March 2013)

<sup>18</sup> Information from South East Water via Waterwise Survey, December 2012

involvement in the project was providing the retrofit devices, and though they would have liked to measure actual savings achieved, time constraints and budget in this case did not allow. Overall, the water company would consider the project a useful piggybacking exercise as a number of customers had water efficient devices installed without South East Water having to recruit them or perform the installs.<sup>19</sup>

### ***The RE:NEW Project***

*RE:NEW* is a pan-London home energy efficiency programme, offering insulation to all homes where appropriate and a full energy audit, simple energy and water efficiency measures and behaviour change advice within targeted areas. It is a partnership project between the Mayor of London, London Councils, the Energy Saving Trust (EST) and London's boroughs. Up to the end of August 2012, *RE:NEW* had installed measures in over 67,000 homes.<sup>20</sup>

The project is being rolled out across London on a ward by ward basis. The Greater London Authority (GLA) and associated boroughs have funded the project, and boroughs were able to choose delivery agents to carry out installations in their area. The main focus of *RE:NEW* has been carbon reduction through energy efficiency activities, but the inclusion of water-specific advice has been added into the project with water companies providing water-saving products for installs. Feedback has been obtained from two water companies who have partnered on the project - Thames Water and Essex & Suffolk Water. In both cases the water companies had little involvement with the running or development of the project except for providing the devices to fit/advice leaflets and in some cases training for the installers.

### ***Thames Water & RE:NEW***

Thames Water were partners in Phase 1 of this project which ran from Aug 2011 to March 2012. Thames offered training to all delivery agents at the start of the project to direct them in the fitting methodology and savings associated with each product and this was taken up by each delivery agent.

A total of 45,000 homes in Thames Water's customer area were targeted for support through the project and of these 31,861 had water efficiency devices fitted. Water savings made through this activity were assumed based on the number and type of devices fitted and totalled 1.54MI/day or 48 l/day per household on average where fittings were made. Savings were also calculated for assumed behaviour changes (these savings are based on the UKWIR assumptions for behaviour change for household audits) and totalled 0.283MI/day. Thames Water was pleased with the level of savings made per property through the *RE:NEW* project even when compared to assumed savings that might be expected from a water-efficiency audit/fitting carried out directly by the water company.

**Thames are now commencing Phase 2 of the project which is targeting around 25,000 homes though not all will be as actively targeted with water-saving devices. Additionally, one supplier**

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<sup>19</sup> Information from South East Water via Waterwise Survey, December 2012

<sup>20</sup> GLA Website - <http://www.london.gov.uk/priorities/environment/climate-change/energy-efficiency/RENEW/faqs>



has offered to fit ecoBETA dual flush devices in properties for a small charge covering the time to do this. Overall Thames Water consider this partnership a very efficient use of resources, and successful in terms of the water savings made through it.<sup>21</sup>

### **Essex & Suffolk Water & RE:NEW**

Essex & Suffolk Water has also been involved in the *RE:NEW* project during various phases of its spread across London boroughs. Initially 1817 of their London customers had devices fitted, and from around May 2011 to June 2012 the project was delivered to their customers in Barking and Dagenham where 2250 homes had water devices fitted.

Essex & Suffolk Water experienced some issues around project reporting and with respect to stock control. The project is considered less successful than an isolated retrofitting campaign as actual water use changes were not measured and they anticipate less behavioural change would have taken place with customers visited. However, overall it is felt that the project is a very cost effective route to reach a large number of households with water efficiency support.

Currently Essex & Suffolk Water is involved in a new phase of the project running in the London Borough of Havering. The project set-up is the same except that the delivery agent carrying out the home visits will in this phase be fitting ecoBETA devices and Essex & Suffolk Water will cover the time costs of fitting these. It is expected that a further 1500 households will get devices fitted through this phase of the project. To counter stock-control issues encountered in the earlier phase of the project the water company has put in place a contract and Service Level Agreements with the delivery agent (as well as stricter stock sign-off procedures).<sup>22</sup>

### **Green Deal Partnerships**

*The Green Deal* is a recently launched programme designed to offer householders (and small businesses) affordable energy efficiency support. The service is being delivered to householders through *Green Deal* Providers who may be a Local Authority or a private registered provider. The focus of the support will be on energy efficiency though there is also potential for inclusion of water efficiency advice and retrofitting.

