

NEWSLETTER

25 April 2022

**Welcome/Croeso/Fáilte**

Welcome to our Spring 2022 Newsletter, bringing you up to date on the Dwr Uisce project.

In this edition, we highlight the Dwr Uisce team's continued commitment to provide solutions to improve the sustainability of the water sector and to spread the message.

You can read about the progress made in our technological solutions in drain water heat recovery systems, as well as updates on micro-hydropower and insights on smart network control. A look at sustainability from three different perspectives offers the opportunity to reflect on the relevance of our work to theory and practice in achieving a sustainable water sector.

Individually and collectively, we have engaged in numerous activities: from a new webinar for the hospitality sector in Ireland and Wales to presenting our work in a series of videos to make our research accessible to a wider audience, to publishing our findings in academic journals.

We hope you will enjoy the variety of topics and wish you an energy efficient and environmentally friendly summer season!

Roberta Bellini

Editor

Croeso i Newyddlen Gwanwyn 2022 sy'n dod â'r wybodaeth ddiweddaraf ichi am broiect Dwr Uisce.

Yn y rhifyn hwn, rydym yn tynnu sylw at ymrwymiad parhaus tîm Dwr Uisce i gynnig atebion i wella cynaliadwyedd y sector dŵr ac i ledaenu'r neges.

Gallwch ddarllen am y cynnydd a wnaed gyda datrysiadau technolegol ar gyfer systemau i adennill gwres o ddŵr gwastraff, yn ogystal â diweddariadau am ynni dŵr micro a sylw i reolaeth rhwydwaith clyfar. Mae edrych ar

[Subscribe](#)[Past Issues](#)[Translate ▼](#)

ati i wireddu sector dŵr cynaliadwy.

Yn unigol ac ar y cyd, rydym wedi cymryd rhan mewn nifer o weithgareddau: o weminar newydd ar gyfer y sector lletygarwch yn Iwerddon a Chymru i gyflwyno ein gwaith mewn cyfres o fideos i wneud ein hymchwil yn hygyrch i gynulleidfa ehangach, a chyhoeddi ein canfyddiadau mewn cyfnodolion academiaidd. Gobeithiwn y byddwch yn mwynhau'r amrywiaeth o bynciau yn y newyddlen ac y cewch haf ynni-ffeithlon ac amgylcheddol gyfeillgar!

Roberta Bellini

Golygydd

UPDATES ON DRAIN WATER HEAT RECOVERY

BEHIND THE SCENES OF OUR HEAT RECOVERY WORK



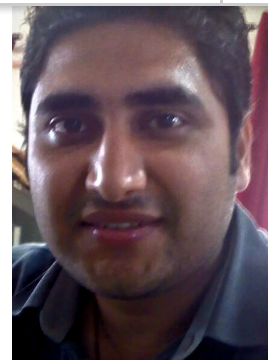
Madhu Murali

In the past few months, our work related to heat recovery, particularly for industry, has been focused on experiments using our lab-scale Dissolved Air Flotation (DAF) tank at Trinity College Dublin. The background to this work is detailed in our previous [blog post](#). Recently, our researchers have been trying to characterize the flow of water and dissolved air within the DAF tank. [Read more...](#)

COLLABORATION WITH THE REDISCOVERY CENTRE: HOW DRAIN WATER HEAT RECOVERY CAN BE PART OF THE CIRCULAR ECONOMY

Ajeet Singh

As part of our work aimed at developing a grease trap fitted with a heat exchanger to recover heat from wastewater in commercial kitchens, we monitored the grease trap at the café of the Rediscovery Centre (RDC) in Ballymun, Dublin (Ireland). The Centre hosts the National Centre for the Circular Economy in Ireland. The circular economy model aims at minimising waste, so it made sense to ask why not minimise the heat

[Subscribe](#)[Past Issues](#)[Translate ▼](#)

DON'T FLUSH MONEY DOWN THE KITCHEN SINK!



