

October 2022

Innovation fund – approach for 2022-25 companion decision document

About this document

This document sets out our decision on the approach we will take for the Ofwat Innovation Fund for 2022–25 based on the consultation feedback provided by stakeholders. It builds on our [headline decision document](#), published in July 2022, and provides summaries of the consultation responses received and additional detail on the decisions we've made, including the rationale for those decisions.

Executive summary

During the summer of 2022, we worked closely with water companies¹ to develop our headline decisions on a new open access competition, which aims to accelerate the discovery, development and adoption of promising innovations by the water sector. It will do this by directly supporting organisations with innovative propositions and facilitating their engagement with water companies.

As a result, this document provides further details, not included in the [headline decision document](#), on how we expect the open access competition to run. As some of the decisions on the open access competition have implications for our other competition, the Water Breakthrough Challenge, this document also confirms a number of slight adjustments for that competition. In addition, it provides updates on other relevant activities, including the future of the fund beyond after 2024–25.

The headline decisions are as follows.

Water Discovery Challenge

- A new £4 million competition, the **Water Discovery Challenge**, will launch in January 2023.
- It will be open to any organisation to enter, except for the 17 licensed water companies in England and Wales², and will target early-stage innovations that show promise for adoption and impact in the England and Wales water sector.
- The **Water Discovery Challenge** will be organised in two stages – an initial seed funding stage followed by a development stage, across which participating innovators can be awarded up to £500k to develop their solutions. Water companies have confirmed that they will work with innovators at each stage of the process, providing sector expertise and guidance to entrants.
- There will be no mandatory financial contribution to enter and no intellectual property rights (IPR) rules.

Water Breakthrough Challenge

- The **Water Breakthrough Challenge** will run annually and remain largely the same as [previous competitions](#) in terms of format and entry requirements.
- Some of the key changes made to the **Water Breakthrough Challenge** since the last round include the relaxation of IPR rules, the amount of total funding available,

¹ In this document, reference to a ‘water company’ means a water and/or sewerage undertaker holding an appointment under Chapter 1, Part 2 of the Water Industry Act 1991.

² New appointments and variations (NAVs) and water retailers can enter.

the funding amounts that entries can request and the trialling of live pitches to judges.

- The **Water Breakthrough Challenge 3** opened on 3 October.

Both competitions

- Together, we believe the introduction of the **Water Discovery Challenge** and the adjustments we've made to the **Water Breakthrough Challenge** serve to reduce barriers to entry and open access to the Ofwat Innovation Fund for potentially new (and existing innovators) to bring forward their solutions.
- The Fund's innovation themes have been updated to align more closely to the [2050 water innovation strategy](#), the updated [Welsh Government Strategic Policy Statement](#) and the [UK Government Strategic Policy statement](#).

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1. Introduction

1.1 Background

The Ofwat Innovation Fund (the Fund) was set up to enable the water sector to better meet the needs of, and create long-term value for, customers, society and the environment through innovation. £200 million was made available across the 2019–20 to 2024–25 regulatory period. This money is drawn down via customer bills costing approximately £1.50 per household per year. All projects must therefore demonstrate a benefit to household water customers, which could be either directly or indirectly.

Information about the aims of the fund and the outcomes we are trying to achieve can be found on the [Ofwat Innovation Fund](#) website.

1.2 Proposed approach for 2022–25

In April 2022 we launched a consultation on our proposed approach for 2022–25. In the consultation we identified several key areas where we thought further evolution of the Fund would be beneficial:

- supporting more early-stage ideas through the Fund;
- allowing organisations other than water companies to have greater access to the Fund;
- encouraging a wider range of innovations to come forward, including from other sectors;
- reducing barriers to involvement with the Fund; and
- facilitating new relationships and collaborations across the sector and from other sectors.

To address these key areas we proposed to:

- split the remaining £120 million of the Fund into three annual award amounts of approximately £40 million between 2022–25;
- introduce a new competition targeted primarily at innovators to support more early-stage idea development;
- allocate a portion of the funding (about £4 million) available for 2022–25 to this new competition and remove barriers to involvement;
- allow anyone to be a lead entrant in partnership with any organisation for the Water Breakthrough Challenge Catalyst stream;
- allow owners of background IPR to charge a licence fee at a fair, reasonable and non-discriminatory rate for entries to the Water Breakthrough Challenge Catalyst and Transform streams; and

- maintain all other elements of the Water Breakthrough Challenge Catalyst and Transform streams.

1.3 Overview of consultation responses

We received more than 40 responses to our consultation on the approach to the Fund in 2022–25. We received responses from a range of stakeholders, including water companies, supply chain organisations and representative bodies, academic institutions and customer representative bodies. Overall, there was broad support from stakeholders on our consultation proposals.

The sections below highlight the range of responses we've received against each consultation area. Appendix 1 provides a high-level summary of responses.

2. Our Innovation Fund themes for 2022–25

Key decision

- We have updated our strategic innovation themes to align more closely to the 2050 water innovation strategy and the updated Welsh Government Strategic Policy Statement and UK Government Strategic Policy statement, as follows:
 - Responding and adapting to climate change including achieving the sector ambitions of net zero carbon, zero waste and zero leakage
 - Protecting and enhancing the environment and natural systems to protect current and future customers from the impacts of extreme weather and pollution
 - Delivering long-term operational resilience and understanding infrastructure risks to customers and the environment, finding solutions to mitigate these in sustainable and efficient ways
 - Testing new ways of conducting core activities to deliver the services customers and society need, expect and value both now and in the future

2.1 Consultation proposal

Our innovation themes have provided an important steer, in broad terms, to prospective competition entrants on the areas in which we would like to encourage innovative solutions to come forward. The themes apply to all of our competitions.

Having reflected on the feedback we received during the pilot period, we proposed revisions to our innovation themes, reducing the number of themes from five to four and aligning them more closely to the [2050 water innovation strategy](#), the updated [Welsh Government Strategic Policy Statement](#) and the updated [UK Government Strategic Policy statement](#).

We invited comments on the proposed revised innovation themes and views on whether more specific, targeted challenge(s) should be set for future competitions?

