



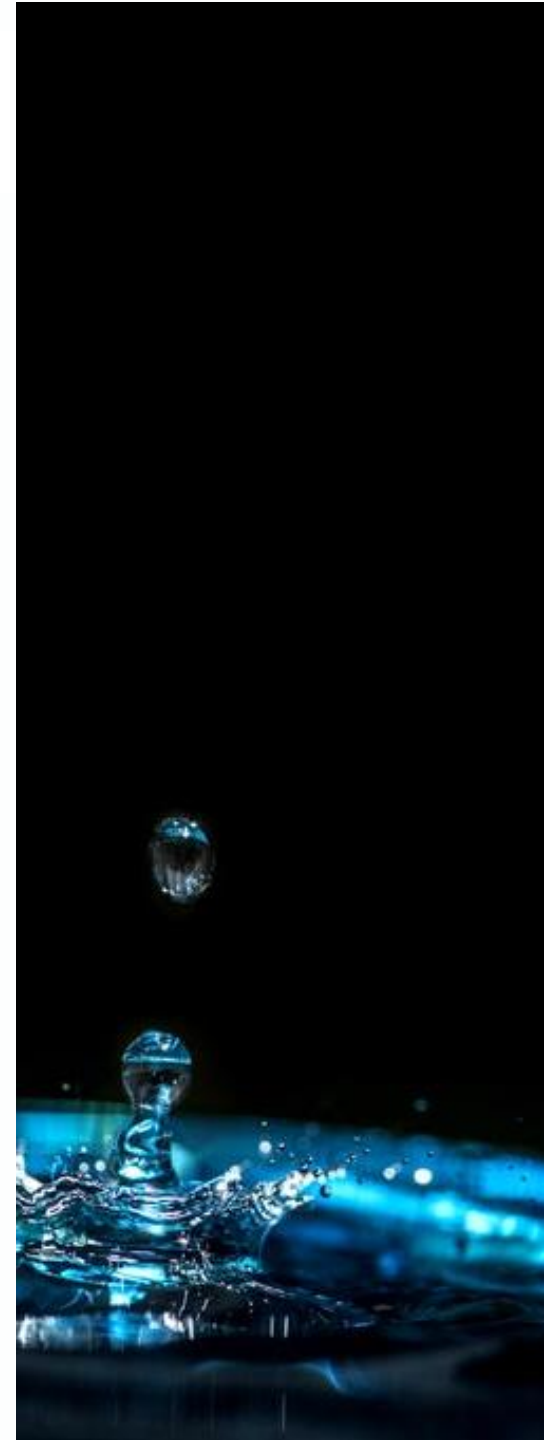
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Coláiste na Tríonóide, Baile Átha Cliath
The University of Dublin



Dŵr Uisce

Energy Recovery in Water Services
Adennill Ynni yn y Diwydiant Dŵr

*Demonstrating learning in action
in a water and energy
smart specialisation cluster”.*
Ana de A. Kumlien & Paul Coughlan



Presentation Outline

- Introduction
- The Dŵr Uisce Project
- Collaboration and demonstration
 - National Federation of Group Water Schemes
 - National Trust Wales
- The Water and Energy Cluster
 - Present and Future
- Future Work



Introduction & Motivation

- Water crisis
- Governments versus innovation in the sector
- New policy encourages **water and energy networks** and **demonstration of new technology**



How does Dât Uisce improve the long-term sustainability of water supply, treatment and end-use in Ireland and Wales?

Developing technology platforms

- Drain Water Heat Recovery
- Hydropower Energy Recovery
- Smart Network control

Demonstrating successes

- Blackstairs Group Water Scheme, Tŷ Mawr Wybrnant
- Penrhyn Castle, heat recovery second venue

Benefiting water and energy consumers

- Lower water and energy bills, lower carbon emission



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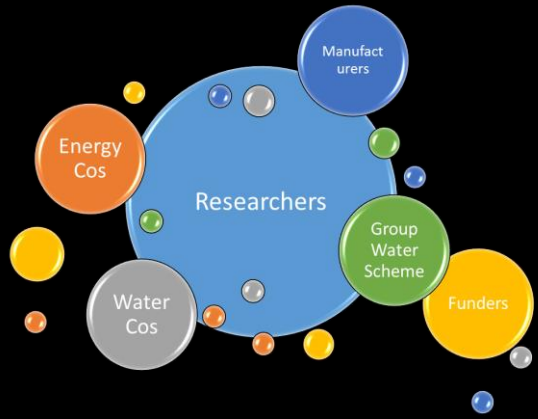


PRIFYSGOL
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UNIVERSITY



[@unstable](#) [affliction](#)