Isabel Schestak

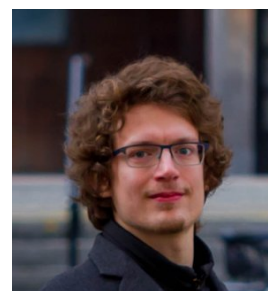
Commercial kitchens in the UK hospitality and food service sector consume more energy in the preparation of meals than cooking. Here, they can play a vital role in climate change mitigation. The heat in the drain water of commercial kitchens is a valuable source of energy, which - when recovered - saves energy for hot water heating and hence carbon emissions but also costs. Read [more..](#).

UPDATES ON MICRO-HYDROPOWER AND SMART NETWORK CONTROL

THE TY MAWR WYBRNANT HYDRO SITE RECEIVES REPAIRS AND AN UPGRADE

Daniele Novara

The 3.68 kW demonstration hydro site co-developed by the Dŵr Uisce project and National Trust Wales was put online in September 2019 after several months of design and construction. Its main novelty with respect to a regular hydropower scheme lay in the use of a Pump As Turbine (PAT) device instead of a conventional custom-made hydro turbine, which allowed a significant cost reduction. Read more [here](#).



SMART NETWORK CONTROL WORK PACKAGE - HERE IS WHAT IT

[Subscribe](#)[Past Issues](#)[Translate ▼](#)**Djordje Mitrovic**

Water distribution networks (WDNs) are part of the essential infrastructure for normal functioning of society. Supplying water from diverse sources to our taps is highly energy intensive. Leakages present in the networks further decrease the efficiency of the water supply. Further, these leakages do not represent only the water losses but also significant loss of the energy embedded in the lost water through treatment and distribution (pumping). Read [more...](#)

THREE PERSPECTIVES ON SUSTAINABILITY

COMMUNICATION FOR SUSTAINABILITY

Roberta Bellini

Science communication to promote actions and results in research projects has become more and more embedded into policy, funding and practice over the past few years. The emphasis is on reaching multiple audiences using multiple means of communication. Therefore, research projects, like Dwr Uisce, need well designed plans and strategies that, from the beginning to the end of the project lifespan, share clear and meaningful messages with society. Click [here](#) to read more.



CROSS-SECTOR SUSTAINABILITY BENCHMARKING: ANOTHER PATH TO IMPROVEMENT

**Nathan Walker**

The benefits of benchmarking are so widely understood that it is common practice in many industries to achieve ambitious goals (Castro and Frazzon, 2017). However, the challenge remains of how to compare the performance of different organisations from different sectors (Bititci et al., 2013). Companies can gain value from benchmarking by being able to identify leaders in other sectors to then begin the process of learning from them, ultimately instigating improvements in their company, dependent on what they were measuring and

[Subscribe](#)[Past Issues](#)[Translate ▼](#)

COMMUNICATION FOR SUSTAINABILITY

Paul Coughlan & Roberta Bellini

Last month we welcomed our 'Welsh' cousins from Bangor University to Trinity Business School for our Dwr Uisce Team meeting in Dublin.

During the meeting we undertook a short idea storming workshop to explore the transdisciplinarity of our research. Transdisciplinary research is a mode of knowledge production that is effective in addressing sustainability challenges from necessarily different perspectives. Read more [here](#)



SPREADING THE MESSAGE

ISABEL ATTENDED THE HOT WATER FORUM 2022

Water heating is the most energy and carbon intensive process along the domestic water chain, responsible for more carbon emissions than water supply or wastewater treatment. The Hot Water Forum 2022, organised by the American Council for an Energy-Efficient Economy (ACEEE), brought together manufacturers, researchers and policy makers to exchange knowledge and collaborate towards a low-carbon future for water heating. More [here](#).



#SMALLNATIONBIGIDEAS #CenedlFechanSyniadauMawr VIDEOS

Four of our team members recorded videos about their contributions to the 'Welsh Science Tackling Climate Change' initiative of The Low Carbon Energy and Environment Research Network Wales. You can watch the videos [here](#) or on our website [here](#).

