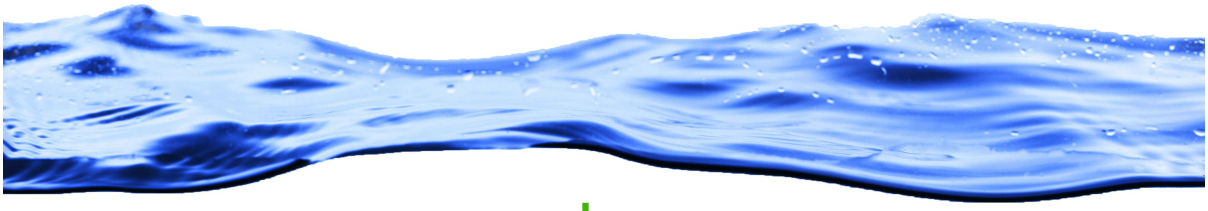

Dŵr Uisce

Energy Recovery in Water Services
Adennill Ynni yn y Diwydiant Dŵr

NEWSLETTER **20 February 2020**

Demonstrating the pump-as-turbine as a creative means of energy recovery

The design and installation of two hydropower demonstration sites showcases the leading-edge research on Pumps-as-turbines and is one of the key deliverables of the Dŵr Uisce project. A pumps-as-turbine, in short PAT, is a hydraulic pump operating in reverse mode as a turbine, producing energy rather than consuming it. PAT technology can be applied either to recover energy from pressurized water networks, or as generators for conventional small-scale hydropower. In order to explore these applications, the Dŵr Uisce project team decided to build one pilot installation in a water distribution network in Ireland and the second one in a small river hydropower scheme in Wales.
Read more...

First returns from the heat recovery demonstration site at ABP Cahir

In its first night of operation, the demonstrator installed at ABP Cahir recovered just under 30 kWh of heat (toasting 600 slices requires about the same amount of heat) directly, through 1 single (of 7) heat exchanger, saving about 42 kg of Carbon emissions per pipe in a single night. Additionally the wastewater source heat pump delivered 40kWh of heat. Some further tweaks will be made to the systems, before it can be commissioned in its final form, which is expected for January 2020.
Read more...

Hydro-power Energy Recovery in Deep Mines

Underground deep mines can go as much as 3000 m deeper in the ground. Large volume of water is required in mining for various activities. This water contains high potential energy which can be recovered using energy recovery devices and reduce the overall energy consumption of a mine. Our objective is to carry out a feasibility study assess the potential of energy recovery in Boliden Tara Mines in Ireland.

Read more ...

Learning to use waste water heat recovery technology

Every human activity and every manufactured product carries an environmental footprint – that is no different for appliances or installations required to make water use more efficient. In this project, we explore the most sustainable ways of building and using a heat recovery system for waste water. To share our lessons learned with practitioners, we are developing an eco-design toolkit to be used by businesses with high water usage.

Read more...

Reducing energy cost and GHG emissions by households in Wales

One of the largest contributors to Greenhouse Gas (GHG) emissions are the households through their use of energy for space and water heating. If the UK wants to become net carbon economy by 2030, it would need to reduce residential emission. Several low or zero-carbon technologies (LZC) exists in the market however the households seem reluctant to adopt them as they are perceived to be costly. We aim to provide households with a variety of cost-efficient LZC options so that they can make an informed decision.

Read more...

Benchmarking energy and economic efficiency across water utilities

Benchmarking has the ability to enable sharing best practice and ultimately, improvements in efficiency by comparing the performance of various entities. A study within Dwr Uisce used a novel benchmarking approach and found that water companies within the UK and Ireland could reduce their economic and energy inputs by 19% and 16%, respectively.

Read more...

Anticipating future water scarcity from climate change

Water service providers face a vast array of challenges when it comes to planning their future operations and services; climate change impacts on the amount of water available for supply to consumers is key among these. Climate change is likely to cause longer and more accentuated seasons; in terms of water supply this could lead to further water scarcity problems, especially in the summer. Water quality is also likely to be impacted, with more extreme rainfall events expected to cause greater erosion and washing of pollutants in to river systems – this could impact on energy use at water treatment works, as dirtier water needs more treatment.

Read more...

Contributing to "Wells for Life", protecting the first Welsh Bible and learning to innovate at the same time

Researchers in Trinity College Dublin and Bangor University Wales developed a low-cost hydro-power turbine, reducing energy consumption from water treatment and distribution works by 20-25%.

Read more...

Translating and communicating research into actionable knowledge/practices

We communicate research in plain language in order to engage various

JOIN (OR RECOMMEND) THE DŴR UISCE WATER SPECIALISATION CLUSTER

Join us!

Are you a company, a consultant, a university, a scientist interested in saving water and energy? Are you in one of the regions in Ireland or Wales covered by the INTERREG funding initiative:

- Ireland - Carlow / Cork / Dublin City / Dun Laoghaire / Rathdown / Fingal / Kerry / Kildare / Kilkenny / Meath / South Dublin / Tipperary Waterford / Wexford / Wicklow
- Wales - Carmarthenshire / Ceredigion / Conwy / Denbighshire/ Flintshire / Gwynedd / Isle of Anglesey / Pembrokeshire / Swansea / Wrexham

You may eligible to join our SMART SPECIALISATION CLUSTER and benefit from a range of services we offer.
Click here for more information.

BUSINESS SUPPORT

Let us help you to reduce your water and energy costs.
For free!

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Trinity College Dublin

Prifysgol Bangor University

Our aim is to support your business in saving water, energy, emissions and money, and thus making it more resilient for the future. We are a team from Trinity College Dublin and Bangor University, Wales, experienced in working with industry.

We offer a minimum of six hours free consultation time to:

- **Measure your current water and related energy use**
- **Identify opportunities to reduce your water and energy consumption**
- **Propose cost-effective solutions**
- **Advise on how to improve your environmental footprint, both in your business and along your supply and demand chains**

The free consultation we offer only involves a little time from your side - no financial investment is required.

Participation qualifies you to become part of the DŴR UISCE network with the opportunity to link and learn from similarly-challenged businesses. You will hear about technology choices, cost and carbon savings, avoid the mistakes others have made and connect with trusted suppliers.

Send us an informal request and start benefitting from our expertise, our support and our network.

Email: admin@dwr-uisce.eu
Phone: +44 (0) 1248 38 3219 (Bangor)
+353 (0) 1 896 1311 (Dublin)
Web: www.dwr-uisce.eu/business-support

Cronfa Datblygu Rhanbarthol Ewrop
European Regional Development Fund

DŴR UISCE stands for *Distributing our Water Resources: Utilising Integrated, Smart and Low-Carbon Energy*. The project is contributing to improving the long-term sustainability of water supply, treatment and end-use in Ireland and Wales. DŴR UISCE is funded by the European Regional Development Fund through the Ireland-Wales Cooperation programme.

CONNECT WITH US

All project updates, progress, activities and events are posted regularly and shared widely on our @Dwr_Uisce Twitter account.

You can read more on our latest news @ our Updates section. Sign up for our newsletter here.

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Coláiste na Tríonóide, Baile Átha Cliath
The University of Dublin

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PRIFYSGOL BANGOR UNIVERSITY

Funding agency:

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