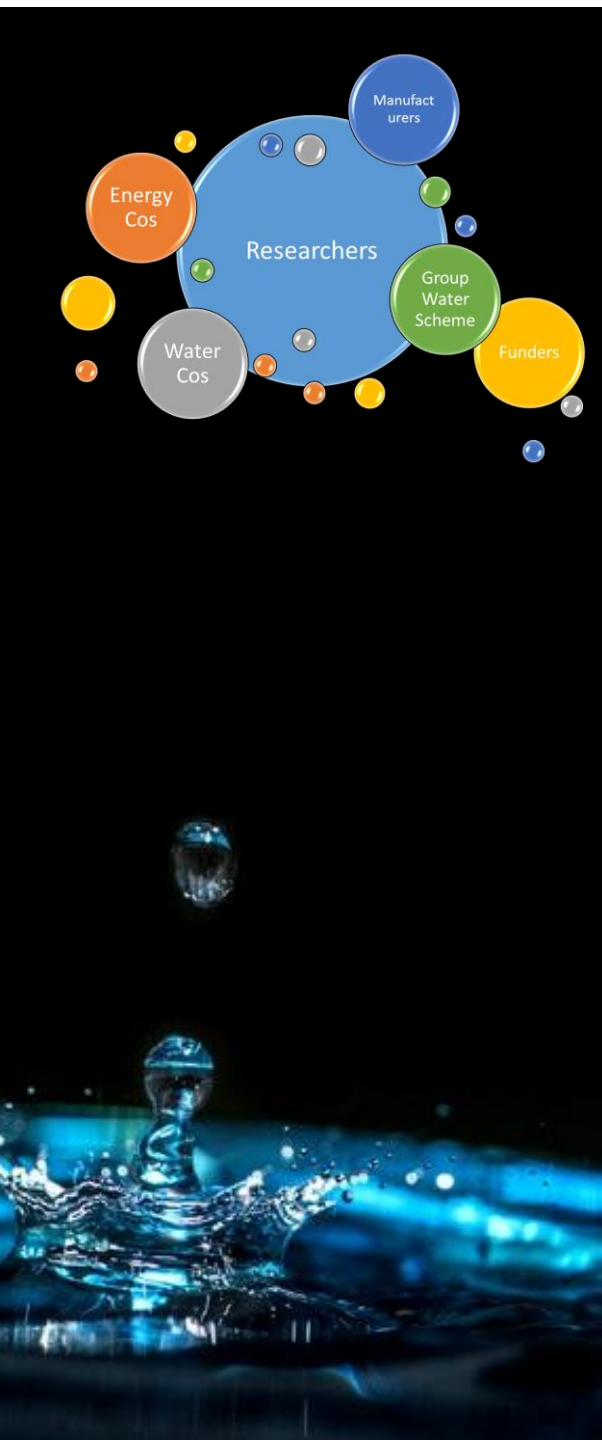
Cluster collaboration NFGWS and National Trust Wales