2.2 Consultation responses

Consultation respondents were largely in support of the changes to the themes, and in particular highlighted that these now align more closely with the overall sector strategy, though did raise some concerns about the removal of explicit references to Open Data and customer vulnerability.

With regard to the possibility of more specific, targeted challenges, the responses were mixed, with support and opposition largely in equal measure. On the one hand, some companies felt that targeted challenges could address larger, more universal problems in the sector, and on the other a feeling that targeted challenges could have a cooling effect on innovation in other areas. There were also a large number of suggestions about how this should be implemented, suggesting that companies have competing interests in what a targeted competition should deliver.

2.3 Our decision on innovation fund themes for 2022–25

We confirm our intention to use the new innovation themes across our competitions in 2022–25. Entries submitted to the innovation fund must align to one or more of the innovation fund themes.

While no longer explicitly referenced in the themes, enabling activities are still very important to drive innovation in the sector and have a key role to play in helping the fund achieve its outcomes. We invite entries in this important area as they will support the fund’s ambition to embed innovation practices and knowledge within water companies (and the sector) for the long term.

We also no longer explicitly reference open data or vulnerability in the themes – however both are implicit in theme 4 (and others), and both would easily be a means to fulfil this theme. We have also published more detailed policy statements on Ofwat’s position around both Open Data and customer vulnerability since the start of the competitions. We believe that the breadth of the broader theme allows for greater freedom in proposing improved ways of working and could deliver greater benefits.

Our competition communications will provide more information about the revised innovation themes and our expectations for how enabling activities and those types of entries now no longer explicitly referenced in the themes, such as open data and customer vulnerability, are implicit to the themes and actively welcomed.

We are not presently proposing to develop more specific, targeted challenges for future competitions. We share concerns with those respondents who suggested that this could stifle other innovation by focussing limited innovation resource at a single or small number of potential solution areas. However, we retain the flexibility to do this if there is a clear need for it and would work with the sector to develop such challenges. We will continue to review how we might incentivise underrepresented entry types and thematic areas.

3. Competition approach for 2022–25

Key decisions

- The **Water Discovery Challenge** will launch in January 2023. This is a new competition open to any organisation except for water companies which will target earlier-stage innovations that show promise for adoption and impact in the England and Wales water sector. It is expected to run annually.
- The **Water Discovery Challenge** will be organised in two stages – an initial seed funding stage followed by a development stage, across which participating innovators can be awarded up to £500k to develop their solutions. Water companies have confirmed that they will work with innovators at each stage of the process, providing sector expertise and guidance to entrants.
- The Water Breakthrough Challenge will run annually and remain largely the same as previous competitions (Catalyst and Transform) in terms of format and entry requirements. Some of the key changes made to the competition since the last round include: the relaxation of intellectual property rights (IPR) rules to allow background intellectual property (IP) to be licensed; the amount of total funding available; the funding amounts that entries can request; and the trialling of live pitches to judges.

3.1 New open access competition

3.1.1 The proposal

In our April–May 2022 consultation we proposed to:

- introduce a new open access competition focused on enabling and supporting early-stage idea development and encouraging direct involvement of innovators with the fund;
- allocate a portion of the fund (circa £4 million a year) for early-stage initiatives to request up to £250,000, with no requirement to enter in partnership with a water company or with any other organisation. We proposed to run the new open access competition annually; and
- remove IPR policy conditions on both foreground and background IP, allowing any IP developed to be retained by the organisation funded and we proposed to require no mandatory financial contribution as condition of entry.

3.1.2 Consultation responses on format/approach

Consultation respondents overwhelmingly considered that the introduction of a new open access competition focused on enabling and supporting early-stage idea development would attract a higher number and a greater diversity of innovators. Respondents felt the approach would support entries at an earlier stage of innovation that have struggled to find a route to funding to date and suggested it will increase the opportunities for innovators to come forward. One innovator stated that "innovation funding that was available to us at this stage and which did not require match funding, and which was not in arrears, would be game-changing for us and allow us to progress the development of the innovation."

Funding amounts

Consultation respondents indicated that the proposal to make £4 million available was a fair starting point for the new competition, but many did suggest that the competition would attract high interest and as such Ofwat should consider if this could be increased. One respondent also commented that "at 2% of the overall Fund, it is unlikely to be the "honey-pot" that the sector desperately needs."

The proposal to invite entries up to a value of £250,000 produced a split view from consultation respondents, with the majority of non-water company innovators³ questioning whether this figure was sufficient whilst the majority of water sector stakeholders indicating that this figure seemed appropriate.

The suggestion from many non-water company respondents was that the £250,000 entry limit should be raised to £500,000. Reasons included "it will ensure innovations can be brought to market without having to stop halfway through to raise the next block of development money from somewhere else", and "it can often be very expensive to test new products and get them tested at full scale in order to rise up the technology level readiness scale. By allowing a larger fund this will enable companies to be able to fund full scale testing of their equipment under controlled conditions in a laboratory prior to field testing with a water company." One water company shared the concern that a £250,000 ceiling may be too low to encourage entrants, suggesting that this should rise to £500,000 through a stage-gated process.

Frequency

We proposed that the new open access competition would run on an annual basis. For many respondents this was agreeable, but a number also indicated that it needed to be more frequent, at a minimum twice yearly. Running this competition more frequently would "better help support a pipeline of innovative projects and ensure that the new competition remains as accessible as possible for any innovator." It was also argued that having only annual

³ In this document, reference to "non-water company innovators" is used as an inclusive term to incorporate all organisations that are not water companies that [seek to] innovate.

competitions creates a boom-and-bust cycle "where resources are temporarily committed to developing a bid and the experience and expertise are not built upon to build the capacity or continuously improve the innovation cycle. To be effective innovation needs to be consistently delivered; a little and often is much more effective than infrequent but large events when trying to build capacity and capability in any skill." This view was echoed by a number of respondents.

Design

The majority of consultation respondents who commented on the design of the new open access competition considered that a two-stage entry process would be a suitable format. The first stage should be used to determine which entries had the most potential to advance to the second stage. Stage two would require further information and additional scrutiny of entries.

Consultation respondents almost universally welcomed the removal of IPR conditions and the removal of the minimum 10% financial contribution proposed for the open access competition. One water company respondent indicated that entries should still capture and detail potential match funding or added value that they will deliver to maximise customer investment.