A number of water companies are already talking to *Green Deal* providers with the aim of including water efficiency within the service offered. South West Water are developing a project with a local provider whereby they will provide an entry point for the *Green Deal* assessors through offers to their own customers. The water company will receive an income where energy installations are made by the *Green Deal* provider and at the same time ensure that water efficiency is included as part of the retrofit service offered. South East Water are working with Kent County Council to assist them in getting water efficiency integrated into the service delivered by the *Green Deal* providers they work with.

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<sup>21</sup> Information from Thames Water via Waterwise Survey (December 2012) & Interview (March 2013)

<sup>22</sup> Information from Essex & Suffolk Water via Waterwise Survey (December 2012)

### 2.3 'Reverse' Piggybacking

Reverse piggybacking projects are those where additional elements are added on to a water efficiency retrofit but are in fact the main driver for the visit (e.g. installing energy measures alongside water efficiency devices). It is worth noting that some *Green Deal* partnerships may well actually be reverse piggybacking arrangements where water efficiency is used as a route in to the customer to also offer energy advice - as per the South West Water example above.

#### ***Thames Water, Waterwise, WWF - Save Water Swindon***

The Save Water Swindon project is a partnership between Thames Water, WWF and Waterwise targeting the whole town of Swindon with water efficient support for households. The first phase of the project ran from June 2010 to June 2011. During this first phase around 6000 water saving devices were fitting in households through the project with associated savings estimated at a total of 50,000L per day. The device fittings and associated savings were delivered through a mixture of home retrofits delivered by an engineer and self-installation packs taken up by households which they could install themselves.

There is a 'reverse piggybacking' element to this project as in the first half of Phase 1 home retrofits were delivered by an additional project partner, Eaga. Eaga delivered these retrofits at no cost as they hoped to gain a chance at each visit to upsell energy saving measures at the same time (from which they could make money from installing).

Involving a third party installer such as Eaga had an obvious cost-saving benefit to the project but also created added complications to project management due to lack of direct control over the visits carried out. In fact, the project switched to a different (directly managed) installer half way through the project as it was found that Eaga were not having much success upselling energy installations for their own means and the delivery of water advice/installations was suffering as a consequence. Although this switch incurred additional costs to the project and also took up more project management time overall, it was found to result in better delivery of the home retrofit service and the installations involved.<sup>23</sup>

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<sup>23</sup> Save Water Swindon - Phase 1 Evaluation, Final Report, Waterwise - September 2012



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## 3. Monitoring and evaluation

### 3.1 Measuring Success

The success of a piggybacking project can be measured via a number of parameters including:

- Measuring the **water savings** achieved through the project. Ideally this would be measured savings achieved by household participants in any given project, though it may be the number and type of devices fitted per household and any assumed savings that can be calculated from such data.
- Ideally firm indications of **behavioural change** would also be captured - additional data collection forms (such as surveys) can capture both qualitative and quantitative trends in this area.
- The **reach** of a project (i.e. number of households engaged in water efficiency) can also be measured.
- The **value-added service** to customers of offering water efficiency as part of overall customers service is hard to quantify (and varies in nature), but may be at least included when considering the worth of a piggybacking project.

The following trends have been noted from the piggybacking projects reviewed within this report:

### 3.2 Measured Water Savings

Internal piggybacking projects generally allow for more robust measurement of water savings as the water company can be more involved in setting the project parameters and targeting the support to customers that can be more easily measured. For example, by taking actual meter readings of participants in the project, both the *Ipswich Enhanced Metering Trial* and South-West Water's *WaterCare* project ascertained actual water savings. However, calculating actual water savings via meter readings may not always be possible if the participants are not yet metered (or as in the case of participants in *Anglian Water's Value Add* project described in this report, are only just starting to be metered).

It is worth noting that the proportion of customers that are already on meters varies quite considerably between water companies - so what might be a missed opportunity when not measuring actual water savings in one area (where for example 80% of customers are metered) might be less so in an area where fewer are metered. It is also important to note that although working with metered households allows for robust data collection, many water companies will not want to only focus their water efficiency efforts on these customers.