National Federation of GWS

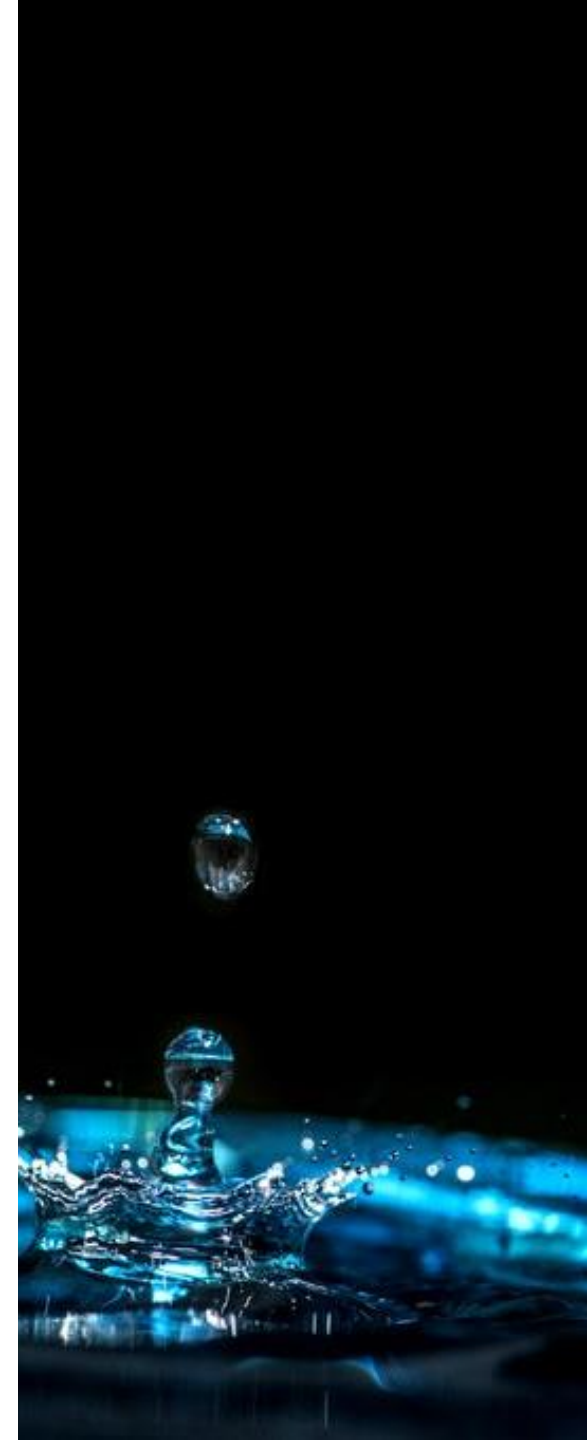


National Trust Wales



The demonstration sites are real

- Partnerships with NFGWS and NT are essential
- A “demonstrator” shows and tells about a new technology
- The demonstration sites will be open to all cluster members