Respondents also welcomed the opportunity to access the Fund without needing to partner with a water company. It was recognised, however, that the water sector needed to have a role in the development of the open access competition and ultimately be involved with or have some oversight of the entries that receive funding to ensure that they are focussed on innovations that have the potential to provide solutions the water sector need.

Open or challenge-based competition?

Most consultation respondents suggested that the new competition should be open, unrestricted by specific challenge statements. Non-water company innovators, in particular, indicated that the freedom to develop solutions which do not fit neatly into a specific challenge statement was important to them and would enable more organisations to enter. A number of respondents suggested that open competitions guided by specific themes would likely yield the best results.

A majority of water company respondents were keen to see alignment with Spring's⁴ targeted challenges, which would support a more joined up, coherent innovation approach for the sector.

The role of water companies and the wider water sector in the new competition

⁴ [Spring](#) is the innovation centre of excellence for the water sector, dedicated to accelerating UK water sector transformation through innovation and collaboration.

In the April–May 2022 consultation we asked about the role water companies and the wider water sector might play in supporting the delivery of the new open access competition. A large majority of respondents agreed that there should be a role.

Many respondents felt that all of the areas we had identified for potential water company and wider water stakeholder support would be valuable. Specifically, respondents wanted water sector involvement in the assessment process, and if targeted challenges were to be part of the open access competition, that the water companies should have a role in shaping these.

Water companies in particular identified Spring as an ideal vehicle to help co-ordinate water sector support and involvement to ensure that "all water companies have an equal opportunity to support where they are best placed to do so." Water companies indicated that Spring could be well placed to:

- support competition engagement;
- direct innovators to sources of advice and opinion from within the sector;
- promote and socialise bids across the sector to support opportunities to partner with companies, (and possibly find mentors for innovators); and
- triage entries into the new competition;

Other responses, mainly from non-water company respondents, considered how the water sector could better support innovation and innovators in the future. The most common suggestions included:

- by making data more available;
- by providing facilities to test and trial innovations;
- access to company subject matter experts so innovators can tap into their know-how;
- by providing more transparency about how they assess innovations against their business plans; and
- being more open to engaging directly with innovators on the viability of their ideas.

Other considerations consultation respondents provided for the open access competition

Many respondents urged us to ensure that the entry process was simple and streamlined, as high overheads to entering could disincentivise potential entrants. Some respondents also commented that the start-to-end competition process should be clearly set out and every effort made to ensure the process concludes in a timely way.

A number of respondents asked for clarity on the opportunities for progression beyond the open access competition, including what the competition's relationship to other Fund competitions would be. Additional clarity was sought on the opportunities for closer working with water companies and how the competition would support a path to market for the innovations that come through it.

Some respondents asked that we keep the key decisions around the format and running of the new competition under review, and that we should be prepared to adjust and adapt as necessary for future iterations of the competition.

A number of comments from respondents reflected how innovators, particularly if they are new entrants to the sector, could be best supported.

Suggestions included:

- sharing material on the regulatory landscape;
- articulating water company needs/priorities;
- entry writing support;
- legal and business development advice; and
- making introductions to water companies upon project completion to promote adoption.

A number of respondents wanted to see that we clearly articulated what the priorities for the new competition were and that it was important that we defined explicitly what we meant by terms such as "early-stage innovation".

One respondent suggested combining the new competition with Catalyst to have a single funding pot (£10m) dedicated to earlier stage innovations.

3.1.3 Our decision on the approach for 2022–25

The new open access competition will be called the **Water Discovery Challenge** ('Discovery') and it will launch in January 2023. We will review the effectiveness of Discovery before setting out our approach for future rounds of the competition and welcome feedback from entrants to help us improve the approach in future years. We expect to run Discovery annually but may run it more frequently if we consider that more frequent competition rounds will support the outcomes we want to achieve. This decision will also be dependent on the extent to which water companies are able to continue to support the competition. Water company involvement, as outlined in this document, is critical to its success, particularly in being able to move innovations along the adoption curve.

In our [headline decision document](#), published in July 2022, we announced that the key features of this new competition would be as follows:

- The competition will launch no earlier than January 2023 with a straightforward entry process that is proportionate to the value and risk of these initiatives;
- there will be no requirement for organisations to partner and/or receive sponsorship from a water company to enter;

- the competition will primarily target early-stage innovation, allocating circa £4 million annually;
- up to £500,000 will be available for individual entries;
- there will be no mandatory 10% financial contribution requirement;
- there will be no IPR licensing requirements applied to winning entries;
- entries will need to align with one or more of the four innovation themes outlined in this document.

3.1.4 Further decisions on the Water Discovery Challenge

Following engagement with the sector across summer 2022 to explore in more detail the design options for Discovery, we have arrived at a number of further decisions which will provide more clarity on what the competition will look like. We hope this will enable prospective entrants to begin to plan towards entering the competition. The complete design of the competition will not conclude until the end of 2022, at which point we will provide more information. If there is an opportunity to release information sooner, we will.

Aim of the Water Discovery Challenge

The **Water Discovery Challenge** aims to accelerate the discovery, development and adoption of promising innovations by the water sector. It will do this by directly supporting organisations with innovative propositions and facilitating their engagement with water companies.

The table below sets out the innovation maturity levels framework we're using. Discovery will welcome entries at the more mature part of level 2 and less mature part of level 3 on this framework (equivalent to technology readiness level (TRL) 3-6) – highlighted by the red box⁵. A key objective of Discovery is to progress supported initiatives to the higher levels on this framework and prepare entries to move to even higher levels outside of the competition by supporting them to work toward entering other Fund competitions or providing a pathway to working with water companies towards adoption.

Level	Description	Typical activities to be supported in this phase of maturity	TRL equivalent
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⁵ The open access competition is open to both technology and non-technology entries.

