United Utilities Open Data Strategy

2025

United Utilities

Water for the North West

Contents

Introduction

Since publication of our Open Data Strategy in 2023, we, and the sector, have made good progress delivering activities and processes to support opening and publishing valuable water company datasets.

We have been focused on developing our internal processes and associated governance to refine how we prepare datasets to share and publish. This has been centred around the delivery of the actions and commitments that we set out in our strategy, aimed at improving our knowledge and proficiency of opening and sharing data. We have delivered most of these commitments as planned, reviewing our approach along the way as we have understood more about publishing data, and as a result of participation in the water sector open data initiative, Stream.

Stream is a collaboration of water companies and partners with a vision to unlock the potential of water data to benefit customers, society and the environment through open and shared data. Involvement in this project has shaped our priorities and has given us insight into the datasets which could be high value and beneficial to publish, based upon consumer feedback. We have also continued to work closely with the Open Data Institute, leveraging its expertise to help us understand and work towards adopting best practice.

As we start the new AMP period, it is an opportune time to review our current strategy, to align our plans and our approach to the commitments set out in the Stream Sector Strategy, which was published in March 2025, and to ensure we are focused on delivering the priorities of our customers and stakeholders.

United Utilities is highly engaged on the Stream initiative, contributing to the direction of the project and its ways of working, promoting collaboration and sharing best practice with other water companies to help the development of the sector. We strongly believe that the benefits of working as a collective of companies will result in accelerated progress for the water sector, increase the value of published datasets and provide a much broader reach, making it easier for stakeholders and communities to engage through clear, well-established processes.

We are continuing to review our progress using the Open Data Institute maturity assessment tools and we have developed our roadmap of open data activities to focus on the delivery of the next phase of commitments, as well as including key actions to support the Stream initiative and the delivery of the sector open data strategy.

This updated United Utilities Open Data Strategy document now incorporates the priorities and commitments which we have endorsed with Stream, along with our own priorities and areas for focus that will enable sharing and publication of valuable data for our customers, society and the environment. We will continue to drive this programme of work through our established, Executive led Open Data Governance Group, which will remain accountable for the delivery of our strategy and commitments to support Stream.

Open and shared data in the water sector

The Data Spectrum

Access to data exists on a spectrum, from closed to shared, to open, as shown by the Open Data Institute (ODI) Data Spectrum.

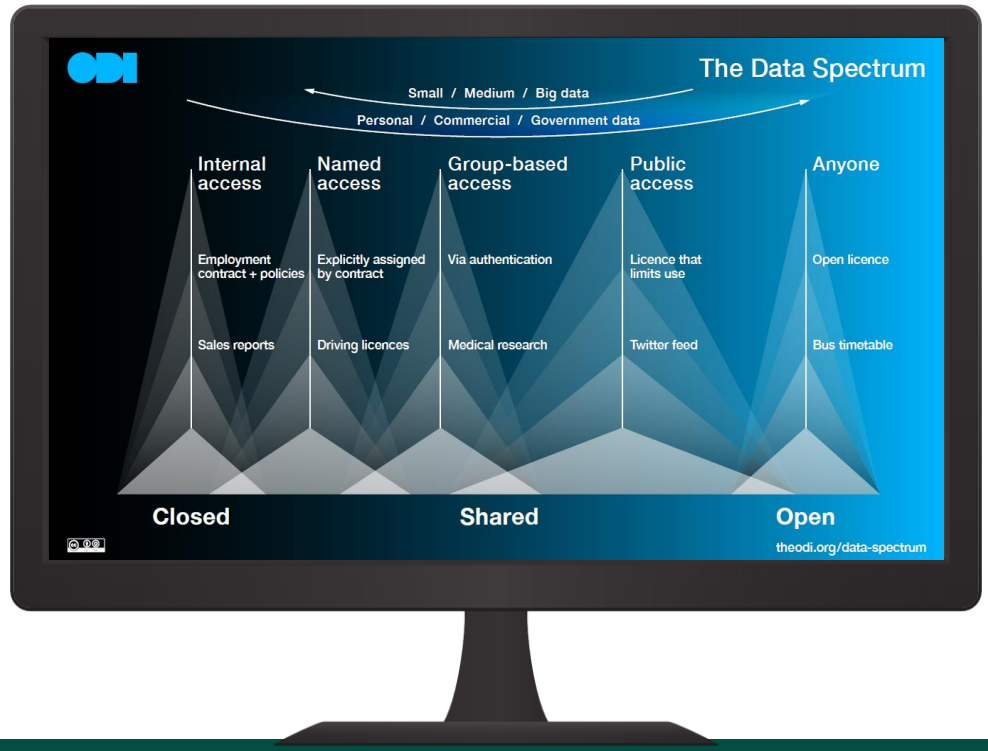
Open data refers to data that anyone can access, use or share.[1] Such data should be published with an open licence,[2] for example, the UK's Open Government Licence, or those available from Creative Commons. Catalogues of data can also be created, opened and used to request access to the underlying datasets themselves.

