

Ofwat 
Innovation
Fund

End of pilot report

July 2022



Ofwat

**CHALLENGE
WORKS**
a nesta enterprise

 **isle**

ARUP

About Ofwat

Ofwat, the Water Services Regulation Authority for England and Wales, has established the Water Innovation Fund. Ofwat is a non-ministerial government department established in 1989, when the water and sewerage industry in England and Wales was privatised. Ofwat regulates the water sector in England and Wales.

About Arup

Arup is an independent firm of designers, planners, engineers, consultants and technical specialists, working across every aspect of today's built environment.

Together we help our clients solve their most complex challenges – turning exciting ideas into tangible reality as we strive to find a better way and shape a better world. With a community of over 1700 water professionals, Arup is leading global thinking across key areas like innovation, resilience, net zero carbon and sustainable water management.

About Isle Utilities

Isle is a global team of independent scientists, engineers, business and regulatory experts with a common drive to make a positive environmental, social and economic impact through the advancement of innovative technologies, solutions and practices

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About Challenge Works

Challenge Works is the new name of Nesta Challenges. We are a social enterprise founded by the UK's innovation agency Nesta.

For a decade, we have established ourselves as a global leader in the design and delivery of high-impact challenge prizes that incentivise cutting-edge innovation for social good. In the last 10 years, we have run more than 80 prizes, distributed £84 million in funding and engaged with 12,000 innovators.

The world finds itself at a critical juncture. Together, we face multiple compounding problems, but there is enormous opportunity to discover solutions and expand innovation frontiers. The impact of climate change is felt more harshly by the year, but innovation can mitigate this impact; the growth of chronic health conditions and the widening global inequity in access to healthcare can be reversed; an ever more complex, connected and digitally driven world poses a multiplicity of societal challenges but also makes rapid, positive, life-changing technological change possible – if harnessed and directed properly.

We believe no challenge is unsolvable. Challenge Works partners with organisations, charities and governments around the globe to unearth the entrepreneurs and their innovations that can solve the greatest challenges of our time.

Challenge prizes champion open innovation through competition. We specify a problem that needs solving, but not what the solution should be. We offer large cash incentives to encourage diverse innovators to apply their ingenuity to solving the problem. The most promising solutions are rewarded with seed funding and expert capacity building support, so that they can prove their impact and effectiveness. The first or best innovation to solve the problem wins. This approach levels the playing field for unknown and previously untested innovators so that the best ideas, no matter their origin, are brought to bear on the most difficult of global challenges.

Visit us at [challengeworks.org](https://www.challengeworks.org)



Ofwat Innovation Fund

End of pilot report

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Executive summary

In 2020, Ofwat, the Water Services Regulation Authority for England and Wales, launched a pioneering £200m Innovation Fund to support innovative initiatives which deliver significant benefits for customers, society and the environment. It aims to ultimately grow the water sector's capacity to innovate, to enable it to better address challenges and meet the evolving needs of its stakeholders.

This report has been prepared by the delivery partners for the Fund (authored by Challenge Works,¹ supported by Arup and Isle Utilities), working collaboratively with Ofwat to ensure it provides an accurate summary of what the

sector, supported by the Fund, has achieved during the pilot period.

Throughout the report, 'we' refers to the entire delivery team, including Ofwat.

Over the past 20 months, we have delivered three competitions as part of the pilot period of the Fund and identified 41 highly innovative initiatives which together have been awarded over £63m.

Our winners represent a wide range of innovations, and present significant opportunities for the sector – from trialling new technologies to reducing greenhouse gases emitted during wastewater treatment to delivering the world's first 'water neutral' housing development. We have also seen winners creating the very systems needed to support long-term innovation in the sector, with shared testing infrastructure, data sharing frameworks, and a sector-wide innovation centre of excellence all receiving funding.

Beyond these winning initiatives, we have seen widespread engagement from the sector, with 23 of the 25 eligible water companies in England and Wales entering at least one competition. These entries have been highly collaborative, with 298 organisations involved. Promisingly, 95 per cent of the entries to the two most recent Water Breakthrough Challenges were

submitted by partners collaborating in new ways e.g. either in newly formed partnerships, or by existing partners working together in a different capacity.