1 Initial research	Understanding the problem and exploring possible solutions	<ul style="list-style-type: none"> • Initial industry & market research, • Problem investigation and analysis, gathering stakeholder requirements to create the value proposition • Early optioneering of solutions, technology concept/application formulation • Risk/opportunity analysis and research 	TRL 1-2
2 Concept and feasibility	Developing or testing a concept, designing the solution, and testing feasibility of solutions	<ul style="list-style-type: none"> • Innovation concept selection and early design • Testing/proving a concept, developing the initial prototype • Defining the approach to enable further detailed testing, • Assessing the fundamental feasibility of solution(s) within controlled environments. 	TRL 2-4
3 Development and verification	Developing the preferred solution, verifying the design through prototype demonstration in a real- world (or near real world) environment	<ul style="list-style-type: none"> • On or off-site trials of the solution in a near-real or real-world environment • Design risk analysis, including Failure Modes Effects Analysis (FMEA) for future operation, approach to departures (how can we deploy the solution) • Testing against operational requirements 	TRL 3-6
4 Validation and optimisation	Scaling up the solution for roll-out or commercialisation	<ul style="list-style-type: none"> • Identifying practical routes to market, development of training or education requirements, • Large scale, or late-stage testing (pilots) • Fine-tuning to proven operational concepts • Benefits evaluation, review for approval and deployment, standards, or specification development for the innovation. 	TRL 6-8
5 Deployment and post-launch	Implementing or rolling out the solution and assessing its impact	<ul style="list-style-type: none"> • Roll-out and implementation • Standard/specification finalisation and publication • User training or education • Benefits testing and evaluation • Continuous improvement & lessons learnt for future development. 	TRL 8-9

Eligibility

Discovery will welcome entries from all sectors and all types of organisations, domestic or international. Unlike previous Fund competitions, there will be no requirement for organisations to partner or receive sponsorship from a water company to enter. Entries should be able to showcase how their innovation will benefit customers, society and the environment across England and Wales in alignment with the four innovation themes outlined in Section 2.3 of this document.

To be eligible, entries must be submitted by a UK incorporated entity and hold a UK business bank account upon entry to the Water Discovery Challenge.

[The 17 licensed regional water only and water and wastewater companies in England and Wales](#) will not be eligible to enter either as a lead or within a consortium of legal entities.

This is to minimise potential conflicts of interest during the competition as water companies will play an active role in supporting entrants and in contributing to decision making on which entries advance through competition. Entrants can be known to water companies and have prior or existing relationships with water companies, but water companies cannot be part of an entrant's delivery team. Small water and sewerage undertakers, sometimes referred to as New appointments and variations (NAVs) and water retailers will be eligible to enter.

Competition model and timeline

The **Water Discovery Challenge** will open for entries on **Wednesday 25 January 2023** for approximately 10 weeks, with entrants selected for participation by late Spring 2023.

As shown in the image below, we expect the Challenge to follow a two-stage process for entries and run for approximately 18 months in total. Once entrants are selected for participation, those 15–20 entries will receive Seed Grants of up to £50,000. There will be a Seed Stage of approximately 5 months followed by a secondary entry submission and assessment period of approximately 2 months. Finally, up to 10 entries will be awarded up to £450,000 each in development grants, which they will be expected to utilise within an



approximate 7-month development stage.

Entry assessment

The assessment process for Discovery will build on the successful processes used in previous Challenges within the Fund.

Stage one:

- Entry via a written submission
- Entries are scrutinised by expert assessors and a sector review⁶ is undertaken
- Expert assessor scores and sector recommendations are shared with Ofwat
- Ofwat will make the final decision on which entries are awarded seed grants.

Stage two (only stage one participants are eligible for stage two):

- Entry via a written submission together with a live pitch.
- Sector reviews takes place ahead of judging
- Judge’s scores and recommendations from the sector are shared with Ofwat
- Ofwat will make the final decision on which entries are awarded follow-on development grants.

All eligible entries will be assessed against each of the four assessment criteria as follows:

Assessment area	Weighting of assessment criteria at stage one	Weighting of assessment criteria at stage two
Assessment criteria category 1 Positive impact for water customers, society, and the environment	40%	TBC
Assessment criteria category 2 Innovation enablers and innovative solutions	20%	TBC
Assessment criteria category 3 Capacity, capability, and commitment to deliver	20%	TBC
Assessment criteria category 4 Ability to succeed, to be sustainable and/or gain wide adoption across the water sector	20%	TBC

More detail on the assessment criteria is shown at Appendix 2.

⁶ Sector review will comprise inputs from water company representatives on assessment criteria categories 1,2 and 4.

The role of water companies in supporting entrants

Water companies have been invited to support Discovery. As outlined above, water companies will play a role in providing recommendations to the judges and Ofwat on how the entries meet the assessment criteria at stage one and stage two of the process.

In addition to this, water companies have agreed to work with entrants during each stage of the competition:

Water company engagement with entrants at stage one	Water company engagement with entrants at stage two
<p>During stage one successful entries will have opportunities to engage with water company representatives, where general water sector insights and advice, and specific feedback on the innovation or solution in development, can be provided.</p>	<p>During stage two successful entrants will work more directly with the water sector. Companies will each mentor a selection of entries as entrants develop and implement plans for:</p> <ul style="list-style-type: none"> • trialling and testing; • further development of the entry if it requires longer term development or testing and is seeking additional funding opportunities (potentially through the Fund) at the conclusion of the competition; • live implementation of an entry.

At the conclusion of the competition, successful entrants will have worked directly with the water companies for around 12 months, accelerating the development of their solution and increasing the potential for adoption. We also expect new partnerships to have been established between water companies and entrants, possibly paving the way for entry into other Fund competitions but certainly cementing more enduring relationships and opportunities for other innovations to come forward.

Areas of innovation opportunity – guidance for entrants

The **Water Discovery Challenge** will invite entries which align to one or more of the four innovation fund themes (see section 2.3). These themes are broad but intended to highlight key areas where there is a need or opportunity for innovation in the water sector.