Some projects have been measured robustly for a limited time period to assess water savings but are then continued without such thorough on-going monitoring (such as *WaterCare+*) with the assumption that if certain conditions remain similar, so will associated savings. Likewise, in some situations water companies have been able to compare certain project activities to others that have been more robustly measured and once again assume similar savings are being

made. For example, the standard *Bits & Bobs* audits carried out by Anglian Water can be compared to those being delivered through piggybacking on meter work to give an indication of savings. It should be noted however, that in both these cases, these on-going assumed levels of savings were not reported officially by the company but were rather considered as an indication of the success of a project.

### 3.3 Behaviour Change Data

It is also easier to collect specific behaviour change data where a water company is more involved in the project management of an initiative - such as with *WaterCare* and the *Ipswich Metering Trial*. Both of these projects included surveys to collect data from customers on water use and change in water use following audits/retrofits. However, partnership projects such as the *Plug In* and *Save Water Swindon* have also succeeded in collecting specific behaviour change data from participants, through surveys carried out during the project. Such data is useful not only in ascertaining whether customers have indeed changed the way they use water but can also capture other information which is extremely useful in assessing the project's success such as why the customers engaged in the programme in the first place, how they found the audit/retrofit service and so on.

### 3.4 Households Visited and Devices Fitted

This is the more common form of water saving measurement in the piggybacking projects reviewed, particularly for external piggybacking projects. In these situations, devices are usually being fitted by other delivery partners and records are taken only of the number and type of devices fitted.

When data on the number and type of devices fitted is collected assumed savings (using OFWAT guidance) can be calculated. Although not as robust as actual savings, this is still a useful indication of water savings being made through any project. What was noted through the research was that water companies had various levels of confidence in the quality of the data being provided to them, and some also mentioned difficulties in actually obtaining data from delivery partners - due to project management complications where a number of partners were involved.

## 4. Advantages and Disadvantages of a Piggybacking Approach

Through the projects reviewed within this report both advantages and disadvantages to a piggybacking approach have been identified.

### 4.1 Advantages of Piggybacking

Delivering water savings at a lower cost, reaching more customers with water efficiency support and integrating the latter into the overall customer care experience (where successful) are all benefits that the piggybacking projects reviewed have demonstrated.

#### 4.1.1 Cost-efficient Water Savings

Significant water savings can be achieved at a lower cost to a water company where a project works well. The cost savings can be gained through less time needed to both recruit customers and deliver any audits/retrofits. These water savings could be actual measured ones as demonstrated in the *Ipswich Metering Trial* where savings were clearly demonstrated although delivery was made more efficient by tacking it onto metering services. Savings can also be assumed, but collected with confidence. For example, both Thames Water and Essex & Suffolk Water felt the savings achieved through the *RE:NEW* project were of a good level per household (based on numbers of devices fitted) and that an impressive number of households were fitted overall with very little time or cost involvement from them - resulting in a very cost-effective way of delivering water efficiency to a large number of their customers.

#### 4.1.2 Reaching More Households

Internal piggybacking schemes can engage customers that may not otherwise have signed-up for water efficiency support (e.g. those that marry up with metering schemes). Partnership projects can also bring on board customers that even with the appropriate level of recruitment activities carried out by a water company would not have signed up for water efficiency help. For example working with SHPs in the *Plug In* project gave the water companies good access to the SHPs properties and residents.

#### 4.1.3 Value Added

Piggybacking projects can assist with other water company aims, for example encouraging residents to switch to measured charges when having a meter installed (as in the *Ipswich Metering Trial*). The *WaterCare* project demonstrates how to offer customers in debt more options to reduce their bills or reduce the water they waste if they continue not to pay their bills. Also, offering customers water efficiency support as part of a holistic customer care experience wherever possible (this does not always work as noted in the following section but can do in specific situations).

## 4.2 Disadvantages of Piggybacking Projects

In practice, a number of disadvantages to piggybacking projects over delivering directly have also been identified through the projects reviewed in this research. Lower than anticipated retrofit levels, less robust measurement of water savings and practical problems when dealing with project management have all been identified.