Blackstairs GWS
Wexford Ireland



Penrhyn Castle
National Trust, Wales



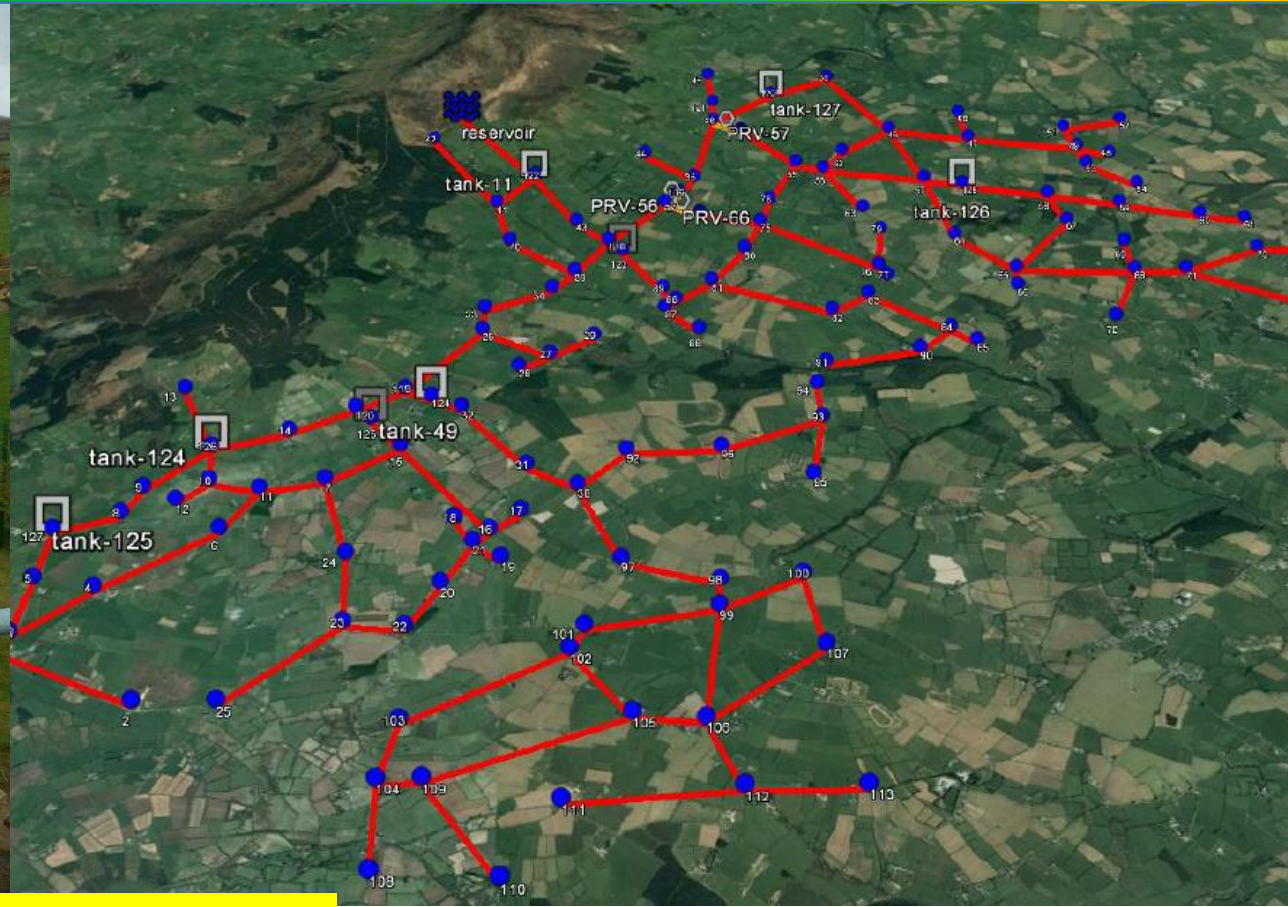
Tŷ Mawr Wybrnant,
National Trust, Wales



Dŵr Uisce Demonstration sites Opening in 2019

Register to our newsletter, get the latest news and learn how you can attend these events here!

The Blackstairs GWS: Pump-as-Turbine can produce up to 25% of energy used by their WTP



*Expression of interest to attend
site: list opens from January
2019.*

Ty Mawr Wybrnant (Wales): Pump-as-Turbine: up to 19,000 kWh of clean renewable electricity per year (8 tons CO₂ saved)



Expression of interest to attend site: Spring 2019



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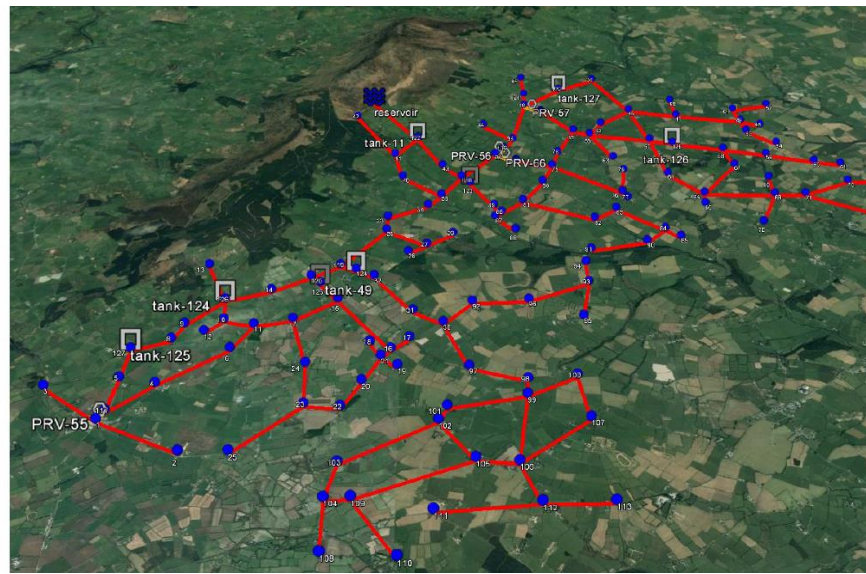


Penrhyn Castle (Wales): Heat exchangers can save up to 40% heating at Castle's kitchen

Expression of interest to attend site: Spring 2019.



What is the opportunity?



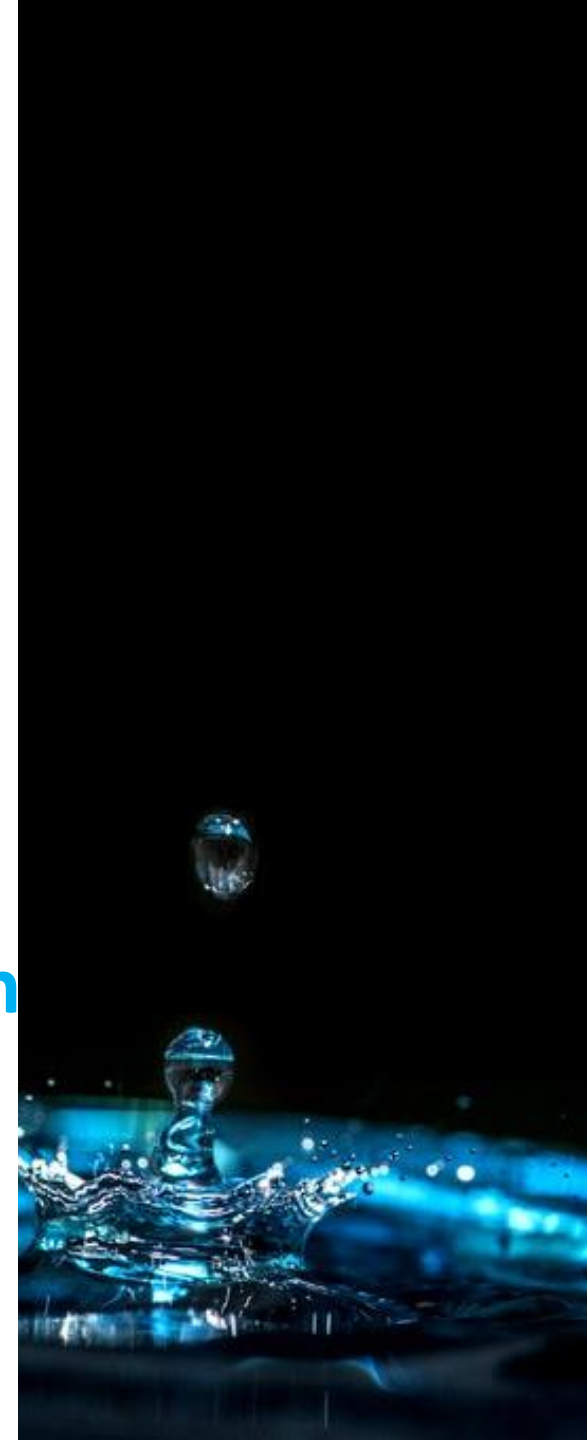
- Location: Where to install the technology?
- Partners: Who can we work with?
- Communications: What do we need to know?
- Technicalities: How do we do it?