We recognise that providing more specificity on areas where innovation is welcomed would be helpful to organisations who wish to understand if their product or service is something the sector is currently looking for. As such, Ofwat and water company representatives have worked together to provide guidance on areas where innovation would be particularly welcome. This is not intended to distinguish between the importance of these areas, but sets out areas where water companies collectively and Ofwat are particularly seeking innovative solutions at this time:

- How might the sector decarbonise energy use and transportation through avoidance, efficiency and alternatives to fossil fuels?
- How might the sector sustainably eliminate leakage across water company networks and customers' pipes?
- How might the sector monitor its assets to respond quickly and correctly to changing environments and unpredicted events?
- How might the sector become net positive through opportunities in natural capital, net zero carbon and minimal waste.
- How might the sector minimise adverse impacts from wastewater and improve environmental quality?
- How might the sector engage with customers to better manage demand and increase the perceived value of water?
- How might the sector improve affordability of water for all, particularly for customers with any vulnerability?

More detailed information on each of these areas where innovative ideas are particularly welcomed is provided in Appendix 3. The competition remains open, however, to any entries under the four innovation themes. All entries will be assessed against the assessment criteria in the same way.

We are not presently proposing to develop more specific, targeted challenges for future competitions. However, we retain the flexibility to do this if there is a clear need for it and would work with the sector to develop such challenges. We will continue to review how we might incentivise underrepresented entry types and thematic areas.

Conditions of funding

Funding will be awarded in pounds sterling (GBP) and the recipient is responsible for payment of any applicable taxes and other charges. At stage one this will be up to £50,000 in seed funding and in stage two this is up to £450,000 in development funding. Entrants are expected to spend the funding within 6 months of end of the Challenge.

If you are selected as a winner either at stage one or at stage two of Discovery you will be required to enter into a competition award agreement before funds will be awarded. This agreement confirms compliance with the terms and conditions of the Challenge and sets out that funds awarded by the competition must only be used to fund the initiative described in your entry. Further detail on what this entails will be published when Discovery launches.

How does the Water Discovery Challenge fit alongside the other Fund competitions?

We've tried to create an overall competition landscape that caters for a wide range of innovations across the innovation maturity level framework (and equivalent TRL scale). Our

Water Breakthrough Challenge competition has provided a platform for a range of innovation to develop and advance towards deployment and adoption.

We have designed the **Water Discovery Challenge** to provide a route for early-stage innovations to come forward, recognising the importance of 'no strings attached' funding and the critical role water companies can play in helping to guide innovations toward being viable solutions for the sector.

We do not expect entries into this competition to all follow the same path as they progress. Some entries will fail. Some will prove a concept but lack viability in the sector. Some entries will develop sufficiently across the 18-month period to be able to prepare for adoption. Some entries will progress well but require further funding to fully prove or realise the potential of their innovation. The Water Breakthrough Challenge provides an opportunity for such entries to continue their funding journey, but it isn't the only option entrants could look at, both within the sector and also outside of the sector where many other funding streams exist which may be more appropriate to their needs.

3.2 Water Breakthrough Challenge

3.2.1 The proposal

During the pilot period we introduced the Water Breakthrough Challenge to fund a broad spectrum of innovation. In the second Water Breakthrough Challenge we ran two different funding streams: Catalyst and Transform. We are encouraged by the level of interest, collaboration, quality and types of entries we have seen through these two streams.

In our consultation we proposed to retain the Catalyst and Transform streams of the Water Breakthrough Challenge, running the competition on an annual basis with largely the same approach, entry requirements and assessment criteria as previous competitions.

For Catalyst, we proposed to increase the funding available from £5m to £6m. We proposed to set the lower value threshold for entries at £250k to take into account the new open access competition proposal to fund entries up to £250k in value. This is an increase from £100k in the previous round. We proposed that Transform would retain the majority of its key features.

Following the success in the last round of Catalyst to trial a more relaxed approach to IPR, we proposed to apply this approach across the whole of the Water Breakthrough Challenge in round 3 (Breakthrough 3), to allow background IPR to be licensed across both streams.

3.2.2 Consultation responses

In our consultation we asked respondents to comment on our proposed approach to Catalyst and Transform, welcoming thoughts on award amounts, entry values, entry requirements, entry process and frequency of competitions. We also asked respondents to comment on whether we should allow any organisation to enter the Transform stream without needing to be in partnership with a water company. The main points raised in the consultation responses are summarised below.

There was support for the funding amounts we proposed to apply to Catalyst and Transform. For the Catalyst stream, adjusting the minimum entry value threshold from £100,000 to £250,000 was supported on the basis that projects that fell under £250,000 could be entered into the new open access competition.

On the question of whether all entries should be led by a water company, many respondents said that entries should be led by a water company as they are critical to solution adoption and to reduce the risk of customer money not being spent appropriately. If an entry was to be led by an organisation other than a water company, a number of respondents suggested that, as a minimum, the entry should have at least one water company listed as a key partner to ensure sector guidance is provided, that there is a prospect of adoption and to support a pathway to market if the entry was successful.

Other comments from respondents for the Water Breakthrough Challenge were as follows:

- many water company respondents wanted to see an additional stage built into the competition entry process, where the independent judges could clarify entry submission details directly with entry leads; and
- the policies around IPR and the 10% mandatory financial contribution were still cited as a barrier to entry. The IPR policy was called out as confusing by some. Many respondents welcomed the proposed relaxed background IPR rules, but some felt that such a relaxation should also be applied to the foreground IPR rules.

3.2.3 Our decision on the approach for 2022–25

There was a preference in the consultation responses and wider engagement we have undertaken with the sector for consistency with the previous Water Breakthrough Challenge rounds. This would ensure a degree of familiarity for entrants and allow for longer term planning towards entering in future years. We have therefore decided to keep the Breakthrough 3 round largely the same as previous years. Breakthrough 3 will open on 3 October 2022. We expect the Breakthrough competitions to run annually. In 2023–24 and 2024–25 we will aim to bring these forward to run between September and March.

In our [headline decision document](#), published July 2022, we announced that the key features of Breakthrough 3 would be as follows:

Catalyst

- make circa £8 million available in 2022–23, with entrants able to bid for between £500,000 and £2 million;
- require lead entrants to be a water company. Any organisation can be a partner. Lead entrants can devolve project management responsibilities to partners
- require a 10% mandatory financial contribution;
- allow background IPR to be licensed and require that foreground IPR must be shared with water companies in England and Wales (see 4.5 of Breakthrough 2 terms and conditions);
- maintain the option for entrants to propose an alternative IPR approach;
- maintain a similar entry process and timeline to Breakthrough 2 (see 5.1 in Breakthrough 2 Catalyst stream entrant handbook).