### 4.2.1 Lower Retrofit Levels than Expected

In practice, water companies have often found that the number of retrofits achieved through piggybacking projects can be much lower than first anticipated. There appear to be a range of reasons for this:

- **Incentives** - the main reason appears to be a lack of priority on water efficiency as part of a project. Although at early stages of a project all parties may agree that including water efficiency as an add-on to other services being delivered makes sense, unless there are clear incentives for all partners to assist delivery in this area, activity in it can quickly tail off (particularly once the additional workload of doing so becomes apparent to delivery partners). Assuming the delivery partner will deliver on water efficiency retrofits simply because it offers an extra service for the customer does not appear to be sufficient. There must be very clear and defined targets for any visiting installer to include water efficiency retrofits and indeed for other staff to promote such a service for it to happen effectively.
- **Mis-matched Engagement** - in some cases it has been felt that customers were not in the right mind-set for water efficiency support. For example, South-West Water felt that many customers being visited by Homeserve engineers would not be in the right mind-set to discuss water efficiency when their main concern is a plumbing issue. Additionally, a number of comments were made by water company practitioners that in general, customers who have not proactively requested a water efficiency visit are less likely to engage in any behavioural change (not that they necessarily thought this should preclude such customers from being targeted for retrofits).

### 4.2.2 Measurement of Water Savings

As noted in section 3, it appears harder to achieve robust measurement of savings through a piggybacking project - particularly if external partners are involved in delivery. This may be more or less important depending on each water company's priorities/expectations from any particular project - for example, lost opportunities to measure actual water savings or the scale of reach of a project.

### 4.2.3 Project Management and Delivery Issues

Working with external partners (and other departments within the water company) can throw up a number of practical problems:

- Getting departments from within one's own company on board with a programme can take time and effort - to incentivise, enthuse and ensure they are on board with the right message/activity.

- Working with external partners takes up staff management time, whatever the set-up, particularly if these partners are new and relatively unknown both in terms of how they operate and their company culture.
- It was noted through this research that in certain projects water companies experienced difficulty in getting data reported back to them by their partners delivering the project.
- Control of stock can become complicated when more than one delivery agent is involved in distributing it.
- Some projects may require more than one water company to participate (for example many social housing providers have stock overlapping water company boundaries) and partners will likely want a very similar involvement from each company - thus agreements on how to work have to be made.
- Where more than one water company is involved in a project, further stock control issues may arise. For example, the two companies may have differing preferred products to use in retrofit situations and may not have confidence that their specific product type is being fitted into their customer households.
- There is a lack of control over the actual service delivered to the customer - in terms of the advice offered, products fitted and amount of behavioural change advice/engagement taking place.
- The above issues are multiplied where multiple delivery agents are involved e.g. in *RE:NEW* project some delivery agents visiting Thames Water customers offered only 3 or 4 water efficient products as opposed to the whole suite (though Thames Water were happy overall with the number and type of products offered).

## 5. Recommendations and Emerging Best Practice

The following are a number of practical recommendations that have been formed through the experiences found from the projects surveyed in this report and comments made by interviewees.

**1. Ensuring the Right Incentives are in Place-** The correct incentives need to be in place to ensure water efficiency retrofits are promoted and delivered at a high enough level (in terms of frequency and quality) when working with other departments or external partners. A number of projects have demonstrated that what clearly made sense as a valuable add-on to their service at the start of a partnership quickly lost priority once the additional workload of delivering it was realised by the actual delivery agents/engineers. There are various ways to address this issue however.

**2. Focused Projects –** On-going relationships are important but more success has been seen where partners are working together on a specific project to address a specific aim. Even where two parties have similar aims in general (e.g. SHPs and water companies wanting more water efficient properties) it has been commented that more success is likely where a specific project is run. For example South West Water have found working with SHPs on specific projects (often led by a charity partner) particularly successful. Even where a general aim is agreed upon, unless the partner has a clearly defined remit and timeline to deliver on it, other business can easily get in the way and move water efficiency down the priority list.

**3. Additional Project Partners -** A number of the successful projects covered in this report have involved an additional partner to that delivering the retrofits. Additional partners can not only help with funding (though some may require funding themselves to assist), but with driving the project and bringing together partners to work effectively. It is also important to note the problems that can come with project management when numerous delivery partners are involved. A balance needs to be found in this area and most importantly the right partners involved, considering all the other potential pitfalls and recommendations from this report.