Most data in the water sector falls under the umbrella of shared data. This is generally understood to be data that is accessible beyond where it was collected or created but is not published with an open licence. Shared data has the widest range on the Data Spectrum, from data provided by one entity to another under a named or group-based access arrangement, such as through a data sharing agreement or commercial data portal, to data published on the web under licences that limit use, such as non-commercial or no-derivatives licences.

It is important that some data within the water sector remains closed, meaning it is not shared outside of the organisation that collected it. This is to protect privacy, commercial interests or national security as and where relevant. However, even if the raw data itself remains closed, aggregated or anonymised versions of it can potentially still be shared or made open.

[1] The ODI

[2] Publisher's Guide to Open Data Licensing | The ODI



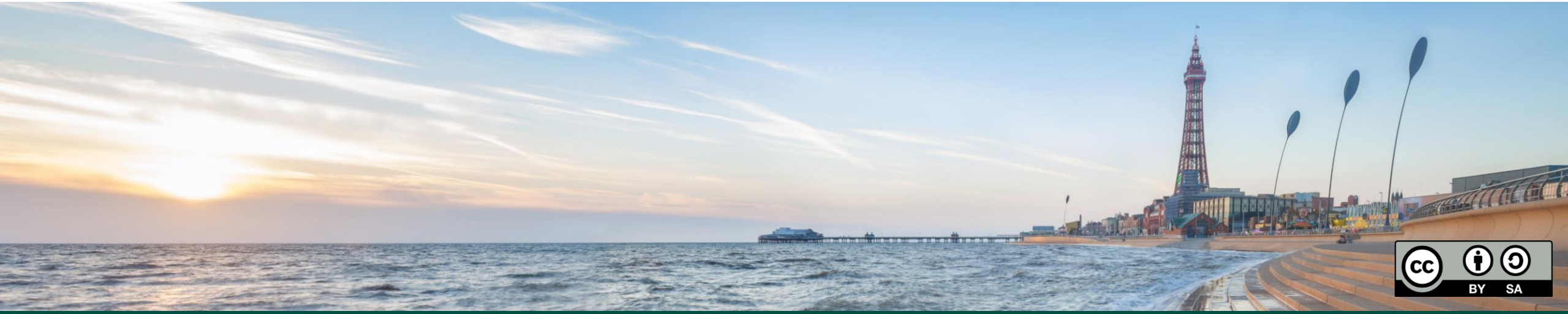
Our vision

Our vision for United Utilities is to be a data-driven organisation, leveraging shared and open data to deliver value to customers, stakeholders and the environment, drive innovation, demonstrate transparency and support the achievement of our strategic outcomes.

That means not just using open data provided by others but also publishing open data with a purpose and sharing data, led by what our customers and stakeholders need.

We know that doing this will generate value for the company, the water sector, the environment, our customers and others by:

- Engaging with customers and stakeholders to understand areas of focus that are important to our local communities, in addition to wider sectorial themes.
- Sharing data to improve how we work with organisations, including utilities, customer groups, and environmental stakeholders, supporting the delivery of improvements and benefits for the environment and society.
- Promoting the value of open data as an agent to drive innovation and economic value.
- Developing the organisation to improve our data literacy and to grow our ability to innovate with open data.
- Improving openness, transparency and trust in our operations and in the water industry.
- Collaborating with other water companies and partners through Stream, bringing greater benefits through working as a collective.



Open data guiding principles and values

Our open data strategy is underpinned by the following data principles and values:

- We will publish open data with a purpose led by the needs of our customers, stakeholders and wider society.
- Our open data will be freely available and of high quality (complete, accurate, valid, of known provenance, maintained and updated at appropriate intervals).
- Our open data will be published using a suitable open licence.
- Our open data will meet the requirements of an appropriate technical framework (standards, formats, metadata and licence) to ensure compliance and interoperability.
- Open and shared datasets will be subject to a risk assessment which considers important aspects associated with publishing and sharing data including legal, regulatory, security, ethical and commercial risks.
- Our open and shared data publication processes will be aligned to our information security, data policies and design principles.

In 2016, the FAIR Guiding Principles for scientific data management and stewardship were published in Scientific Data. The authors intended to provide guidelines to improve the Findability, Accessibility, Interoperability, and Reusability of digital assets. **FAIR** data represents a best practice for data usability globally.