EXEMPLAR CARBON SAVING CASE STUDIES ABOUT DWR UISCE PUBLISHED ON CARBON COPY WEBSITE

[Subscribe](#)[Past Issues](#)[Translate ▼](#)

action being taken to address the climate emergency, three of our researchers in Bangor University were contacted on behalf of the Welsh Government to be featured in the collection. The aim is to illustrate local sustainability initiatives and innovative projects that demonstrate relevant and tangible progress towards sustainability and the benefits obtained, inspiring others to action.

Three areas of our research agenda demonstrating how to save carbon emissions are therefore featured as case studies on the [Carbon Copy](#) website – a charity dedicated to highlight best practice across the UK to support UK-wide campaign efforts to generate action around the climate emergency, and also widely used by the Welsh Government to engage and inspire others in Wales to take action.

Here is where you can read them in full:

[Dŵr Uisce](#)

[Future Climate Change Impact Assessment for Hydropower: Dŵr Uisce](#)

[Wastewater Heat Recovery: Dŵr Uisce](#)

This activity is part of a broader programme of collaborative activity with local authorities across Wales, the Welsh Local Government Association (WLGA) and UK Government's Department for Business, Energy & Industrial Strategy (BEIS) around COP26 and beyond.

RECENT PUBLICATIONS IN PEER-REVIEWED JOURNALS

- Schestak, I., Styles, D., Black, K. & Williams, A.P. 2022. Circular use of feed by-products from alcohol production mitigates water scarcity. *Sustainable Production and Consumption*, **30**, pp. 158-170
 - Dallison, R.J.H., Williams, A.P., Harris, I.M. & Patil, S.D. 2022. [Modelling the impact of future climate change on streamflow and water quality in Wales, UK](#). *Hydrological Sciences Journal*, doi.org/10.1080/02626667.2022.2044045.
 - Wu, S.-H., Coughlan, P., Coughlan, D., McNabola, A., & Novara, D. (2022). Developing green process innovation through network action learning. *Creativity and Innovation Management*, 1–12. <https://doi.org/10.1111/caim.12484>
-

JOIN (OR RECOMMEND) THE DŴR UISCE WATER
SPECIALISATION CLUSTER

[Subscribe](#)[Past Issues](#)[Translate ▼](#)

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](#):

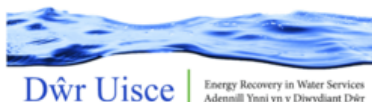
- Ireland - Carlow / Cork / Dublin City / Dun Laoghaire / Rathdown / Fingal / Kerry / Kildare / Kilkenny / Meath / South Dublin / Tipperary Waterford / Wexford / Wicklow
- Wales - Carmarthenshire / Ceredigion / Conwy / Denbighshire / Flintshire / Gwynedd / Isle of Anglesey / Pembrokeshire / Swansea /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



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 DWR 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



DWR 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. DWR 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.

Follow also the hashtags: [#Dwruisce](#).

[Subscribe](#)[Past Issues](#)[Translate ▼](#)

SHARE THIS



Tweet



Share



Forward



Trinity College Dublin
Coláiste na Tríonóide, Baile Átha Cliath
The University of Dublin

**Dŵr Uisce**

Energy Recovery in Water Services
Adennill Ynni yn y Diwydiant Dŵr



PRIFYSGOL
BANGOR
UNIVERSITY



Ireland's European Structural and
Investment Funds Programme
2014-2020
Co-funded by the Irish Government
and the European Union



Uywodiath Cymru
Welsh Government



European Union
European Regional
Development Fund



Tîrniel Reginiarch an Ddeud
Southern Regional Assembly



Copyright © 2021 Dŵr Uisce, All rights reserved. Want to change how you receive these emails? You can [update your preferences](#) or [unsubscribe from this list](#)