How do we exploit it?



- Nine feasibility studies
- Kick off meeting, **workshop in Kilkenny**, **this conference**
- Pipe work and network configuration
- Flow-data
- Contract



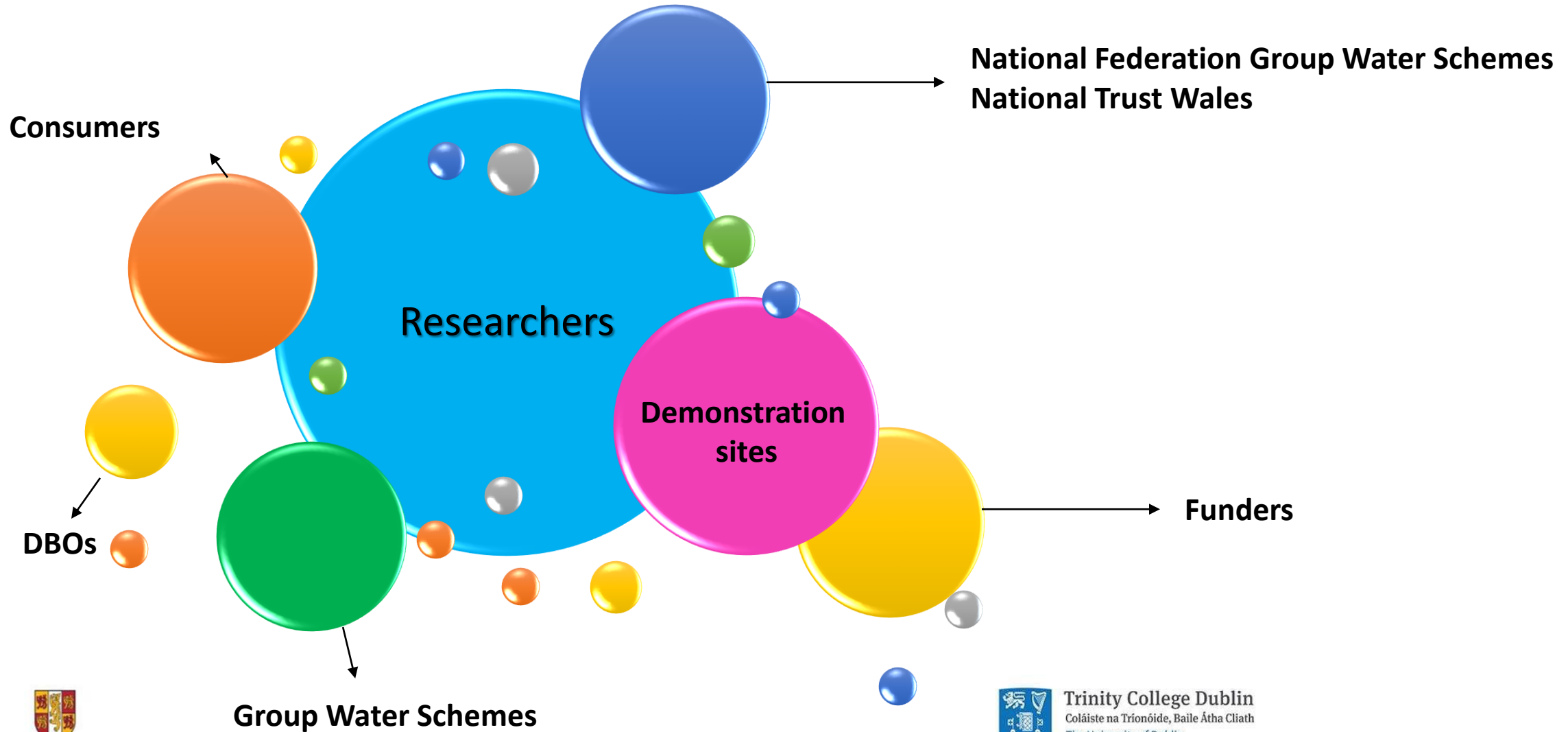
What do we do next?