Stream members have agreed to go beyond the FAIR Principles, to ensure that data being published is both **Open** and **Ethical**. Therefore, the FAIR Principles have been expanded upon to form the **FAIROE** Principles, which all water companies will adhere to. 'Open' aligns with The Open Definition from the Open Knowledge Foundation and World Wide Web Consortium (W3C) standards. 'Ethical' aligns to best practice from the Open Data Institute.

Findable: To use data, it must first be found. Metadata and data should be easy to find for both humans and computers. Machine-readable metadata are essential for automatic discovery of datasets and services.

Accessible: Once the user finds the required data, they need to know how it can be accessed.

Interoperable: Data is more valuable when combined with other data. In addition, the data needs to interoperate with applications or workflows for analysis, storage, and processing.

Reusable: The ultimate goal of FAIR is to optimise the reuse of data. To achieve this, metadata and data should be well-described so that they can be replicated and/or combined in different settings.

Open: Data will be published according to the ODI open data definition – to be accessed, used and shared by anyone, at a three-star level of linked open data where appropriate.

Ethical: All data will be published in accordance with relevant laws. Beyond this, the positive and negative impact of collecting, using and sharing data, and relevant mitigations, will be assessed throughout all stages of the data lifecycle, with findings transparently and openly published.

Our priorities

We recognise that the data we hold is a valuable asset that can be put to wider use.

Our open data strategy sets out how we intend to share and use open data to deliver value, whether that's economic, social or environmental. To achieve our vision, we intend to focus on the following key areas:

Publishing data with a purpose

Through engagement with our local communities, stakeholders and our active involvement with Stream, we will develop an understanding of what people value in relation to data we hold. Using this insight to drive our open data release programme, through our commitment to publish data with a purpose, we will take the opportunity to assess how we can meet their requirements, and we will look for opportunities to release further data that may complement their needs.

Collaborating with others

We will continue collaborating with water companies and stakeholders through Stream, and using experience gained from participation in national initiatives such as NUAR and the National Environmental Hub, we will continue to develop our understanding of open and shared data, taking learnings from the delivery of such projects to apply to our own open data journey. We will look for new opportunities to collaborate locally on matters which are a priority in our region and will engage with other industries that are well established in their open data journey to understand how we can progress our open data capabilities.

Developing our open data culture

We are building our open data culture and improving our data literacy skills so that the benefits of open and shared data can be recognised and maximised. We will encourage ideas for new data releases and promote innovation and collaboration as we build our internal expertise to solve challenges and realise benefits for our customers, stakeholders and the environment.

Making data easy to locate and reuse

We're working with other water companies to share datasets through the Stream platform, which can create value at a sector or national level. We also recognise the needs of stakeholders within our region, and we will continue to release data on our website to support local customers and communities. We will provide details about the data, where to find it and what it contains, adopting and setting data standards for greater interoperability and where required, aligning policies, guidance and strategies with other companies to promote best practice. Our goal is to make open data a routine and well governed part of business, where we regularly update and publish data to a high standard.

Commitments

The focus of our strategy is to continue to develop and mature our open data processes to support our customers, society, and the environment.

We fully endorse the commitments outlined in the Stream sector strategy and we will work to deliver these along with our own company commitments.

Stream sector commitments

- **Publish appropriate data that is valuable for our customers, society, and the environment.**
  We will explore the value of open data through a social, economic and environmental lens and will aim to drive benefits to communities and businesses, but never in a way that causes harm or is otherwise illegal, unethical or irresponsible. We will do so transparently and collaboratively as part of embedding a more open culture.

- **Set out individual release schedules or roadmaps for data publishing.**
  Different companies are different sizes, with different open data maturity levels and different levels of resources. We can't all aim to publish at the same cadence, but each organisation can set itself an ambitious cadence for its own situation.

- **Embed common metrics for monitoring and evaluation.**
  We will establish common metrics such as published and downloaded datasets, number of known reuses and qualitative user feedback, to measure ourselves by. We will use these metrics to drive continuous improvement in our activities to ensure value to customers, society, and the environment.

- **Collaborate across the sector on open data priorities.**
  We want to go far, fast, and efficiently as a sector, so we need to go together. We will publish data together where it is more impactful to do so, and collaborate on open data standards, including quality standards such as accuracy and completeness.

- **Collaborate openly beyond data with information, insights, and best practices.**
  We can be open with more than our data and share insights and feedback with each other so that improving one company helps improve us all. We also commit to publish all non-sensitive best practice guidance openly under a Creative Commons licence.

- **Support the Stream initiative, either as full members, or as supportive stakeholders.**
  Stream is a voluntary initiative that welcomes all UK water companies. All companies should engage with Stream around open data publishing and standardisation, even if they are not full members.