**4. Managing Partners –** A number of key points need to be considered:

- Getting senior buy-in and gaining high level support from within partner organisations was cited as key in the evaluation of the Save Water Swindon project<sup>24</sup>. Getting this support means partners are more likely to share skills and data with each other and relevant staff in each organisation are more likely to be aware of the project.
- With the above in mind make sure a partnership makes full use of partners where there is potential to do so. Aim to utilise the skills and knowledge of partner staff where possible rather than just their logo.
- Where partners are on board, make sure this is demonstrated clearly to project staff and potential participants as it can help validate the project to all involved.

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<sup>24</sup> Save Water Swindon, Phase 1 Evaluation Final Report - Waterwise, Sept 2012

- Allow time for decision making when partners are involved. Certain partner organisations in particular may be slow to make decisions (due to their size/nature) and bearing this in mind from the start can help with planning timing of projects and ensuring everything that needs to be decided is laid out clearly to partners as early as possible.
- Be aware that delivery partners may have contracts in place that take time to integrate water efficiency into. For example, some SHPs in the *Plug In* project were in the process of negotiating long term contracts with maintenance contractors and it took time to be able to incorporate the fitting of water efficiency devices into the responsibilities of the engineers involved.

**5. Engaging Potential Participants** - It is worth considering at the start of project development:

- Is there a likelihood that target audience will be receptive to the free add-on offer of water efficiency (e.g. if they are switching to a meter, explaining very clearly how it could help them reduce bills) or at least that they won't be particularly unreceptive (such as those waiting in for an emergency plumber).
- Can delivery be designed to try and minimise such issues? For example, Affinity Water have designed their Homeserve partnership project so that water efficiency advice/retrofit is offered only for the room where a plumbing issue is being fixed. This reduces the time needed by both customer and engineer to address the issue and connects the water efficiency support very closely to the water use already being discussed.
- Can additional engagement be used to get customers and partner organisation staff on board? Considering how a project will engage these two groups can really assist with getting buy-in for a project. This can make a difference to the success of a project and could well be raised during project planning phases whilst discussing with potential partners if they feel there may be any internal barriers to delivering the project.

**6. Training** - Training for delivery staff has been provided by a number of water companies in the projects covered by this report and found to be beneficial in improving the number of retrofits carried out. It also improves confidence in the quality of service being delivered by agents other than the water company. Training of other water company staff/contractors can also help with promotion and delivery of internal piggybacking schemes. As demonstrated by Anglian Water's *Bits & Bobs* add-on service where other departments are regularly briefed on the offer and how it is delivered.

**7. Measuring Success**

- It is worth considering whether it is possible to get more detailed measurement of water savings than simply the number and type of fittings made. For example:
  - could actual water savings be measured where meter readings are possible?
  - could some element of behaviour change measurement be incorporated into delivery of the project?
- It may be possible to incorporate a baseline assessment at the start of a project that could help to measure achievements through the project or save time with delivery. This



could either be actual water use, a behaviour survey or a practical survey of properties to assess suitability for various types of retrofit devices (e.g. in the *Plug In* project time was wasted at the start of the project realising that the fitting of some devices was not appropriate to some housing stock. Asking the SHPs to carry out a simple water efficiency audit, during regular works, ahead of the project would have helped avoid this issue<sup>25</sup>).

- As more piggybacking projects take place and where similar ones are developing (for example, partnerships with housing providers or Green Deal partnerships) it may be possible to start carrying out a cost-benefit analysis more accurately. Where there are similar parameters involved, ways of measuring them become familiar and there is more scope for useful comparison (validating the time spent measuring/analysing the projects).