Transform

- make circa £30 million available in 2022–23, with entrants able to bid for between £2 million and £10 million. We are exploring an option to allow bids over £10m.
- require lead entrants to be a water company. Any organisation can be a partner;
- require a 10% mandatory financial contribution;
- allow background IPR to be licensed and require that foreground IPR must be shared with water companies in England and Wales (see 4.5 of Breakthrough 2 terms and conditions);
- maintain the option for entrants to propose an alternative IPR approach; and
- maintain a similar entry process to Breakthrough 2 (see 5.1 in Breakthrough 2 Transform stream entrant handbook).

We increased the minimum entry value threshold for Catalyst from £250,000 to £500,000 to take account of the funding ranges allowed for the new open access competition. We increased the upper entry value threshold from £1 million to £2 million to enable more entries to be subject to the more streamlined entry process of Catalyst in comparison with the two-stage Transform process.

We felt these changes to the entry value thresholds supports our aim to reduce barriers to entry. As a result of these changes, we increased the total amount of funding available for Catalyst, making approximately £8 million available for entries, rather than the £6 million we proposed in our consultation.

The lower limit for funding requests in Transform has therefore also changed to £2 million rather than £1 million.

We decided to relax the background IPR rules for both Catalyst and Transform, which means that background IPR can be licensed at a fair, reasonable and non-discriminatory rate. Foreground IPR must continue to be shared with water companies in England and Wales to ensure all water company customers benefit, especially as the fund is customer funded. However, entrants have the option to propose an alternative IPR approach that is well justified. For more information on the IPR policy for Breakthrough 3, please see the terms and conditions on the [Fund website](#).

We also decided to maintain the mandatory 10% minimum contribution for both streams of the Water Breakthrough Challenge. Entrants have the flexibility to decide how this contribution is split between partners and/or obtained from other sources of funding as long as it is not funded by water customers in England and Wales.

In the headline decision document, we confirmed that for both Catalyst and Transform the lead entrant should be a water company and that any other organisation can be a partner.

For the Catalyst stream, we clarified that lead entrants can devolve or share project management responsibilities to partners. The lead water company should agree with partners how these activities are shared, although the lead water company ultimately remains accountable for all aspects of entry delivery. This decision has been made to help support lead entrants where resourcing constraints may impact their ability to enter Catalyst and play a key role in leading and managing the entry.

For the Fund to achieve its aims and objectives, we consider it important that the £2 million to £10 million innovation initiatives that can be funded via the Transform stream are of high strategic importance to water companies. As such, we explained that it is important that water companies play a leading role in all aspects of the development of entries and the delivery of projects in this stream, enabling the Fund ambition to embed innovation practices and knowledge within water companies (and the sector) for the long term to be achieved. Therefore, we have determined that lead entrants within Transform should retain central strategic and project management responsibilities, including the drafting of submissions in Breakthrough 3.

3.2.4 Further decisions on the Water Breakthrough Challenge

Following engagement with the sector across summer 2022 to explore in more detail the design options for Breakthrough 3, we arrived at a few further decisions and/or updates to the decisions we published in our July headline document.

Catalyst funding range to change to £150,000 – £2 million

Following further engagement with water companies and greater clarity on the role they will play in the [Water Discovery Challenge](#), including that water companies (excluding NAVs)

are not permitted to enter the competition, we have taken on board their preference to allow lower value bids to be considered for Catalyst. Therefore, the Catalyst stream will accept entries from £150,000 to £2 million.

Transform funding – entries requesting greater than £10 million

The minimum amount of funding that can be requested in Transform is £2 million, and the maximum that can be requested is £10 million.

In exceptional circumstances where an entry will deliver impact across the water sector in England and Wales, we are open to accepting entries requesting greater than £10 million. We ask that this impact is demonstrated by having a minimum of 10 water companies in England and Wales as entry partners and is subject to the approval of Ofwat.

Live pitch to judges

We heard through the consultation that entrants would be keen to have the opportunity to pitch their initiatives live to judges. In Breakthrough 3, we will be trialling this across both the Transform and Catalyst streams, where judges can also ask questions to entrants that are successful in being shortlisted for judging.

This also means that pitch recordings will be required for Catalyst for the first time.

For Transform, we heard from water companies that they would prefer for the entry process to be longer rather than these live pitches occur during the Spring Holidays in 2023. As such, the entry process for Transform has been extended in comparison to Breakthrough 2.

3.3 Other questions about our proposed approach for 2022–25

We asked additional questions about the approach to the Fund in 2022–25, the likelihood of entering the competitions and any barriers to entry (Questions 11–14). These questions did not receive as many responses as the earlier questions and responses were split between water companies and non-water companies.

Most water companies said they were already active participants and would continue to enter the competitions. Some smaller water companies said they would be more inclined to enter if the changes proposed were implemented. Some commented that it would be easier for non-water companies and universities to enter the competition alone or to lead entries involving water companies, particularly for the new Challenge or the Catalyst stream of the Water Breakthrough Challenge.

A small proportion of respondents said that even with the proposed changes to the competitions there were still barriers to entry, including the complexity of entry process and a lack of capacity to complete submissions. Some commented on the need for easy access to

regulatory advice. It was suggested that it would be helpful to the industry to share the reason entries were unsuccessful to reduce wasted effort.

There were suggestions made by respondents on how to stimulate innovation, including:

- engage with large scale supply companies who generate a large proportion of innovation within the sector;
- engage with smaller organisations from outside the sector and provide support to help to “demystify the industry”; and
- help the sector to learn lessons from other sectors.

We welcome the feedback provided and will be looking at ways to simplify the entry process and make it easier for companies to secure for funding for innovative and transformational projects. We will continue to support companies entering the competition using providers such as Science Practice and setting up brokerage sessions.

4. Future of the Fund

In our April–May 2022 consultation we explained that the Fund had been set up to run between 2020–25 and asked whether we should consider continuing the Fund, or an adapted version of the fund, beyond 2025.

Nearly all the responses we received, from both water companies and the supply chain, were supportive of the Fund and of it continuing into the next price review period. We heard that this would help ensure longer term challenges can be addressed, support the long-term strategy development by water companies and continue to embed an innovation culture in the sector.