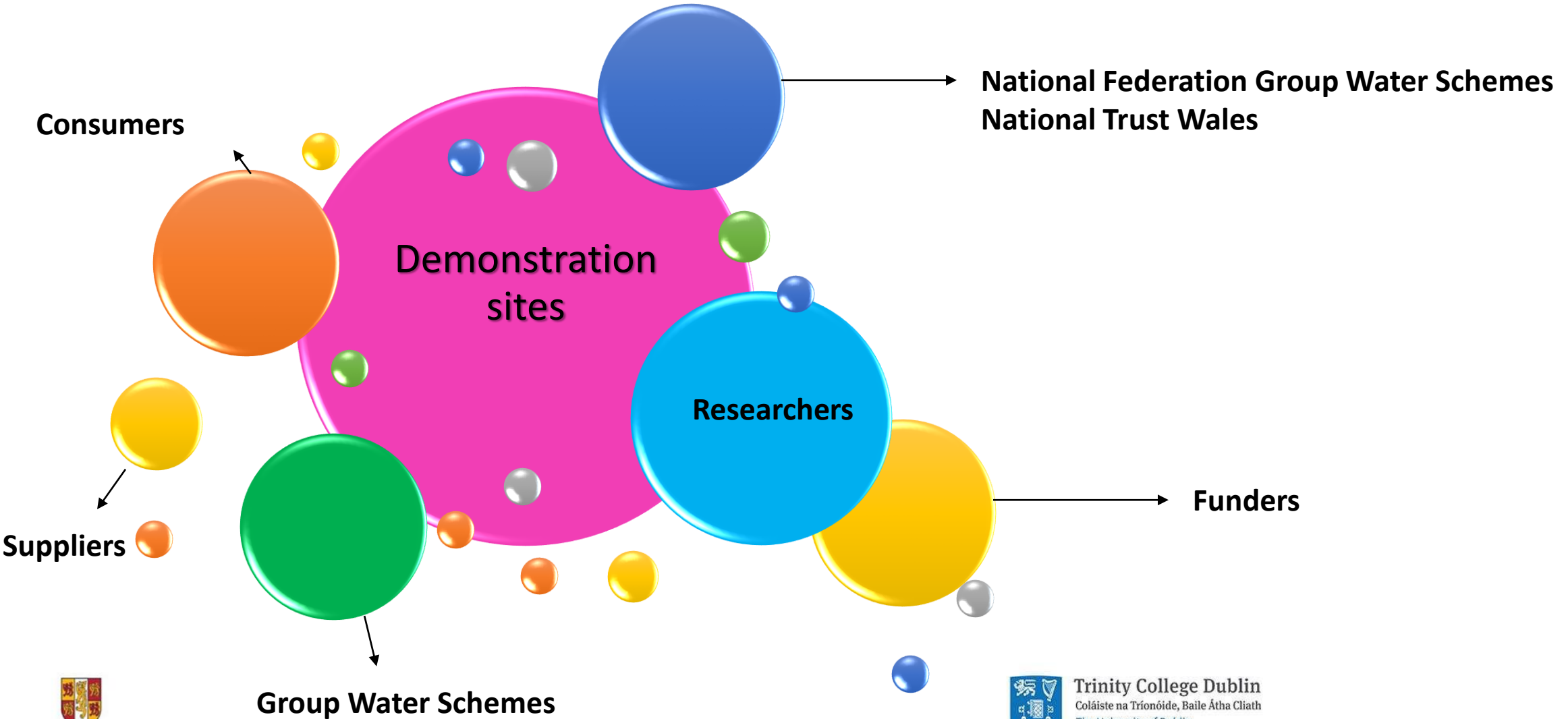
- Learning partnership and how to deploy technology elsewhere
- Benefit greater network and help sector to innovate
- Better problem-solving and actionable information