**8. Controlling Project Processes** - Putting clear systems in place for reporting on projects or stock control can help avoid confusion and save time chasing partners. Service Level Agreements can take time to develop and agree on at the start of a project but really pay off as they help to formalise project processes, clarify what's expected for all involved and make enforcement of expected processes much easier to chase up. On a practical level, setting up live databases rather than sharing spread sheets can vastly increase the efficiency of reporting/communicating on a project for all involved. Again, these can take time to set up at the start of a project but can be a very worthwhile investment, particularly where multiple partners are involved. This was noted as a clear recommendation following evaluation of the Save Water Swindon project.<sup>26</sup>

As well as the recommendations outlined here, water efficiency practitioners may find it helpful to refer to The Green Deal Guidance for the Water Sector<sup>27</sup> report developed by Waterwise and the Energy Saving Trust. While the report is specific to partnerships developed as part of the Green Deal, the recommendations can in the most part be applied to a range of piggybacking projects. The report offers advice on which products to retrofit when involved in partnership, setting up partnerships, advice to give, how to train installers and collecting/reporting data. The full report can be found on the Waterwise website.

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<sup>25</sup> An Evaluation of the Plug In Project, June 2012 - Calendula Consulting

<sup>26</sup> Save Water Swindon, Phase 1 Evaluation Final Report - Waterwise, September 2012

<sup>27</sup> Green Deal Guidance for the Water Sector – Energy Saving Trust and Waterwise, December 2012



## Appendices

### Appendix 1: Approach and methodology

#### Need for project

One of the conclusions from the 2008 Waterwise-WRc *Evidence Base* report was that piggybacking is an effective way to deliver large-scale water efficiency programmes. Since 2008 several water companies have launched such initiatives, for example, by piggybacking water efficiency onto other activities (e.g., Thames Water providing devices to the London RE:NEW programme). Piggybacking partnerships of this sort continue to be developed, and more are likely to follow once the Green Deal is launched later this year, however it remains unclear whether these piggybacking partnerships are as effective overall as direct water company-led installs.

#### Research questions

- What UK based piggybacking initiatives have been conducted to date?
- What are the different categories of piggybacking initiatives?
- What information is available about the effectiveness of these different piggybacking approaches, in terms of water savings against effort input.
- What information is available about the comparison of piggybacking approaches to water company led installs?
- Are there headline learnings that can be taken forward to inform best practice in future piggybacking initiative?

#### Project approach and methodology

This project will scope the existing water efficiency initiatives that have involved piggy backing, looking at what has been conducted to date and where possible the effectiveness. The focus shall be upon home visit retrofits. In order to gain a fuller understanding of the effectiveness of this approach it is important to examine these initiatives in context, and so while the focus will remain firmly upon projects that have involved piggybacking, the full range of water efficiency home visit retrofit projects will also be drawn upon. Information about piggybacking, and other water efficiency initiatives will be gathered through a literature review as well as discussions with water companies and possibly some telephone interviews. This information will be brought together and analysed in line with the research questions.

#### Task 1: Categorising

For the purposes of this project, piggybacking is defined as:

*Using an organisation or activity, which is already going into a customer's home for one purpose i.e. an energy installation, in order to deliver water efficiency retrofits.*

The expertise of the Working Group has been drawn upon to determine the different categories of piggybacking initiative, they are:

- Piggybacking – Where members of another company or business are already entering the home and water efficiency retrofits are included as an additional element of the home visit, e.g. a housing association, energy company, or plumber.
- Internal piggybacking – Where a member of staff or contractor to the water company is visiting a home for a non water efficiency retrofit purpose, E.g. to install or read a water meter, and a water efficiency retrofit is tagged on.
- ‘Reverse’ piggybacking – Where additional elements are added onto the water efficiency retrofit, but are in fact the main driver for the home visit. For example an organisation may want to install energy measures, and installing these alongside water devices allows access to water company customers.

## Task 2: Gathering evidence

### Literature Review

As part of this scoping study the following types of evidence will be reviewed: published reports (i.e., grey literature) and peer-reviewed articles as well as any qualitative and/or quantitative data that may exist unanalysed and/or unreported.

Evidence from water efficiency piggybacking initiatives will be gathered from the following sources: UK water companies, government departments and agencies (e.g., Defra and EA), and known organisations who have undergone piggybacking activities (e.g. housing associations, energy companies). Informal discussions will be held to help identify evidence. In addition, the UKWIR W25c database will be reviewed for relevant projects.