Several respondents expressed that they felt the Fund was good value for money for customers, that it was good at stimulating co-operation and collaboration as well as enabling better sharing and openness amongst water companies. Respondents suggested this should reduce the total cost of innovation in the sector.

A few respondents commented that decisions on the future of the Fund should be subject to feedback and evaluation on the fund in 2020–2025. There was also a suggestion that other approaches, such as accelerator programmes or a national innovation network, could be used to support innovators after 2025.

Water companies asked for a decision on the future of the Fund by PR24 Final Methodology so that the Fund could be reflected in their business plans.

In the PR24 Draft Methodology we said we expected the Fund to continue, subject to evaluation. We aim to provide more information on the Fund in PR24 Final Methodology in December 2022. We will continue to consider options for a future Fund, including the size and how it will operate, taking into account feedback and engagement with the sector, as well as the emerging findings from the ongoing evaluation.

5. Update on other relevant activities

5.1 Working with Spring

Spring is the organisation dedicated to accelerating water sector transformation through innovation and collaboration. Spring, one of the winning entries in the Innovation in Water Challenge, was highlighted in a number of consultation responses, with many respondents suggesting that there could be synergies between the aims of the Fund and Spring's planned activities. We are currently in discussion with Spring about their developing role in supporting the sector and how they could support companies and potential new innovators in future competitions of the Fund.

5.2 Streamline

Those new to the water sector, innovators and businesses can also access the new regulatory advice service launched in May 2022. [StreamLine](#) is an online portal where innovators can ask questions about regulation in the water sector. They will receive a coordinated response from the Drinking Water Inspectorate (DWI), the Environment Agency and Ofwat to help them understand and navigate through water sector regulations.

Since May 2022 there has been a steady influx of enquiries on a broad range of subjects, from information sharing to infrastructure improvements. We expect demand on the service to grow over the coming months as we get closer to the opening of the new Water Discovery Challenge in which we are actively encouraging, more strongly than ever, participation from innovators and solution providers from outside the sector who are likely to be less familiar with regulatory framework.

6. Next steps

Over the next three years we will be looking to award circa £120 million to innovative initiatives via the **Water Breakthrough Challenge** and the new **Water Discovery Challenge**.

We expect the Water Breakthrough Challenge to run annually, with 2023–24 and 2024–25 running from September to March. The first **Water Discovery Challenge** will open on **25 January 2023** and we will keep under review any future rounds of this competition.



Breakthrough 3 will open on **3 October 2022 at 12 noon (BST)**.

The Catalyst stream will close on **8 December 2022 at 12 noon (GMT)**.

Stage 1 of the Transform Stream will close on **9 November 2022 at 12 noon (GMT)**. Stage 2 of the Transform Stream opens on **8 December 2022 at 12 noon (GMT)** and will close on **2 February 2023 at 12 noon (GMT)**.

Appendix 1 – Summary of consultation responses

We received more than 40 responses to our consultation on the approach to the Fund in 2022–25. We received responses from a range of stakeholders, including water companies, supply chain organisations and representative bodies, academic institutions and customer representative bodies. Overall, there was broad support from stakeholders on our consultation proposals. The following table summarises responses against each area we consulted on.

Consultation area	Summary of responses
Innovation fund themes	<ul style="list-style-type: none"> The majority of respondents welcomed the four innovation themes, with many acknowledging how they better align with the 2050 water innovation strategy. A number of others felt the themes should be even more closely aligned with the 2050 water innovation strategy and others felt that not explicitly referencing open data /sharing of data and data quality was an error.
Open or challenge based	<ul style="list-style-type: none"> The majority of respondents were in favour of open competitions to encourage a range of potential solutions to come forward. A number of respondents suggested that specific challenges should only be used if there are gaps in the types of entries the Fund was seeing or where there was a direct customer need in a specific area. Some respondents accepted that smaller organisations might be more inclined to enter a competition which focussed on a targeted challenge area.
Introducing a new open access competition	<ul style="list-style-type: none"> Respondents were overwhelmingly in favour of Ofwat introducing an open access competition to support lower innovation maturity solutions. Respondents welcomed the proposed removal of IP restrictions and no mandatory 10% match funding contribution, suggesting this would make the competition more attractive to innovators. Respondents expected water companies to play a role in supporting entries to the competition. The majority of respondents suggested that the competition should be unrestricted by specific challenge statements, instead be open to any types of entries under the Fund themes. A number of respondents questioned whether £4m was enough to bring about the change we wanted to see through the new open access competition. A large majority of non-water company innovators suggested that the £250,000 upper limit for entries should be increased to £500,000.
Water Breakthrough Challenge – Catalyst and Transform streams	<ul style="list-style-type: none"> The majority of respondents supported the proposed changes to relax the IP rules. A number of respondents felt Ofwat could go further by removing IP rules entirely as this still represented a barrier to entry. A number of respondents wanted to see more interactivity between the competition judges and entrants in Catalyst and Transform – with the opportunity for entrants to provide clarifications and answer any questions judges may have. Respondents invited Ofwat to consider how the competition entry processes could be streamlined.
Broader feedback	<ul style="list-style-type: none"> The majority of respondents expressed that the proposed changes to the Fund will enable greater participation in the competitions, both from water companies (particularly the smaller water companies) and non-water companies. A small number of respondents said that more could be done to reduce barriers to entry, particularly the IPR and mandatory 10% financial contribution for the

	<p>Water Breakthrough Challenge, and more generally on the complexity of the entry process.</p> <ul style="list-style-type: none">• The majority of respondents wanted to see the Fund continue beyond the 2025.
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Appendix 2 – Further detail on the assessment criteria for the Water Discovery Challenge

The following table sets out the approach we expect to take in assessing entries to the open access competition. As we develop more detail on the assessment criteria we may take decisions which result in minor changes to the approach as set out below. The final version of the assessment criteria will be available when the Challenge launches.