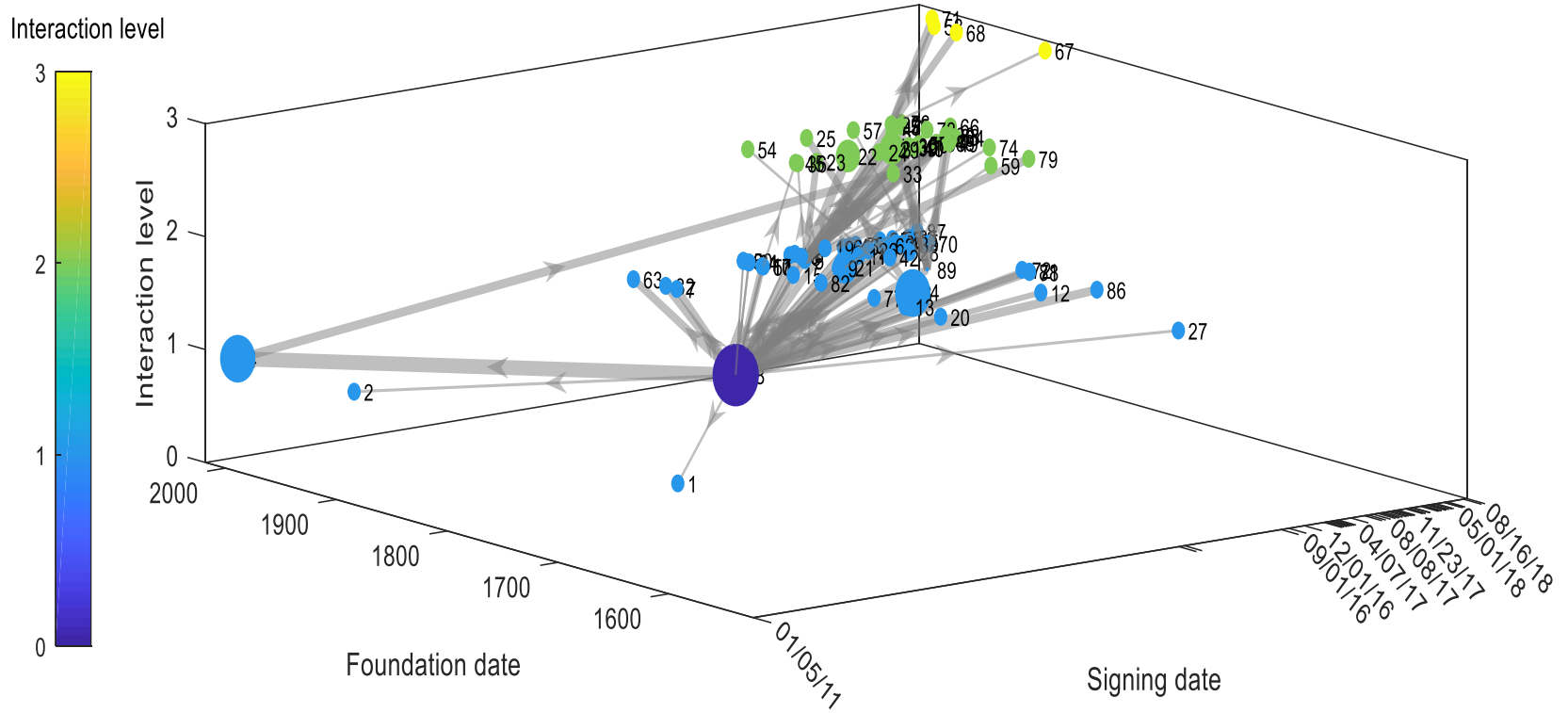
How did we start networking? The basic water and energy cluster



Where are we going? ...for demonstration, the partners (nodes) change



We are mapping the cluster and its evolution to understand how to ensure sustainability



Data sources & method

- Social network analysis
- Matlab
- Meetings
- Reports
- Dates
- Events and more

How do we organise for tomorrow? It is your call now!



- We have choices as we look to the network shape
 - Dât Uisce centric OR
 - Demo-site centric
- What might it take to ensure ongoing learning for the cluster from the demo sites?

- **2 minutes to comment or sketch here:**
 - **Network objective**
 - **Network structure**
 - **Network engagement**

Your signature may allow us to report to our funders you've benefited from the event. (red arrows only)