Requests for evidence will be issued through (but not limited to) the following:

- Water UK Water Efficiency Network
- Waterwise Newsletter
- Waterwise Water & People Bulletin
- Waterwise website
- *Evidence Base* Steering Group and project Working Group

### 2.2 Questionnaire

A short on-line questionnaire focussed on piggybacking initiatives will be constructed and distributed through the Water UK Water Efficiency Network. This will help to ensure that the project identifies piggybacking initiatives that have been / are being carried out across the industry. It will also provide an opportunity to gather structured information at the first point of contact.

Initially, evidence will be limited to that gathered from projects carried out in the UK since 2006; however, evidence from earlier projects may be included should it become necessary and prove to be sufficiently robust.

## Task 3: Telephone interviews

Where time allows and it is deemed to be of added value to the project, telephone interviews will be carried out with staff from water companies or other organisations that have been closely

involved in previous projects that have contained piggybacking with an aspect of water efficiency device retrofits. Staff working on projects build up significant knowledge and expertise, and this approach will provide insight and detail beyond what can be gleaned from printed literature. Due to the time allocated to this study, a maximum of 8 interviews will be carried out. Some key points with respect to how these interviews will be undertaken are:

- Interviewees will be selected based on interest in specific projects, as well as staff availability.
- The telephone interviews will be scheduled in advance, and are expected to last up to a maximum of one hour.
- A topic guide will be developed, and a list of the topics to be covered will be sent to interviewee ahead of the interview. This topic guide will also be circulated throughout the working group in order to ensure all relevant questions are included.
- The interviewee will also be provided with a project description in advance.
- The interview will be recorded
- From the recordings, key points will be documented in note form.
- Following the interview, interviewees will be provided with a copy of the key points summary in order to ensure their views and opinions are accurately reflected.
- The interviews will not be anonymous as it may be necessary for the purposes of analysis to link the interviews with project data and reports.

In addition to these interviews, evidence from interviews carried out as part of the Year 1 Evidence Base projects will also be re-analysed where appropriate. Although these interviews were not focussed on piggybacking specifically, this was an element in some of the projects included and as such the interviews contain pertinent information that should be integrated into this study.

#### Task 4: Analysing evidence

The data and information gathered during Task 2 and Task 3 will be collated and we will look for patterns and common threads in the data.

The evidence from these studies will be reviewed in line with the following questions:

- What forms of piggybacking programmes have been / are being carried out?
- What partnerships are used for piggybacking programmes?
- What are the advantages and disadvantages of piggyback programmes in comparison to directly delivering water efficiency retrofitting?
- Are these programmes being monitored and evaluated? If so, how? If not, why not? Is there guidance available for the evaluation of these programmes?
- What is the potential best practice regarding piggybacking programmes?

#### Task 5: Reporting

A report will be produced summarising findings from the evidence review, identifying gaps in the evidence and drawing out learnings and implications for existing and future piggybacking programmes.

### Risks

There is the risk that existing data will not be robust enough for this project, and that data may be inaccessible or indeed non-existent. Should a lack of robust data become a significant issue for this project, we could work with the water companies to improve data collection and accessibility in order to continue with the project in Year Three.

## Appendix 2: Table of Projects

Water Company	Name of Programme	Piggy-backing Type	Information Source		
			Project Report	Survey	Interview
Affinity Water	British Gas Dyno Install Programme	External		✓	
Affinity Water	Homeserve Trial	External		✓	✓
Anglian Water	Value Added Customer Service Programme	Internal		✓	✓
Anglian Water	Ipswich Metering Trial	Internal	✓		✓
Bristol Water	British Gas Dyno Install Programme	External		✓	
Essex & Suffolk Water	RE:NEW	External		✓	✓
Portsmouth Water	British Gas Dyno Install Programme	External		✓	
South East Water	Climate Energy Retrofitting	External		✓	
South East Water	Kent CC, CEN Retrofit	External		✓	
South Staffs Water, Severn Trent Water	Plug In	External	✓	✓	
South West Water	Homeserve Trial	External			✓
South West Water	WaterCare	Internal	✓		✓
Thames Water	British Gas Dyno Install Programme	External			✓
Thames Water	RE:NEW	External		✓	✓
Thames Water, Waterwise, WWF	Save Water Swindon	Reverse	✓		
Wessex Water	British Gas Dyno Install Programme	External		✓	✓