

UKWIR Briefing

January 2010

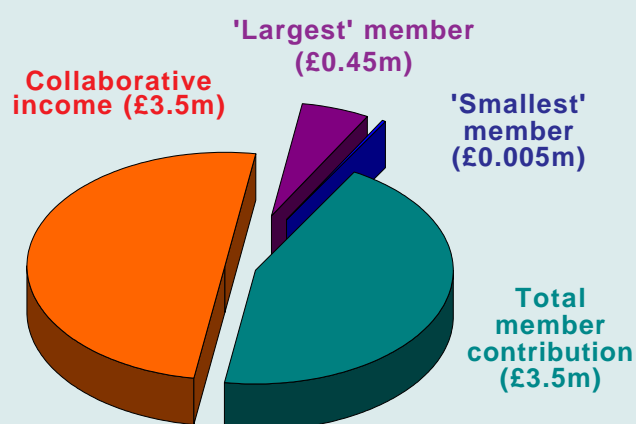
UKWIR Delivers!

- UKWIR provides and supports an efficient process for its members to identify, develop and prioritise research projects on 'one voice' issues.
- Members share costs on projects that are required to meet the demands placed on the industry by UK and EC regulations and to anticipate future challenges.
- Members benefit from UKWIR's ability to collaborate with a wide range of other funders, which effectively doubles their access to research funds.
- Once projects are selected for inclusion in the UKWIR programme, members continue to monitor and influence them through the project steering groups.

Recent research outputs have:

- **informed debates with the regulators** (DWI, OFWAT, EA, SEPA, WICS) and hence influenced regulations and legislation. UKWIR has delivered a series of common methodologies and toolkits to meet national requirements imposed by regulators (see overleaf).
- **delivered financial savings to members.** The nickel case study below (see overleaf for further examples) shows how research, based on sound science, can result in members not having to invest in expensive treatment systems.
- **helped meet industry environmental and technical challenges.** The *Minimising Streetworks Disruption* case study, below, demonstrates how collaboration with world experts provides members with access to leading edge technology at low cost.

Funding for UKWIR projects 2009/10



Case study - Minimising Streetworks Disruption

The potential benefits to utilities and society of minimising street works disruption are huge.

Detection and communications technology (Ground Penetration Radar, Wireless Sensor Network Systems and Micro & Nano Sensors) are rapidly developing.

Through collaborations with universities and other utilities, UKWIR has developed an **£11M** research programme comprising:

Orpheus	£4.0M (EU)
Mapping the Underworld I&II	£1.0M & £3.0m (EPSRC)
Vista	£2.4M (TSB & others)
UKWIR contribution	£0.5M

Case study - Nickel

The **Dangerous Substances** and **Priority Hazardous Substances** projects have provided the basis for the UK response to the chemical aspects of *River Basin Management Plans* as required by the Water Framework Directive.

They have led to the EU revising its proposed water quality standard for Nickel which was unnecessarily stringent.

Acceptance of these results has saved UKWIR members the unnecessary expense of additional treatment at more than half of the sewage works in the UK. This has avoided costs to the water industry of at least **£2Bn**.

Common methods

UKWIR has delivered a series of common methodologies, guidelines and toolkits to meet national requirements imposed by regulators (often in collaboration with them) and this has ensured that companies all report in a consistent manner.

This has saved members the expense and effort of devising their own methodologies for:

- Capital maintenance planning common framework
- Headroom for water resources
- Water Safety Management Plans & DOMS
- Deployable output
- Carbon accounting (direct & embedded)
- Pollution inventory
- Cost Benefit Analysis methodologies
- Mains and sewer failures.

Financial savings

UKWIR has delivered projects that have influenced regulations and legislation and have thus saved members the extra investment required. Examples are:

- EQS for nickel; cryptosporidium and use of UV; phosphates in sewage effluent; replacement techniques for AC pipes
- Standards in the Bathing Waters Directive; Sludge Directive; implications of the Traffic Management Act.

Support services

UKWIR has delivered projects that support the industry, for example:

- Toxicity and Micro datasheets
- Specialised analytical services.

UKWIR process

UKWIR delivers outputs using contractors selected through competitive tendering procedures and minimises the costs through the efforts of industry client managers and members on project steering groups.

All members receive copies of reports and they gain extra value through attending free technology transfer workshops.

During 2008, **510 industry delegates attended 30** project workshops

Since 2001, the average score by delegates at UKWIR workshops responding to the question '*attending the workshop was a good use of your time*' is **4.2 out of 5.0**.

Case studies - Common methods

The **Capital Maintenance Planning Common Framework**, produced in collaboration with Ofwat, was applied for PRO4 and further developed for PRO9. Some major member companies estimate that the adoption of the CMPCF resulted in a circa **£200M** benefit per company for PRO4, with further benefits at PRO9.

The **Pollution Inventory Estimator Tool** replaced the expensive need to directly measure emissions from sewage works. This saves the industry an estimated **£3.7M a year**. For United Utilities these savings equate to between **£0.6M and £1M a year**.

The UKWIR **Carbon Accounting Tool** is accepted by Ofwat as an industry standard and used by all companies for Ofwat and Defra reporting. Development of the tool cost UKWIR **£10k (with £15k support funding)**. The collaborative approach means that members are reporting on the same basis and have not had to develop and justify their own carbon accounting tools.

Case studies - Financial savings

Influenced by the **Source Control of Phosphorus from Domestic Sources** project, Defra are proposing to ban, from 2015, the sale of domestic laundry detergents products containing more than 0.4% of phosphates. Defra calculate that this will save between **£5M and £10M a year** to the industry in wastewater treatment costs.

The **UV Inactivation of Cryptosporidium** project showed that UV disinfection is an effective barrier to cryptosporidium. Independent contractors calculate that, for a water treatment works treating 20MI/d, the CAPEX is reduced by **£2.4M** by the use of UV treatment and OPEX savings for ten such works is about **£2M a year**.

The **Risk Assessment for the Replacement of Asbestos Cement Water Distribution Pipes** project assessed the risks of abandoning or removing asbestos cement pipes and supported the practice of leaving pipes in the ground. Scottish Water estimates that it is helping to avoid at least **£140M** in costs.

A 2005 **Bathing Water Directive** study identified capital costs to the industry in the range **£28M to £1,433M**. However, the Directive was significantly revised during negotiation, using data from UKWIR reports. As a result, the actual capital investment required of the industry will be towards the lower end of the scale, reducing CAPEX needs for the industry by at least **£1Bn**.

"With the Bathing Waters Directive adopted very recently, I think the cost drivers (produced by UKWIR) were very influential in the conciliation between the Parliament and the Council in arriving at a sensible compromise" - Ofwat's Philip Fletcher giving evidence to the House of Lords Science & Technology Select Committee Enquiry into Water Management.