Assessment category	Short description
<p>Assessment Criteria Category 1: Positive impact for water customers, society, and the environment</p> <p>Stage 1: Criteria weighting: 40% Stage 2: Criteria weighting: TBC</p>	<p>Under this assessment category, we will be looking to understand:</p> <ul style="list-style-type: none"> • Does the innovation address a relevant need for the water sector in England and Wales? • Does the innovation have the potential to deliver benefits for customers, society, and the environment? • Does the innovation deliver impact against one (or more) of the four Ofwat innovation themes?
<p>Assessment Criteria Category 2: Innovation enablers and innovative solutions</p> <p>Stage 1: Criteria weighting: 20% Stage 2: Criteria weighting: TBC</p>	<p>Under this assessment category, we will be looking to understand:</p> <ul style="list-style-type: none"> • Is this solution new for the water sector in England and Wales? • Is it better than solutions already out there?
<p>Assessment Criteria Category 3: Capacity, capability, and commitment to deliver</p> <p>Stage 1: Criteria weighting: 20% Stage 2: Criteria weighting: TBC</p>	<p>Under this assessment category, we will be looking to understand:</p> <ul style="list-style-type: none"> • Detail on the commitment and expertise of the team to deliver what they outline in the entry? • The timeline of activities and delivery plan
<p>Assessment Criteria Category 4: Ability to succeed, to be sustainable and/or gain wide adoption across the water sector</p> <p>Stage 1: Criteria weighting: 20% Stage 2: Criteria weighting: TBC</p>	<p>Under this assessment category, we will be looking to understand:</p> <ul style="list-style-type: none"> • Is this likely to be feasible and viable with the sector (from the technical, economical and regulatory perspectives)? • Could this be adopted by the sector?

Appendix 3 – Water Discovery Challenge – areas where innovation ideas are welcomed

As outlined earlier in the document, we recognise that providing more specificity on areas where innovative ideas are welcomed would be helpful to innovators who wish to understand if their product or service is something the sector is currently looking for. As such, Ofwat and water company representatives have worked together to provide guidance on areas where innovative ideas are particularly welcomed (see table below). To be clear, this does not provide insight into the relevant importance of these areas, but demonstrates those areas where water companies (as a collective) and Ofwat are particularly seeking innovative solutions.

Broad challenge area	Specific challenge area where innovations are particularly welcomed by Ofwat and the water sector
<p>How might the sector decarbonise energy use and transportation through avoidance, efficiency and alternatives to fossil fuels?</p>	<ul style="list-style-type: none"> • What are the opportunities around low energy aeration technologies? • How might the sector maximise energy generation from sewage sludge? • What are the opportunities around hydroelectricity at sewage treatment works? • What are the opportunities around heat recovery at sewage treatment works? • What are the opportunities around alternative heat sources for sludge treatment processes (BQ outcome: Energy & transport) • What are the opportunities around hydrogen production from bio-resources? • How might the sector utilise new remote monitoring techniques and technologies to reduce visit frequencies • How might the sector reduce transport emissions through collaborative working?
<p>How might the sector sustainably eliminate leakage across water company networks and customers' pipes?</p>	<ul style="list-style-type: none"> • How might the sector quickly and cost effectively locate all existing and developing leaks, especially low-level 'background' leakage? • How might the sector change how it operates and maintains its existing network to minimise new leaks? • How might the sector change how we design and install pipes to ensure all new pipe is leak-free? • How might the sector more accurately measure water quantity, from abstraction to consumption, to enable us to confidently quantify leakage and demonstrate when it is zero? • How might the sector make pipe repairs quickly, economically and with minimum disruption?

<p>How might the sector monitor its assets to respond quickly and correctly to changing environments and unpredicted events?</p>	<ul style="list-style-type: none"> • What are the opportunities around a smart water network system? • How might the sector best deploy the right resource to the right site at the right time (alarm rationalisation)? • What are the opportunities around low-cost sewer monitors? • How can lifecycle regimes on assets best balance performance, cost and risk?
<p>How might the sector become net positive through opportunities in natural capital, net zero carbon and minimal waste?</p>	<ul style="list-style-type: none"> • How can the sector look to optimise the use of land (natural capital, biodiversity, carbon neutrality)? • How can the sector best protect water quality at source through integrated catchment management solutions? • How can the sector optimise natural capital solutions to benefit both society and the environment? • How can the sector take the opportunities the Environment Bill provides to work with others to optimise supply/demand balance and natural capital? • How can the sector make the use of nature-based solutions the norm?
<p>How might the sector minimise adverse impacts from wastewater and improve environmental quality?</p>	<ul style="list-style-type: none"> • How can the sector ensure the structural condition of sewers is known and maintained? • How can the sector ensure no deterioration in water bodies and zero pollution incidents? • How can the sector ensure sewers have the capacity to cope with new developments, infiltration and weather extremes? • How can the sector best monitor its sewers to enable proactive intervention and have sufficient resources to respond to incidents? • How can the sector better control sewer content at source, including addressing misconnections cost-effectively? • How can the sector minimise losses from water treatment and supply systems to make the water supplies more drought resilient? • How can the sector use weather forecasts to raise awareness of risks to the availability of water supplies?
<p>How might the sector engage with customers to better manage demand and increase the perceived value of water?</p>	<ul style="list-style-type: none"> • How might the sector better engage its customers to feel truly part of the water cycle and to ensure customers understand their role in reducing demand and are actively supported to do so? • How might the sector develop and roll-out low-cost metering to deliver insight on usage for domestic customers, while protecting customers' interests and privacy? • How might the sector facilitate learning and engagement around the true value of water among customers? • How might water companies be more strategic in their approach to promoting water efficiency to customers – speaking with one voice all year round, not just in times of drought.

<p>How might the sector improve affordability of water for all, particularly for customers with any vulnerability?</p>	<ul style="list-style-type: none">• How can the sector adapt to the heightened affordability challenges across the economy as a whole to deliver better affordability for all and for those struggling to pay?• How can the sector ensure that, during times of acute service failure, customers feel well supported and no one is left behind?• How can the sector understand and respond to the full diversity of customer needs?• How can the sector develop a better understanding of the experiences and service outcomes of customers in vulnerable circumstances, relative to the average customer?• How can the sector transform service delivery with inclusive design and accessible practice to support customers on a dynamic basis?
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**Ofwat (The Water Services Regulation Authority)
is a non-ministerial government department.
We regulate the water sector in England and Wales.**

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