Company information form

| | | | | | |
|---|---|--------------------------|----------------------------|-----------|----------|
| Business Contact (title, name & job title) | | | | | |
| Business Name | | | | | |
| Business Address | | | | | |
| Unitary Authority/County | | | Postcode | | |
| Telephone Number | | | E-mail address | | |
| Is this a home address? (please specify for data protection purposes) | | | | | |
| Business Details | | | | | |
| Business Activity | | | | | |
| Date of first commercial sale | | | | | |
| Social Enterprise | | | Sole Trader | | |
| Standard Industrial Classification (SIC 2007) code | | | | | |
| Company Registration Number | | | | | |
| PAYE Number if appropriate | | | | | |
| VAT Number if appropriate | | | | | |
| Number of employees (select from 0-1; 2-9; 10-49; 50-249; 250+) | | Total | Full time | Part-time | Seasonal |
| Turnover (please circle relevant box) | | | | | |
| < £10,000 | £100,000 to £199,999 | £1,000,000 to £1,999,999 | £10,000,000 to £19,999,999 | | |
| £10,000 to £49,999 | £200,000 to £499,999 | £2,000,000 to £4,999,999 | £20,000,000 to £49,999,999 | | |
| £50,000 to £99,999 | £500,000 to £999,999 | £5,000,000 to £9,999,999 | > £50,000,000 | | |
| Is the company's balance sheet more than 43 million euro? (i.e. SME classification) | | | | | |
| Does your business have an equal opportunities policy? | | | | | |
| Has your company received more than €200,000 in state aid in the preceding 3 year period? | | | | | |
| If no please indicate the approximate amount of funding received: | | | | € | |
| Declaration | I declare that the details given on this form are true to the best of my knowledge. | | | | |
| | Signed: | Date: | | | |
| | Position within Business: | | | | |

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What and how are we learning?

- Continue to generate insights
- Continue to develop the cluster
- Design visits and learning activities within the demo sites



Thank you!



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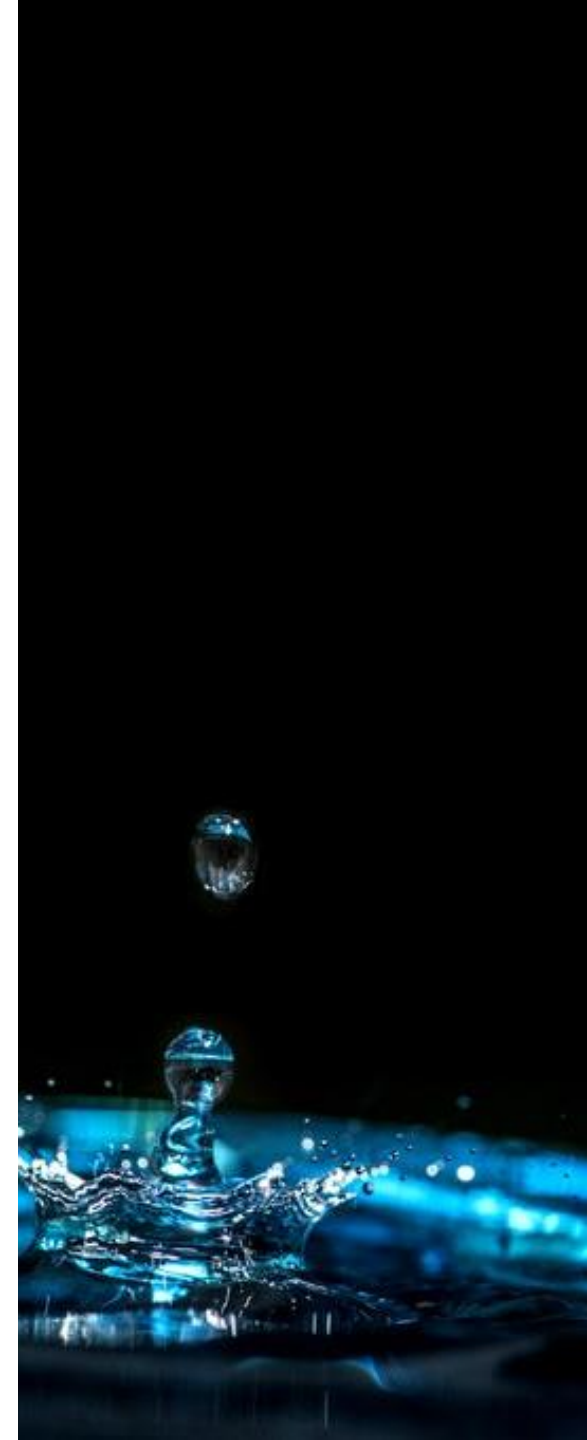
@Dwr_Uisce



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2nd Annual Dŵr Uisce Water–Energy Innovation
SAVE THE DATE | Dublin | 23rd October 2018

Closure remarks

- Sign up for the newsletter
- Express your interest to attend the demo sites and
- register as a member of the cluster
- <https://www.dwr-uisce.eu/join-us/>

For Industry/HEI/Regulators/Local Authorities

www.dwr-uisce.eu @Dwr Uisce #dwruiisce2018