- **Upskill our teams on open data and other relevant forms of data literacy.**
  We will leverage existing resources within the sector and beyond to create organisational training plans that bring in knowledge on the value of open data, and how to approach legal and ethical considerations in the collection, use and sharing of data. Where relevant, we will leverage free online resources, expert training services and peer learning through our networks.

Commitments

- **Collaborate beyond the water sector on open data to drive additional value to our customers, society, and the environment.**
  Being open with our data means working with other sectors, especially energy, and other physical infrastructure providers through initiatives like the National Digital Twin Programme and the National Underground Asset Register.

- **Be responsible open data users and innovators ourselves.**
  We can use open data from the water sector and beyond to provide better services too. We will do so legally, ethically, and responsibly, and emulate best practices, including attributing, giving constructive feedback, and helping others publish reuses and case studies.

Our company commitments focus on enhancing our open data offering for our customers, communities and the environment.

United Utilities additional commitments

- **Communication.**
  We will engage with data consumers and stakeholders to identify the datasets, which will deliver the most benefit and value, as well as establishing a clear and consistent feedback loop to continuously improve the quality of the data we release.

- **Improving our process for publishing open data.**
  We will keep reviewing and improving our open data processes, including how we assess data, the tools we use, and our data governance and quality procedures. This will help us release high-quality, reusable data that brings value to our data users.

- **Actively identify data release opportunities.** We will seek opportunities to release more of our data, evaluating whether it is beneficial regionally or across the sector. We'll follow our own defined processes for regional data and share potential sector-wide use cases with Stream for consideration.

Case study | National Storm Overflow Hub (NSOH)

In April 2024, we launched an interactive, online map which shows the location and operational status of each of our 2,264 storm overflows across the North West. This was published ahead of the Government's March 2025 target – as part of our commitment to transparency for the local communities we serve, and to help them make informed decisions about any activities they carry out in local rivers, lakes and seas.

Since then, we have worked closely with Water UK and Stream, to bring all the data on storm overflow activity and improvements into a single place, known as the National Storm Overflow Hub. The online map allows people to see, to the minute, when and where any of the 14,187 storm overflows across England has discharged. It gives a complete country-wide picture and makes England the first country in the world to have 100% monitoring of its network of storm overflows.

The Hub has been developed in line with expert advice from an independent steering group which includes the Rivers Trust, Surfers Against Sewage, the Consumer Council for Water, the Environment Agency, Ofwat and the Department for Environment, Food and Rural Affairs (DEFRA).[3]

The group has been actively involved in the creation and development of the Hub and it has benefitted from their expertise. The Hub is also fully open source, meaning campaigners, charities and academics can access an Application Programming Interface (API) and use the data for their own purposes.[4]

Rob Wilson, Chair of the Consumer Council for Water (CCW), said: "We know people want clear communication and more openness from water companies on their environmental performance and the launch of this easy-to-use interactive map is an important step towards rebuilding trust.

"It has been great to witness water companies, environmental groups, campaigners and others working collaboratively to bring this project to life and it shows what can be achieved when the sector unites behind a common goal that will benefit people and the environment." [5]

[3] The National Storm Overflow Hub | Stream – Portal

[4] National Storm Overflow Hub – Three Months On | Water UK

[5] Water industry launches world-first interactive storm overflows map – Water Magazine

Case study | National Underground Asset Register

The National Underground Asset Register (NUAR) is a government led programme, which is creating a map of buried asset data in England, Wales and Northern Ireland. Each year it is estimated that over 4 million holes are dug in the ground and around 60,000 accidental strikes on assets take place. Every hole that is dug and every strike that takes place in our region has the potential to cause disruption to our customers and communities.

The NUAR platform will bring together over 600 asset owners and provide standardised data to all who have access, making work safer and more effective.

Currently to gain information on assets that are underground at potential dig sites, company representatives contact multiple organisations and wait on average over six days to get the information they need. With NUAR, they can access information instantly from laptops, smartphones and tablets.

Since 2023 we have been working with the Geospatial Committee to get United Utilities data into the platform in a safe, repeatable, secure way. The platform is currently in a testing phase with plans for NUAR to be fully operational by the end of 2025.

Even at these early stages the benefit of sharing our data is being realised by others. An Electricity Northwest representative said: “With NUAR now incorporating water and sewage data, our work planners no longer need to reach out separately to organisations like United Utilities. This integration streamlines our processes, enhances efficiency, and ensures we have all the necessary information at our fingertips. It's a game-changer for our planning and operational activities”.[6]

[6] National Underground Asset Register (NUAR) – GOV.UK

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Water for the North West