This report has been prepared by the delivery partners for the Fund (Challenge Works,² supported by Arup and Isle Utilities), working collaboratively with Ofwat to ensure it provides an accurate summary of what the sector, supported by the Fund, has achieved during the pilot period.

The report also sets out a number of recommendations for how to improve the Fund over the next three years. These have been prepared for Ofwat by the delivery partners, based on the evaluations conducted over the course of the pilot period, and are summarised on page 4.

These same evaluations also informed Ofwat's consultation on the future of the Fund, Innovation Fund Consultation – Approach for 2022-25. Ofwat's headline decisions in response to this consultation are outlined in Innovation Fund consultation decision document – Approach for 2022-25.

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1. The new name of Nesta Challenges. More information is available on [Challenge Works' website](#).
 2. 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.

Summary of recommendations

Design of the Fund

Recommendation 1



Consider introducing a new competition which encourages entries from early stage innovators and innovations from outside of the water sector, for example, by allowing entries from non-water companies.

Delivery of the Fund

Recommendation 2



Schedule competitions carefully, with consideration to how they can be delivered at a sustainable pace, with entry processes as streamlined as possible.

Recommendation 3



Increase the number of payment runs to winners, allowing water companies to sign winners' agreements and receive funds as quickly as possible within current quickly.

Engaging with Fund stakeholders

Recommendation 4



Bring together all Fund-related engagement in a joined up plan that links to the Fund's broader objectives, and explore more efficient and engaging ways to collect feedback from stakeholders.

Recommendation 5



Engage with a wider range of stakeholders within water companies. For instance, working on existing relationships within water companies to create more ways for senior decision-makers and non-innovation teams (including operational, customer-facing and corporate services teams) to stay informed, and shape best practices.

Supporting sharing and learning

Recommendation 6



Work with water companies to progress plans to manage and share intellectual property developed through the Fund.

Recommendation 7



Consider ways the Fund's mechanisms could further support winners to capture and share insights and lessons, and ensure innovation skills and knowledge are embedded within water companies and the wider sector (particularly in instances where external partners are responsible for significant components of an initiative).

Recommendation 8



Explore how the Fund could leverage outside expertise to bridge skills gaps within the sector (for example, bringing in experts on open data, talent retention, and equity, diversity and inclusion etc.).

Promoting Equity, Diversity & Inclusion ('EDI')

Recommendation 9



In considering the diversity of water customers, review how the design of the Fund could help winners think about and apply EDI principles within their projects to ensure benefits can be realised by a wide customer base.

Recommendation 10



Within the design and processes of the Fund, consider how EDI principles can be embedded in the Fund to ensure it is accessible to all, and to further minimise unconscious bias.

1. Introduction

1.1. About the Fund

Overview of the Fund

Ofwat, the Water Services Regulation Authority for England and Wales, launched a pioneering £200m Innovation Fund in 2020. **The overarching objective of the Fund is to support the sector to better meet the needs of, and create long-term value for, customers, society and the environment through innovation.**

The Fund will unleash a wave of innovation in the water sector and tackle some of the major challenges of our time.

The main way the Fund aims to achieve this objective is through the delivery of 'innovation competitions'. During the pilot period, these competitions have supported ambitious water company³ initiatives that demonstrate bold new approaches to innovation, going beyond the sector's business-as-usual innovation practices, and creating significant value for customers, society, and the environment.

To date, three such competitions have been delivered, with more competitions planned between now and 2025.

Our Theory of Change

The Fund's objective is underpinned by a Theory of Change ('TOC') which sets out the activities we deliver through the Fund. Specifically the TOC goals are to consider:

- How we will drive improved outcomes through the Fund,
- How these outcomes in turn will lead to our desired impacts in how the water sector operates.

This TOC is being continually refined as we learn and new evidence comes to light. The TOC for the pilot period is included in [Appendix A](#).

About the pilot period

The pilot period ran for 20 months from November 2020 to June 2022. During this time, we delivered three competitions.

The **Innovation in Water Challenge (IWC)** aimed to encourage new ways of working and improve collaboration and partnerships from within and outside the water sector. The 11 winners of the IWC were announced on 21 April 2021, each winning a share of £2.1m.

3. 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.

The first **Water Breakthrough Challenge (Breakthrough 1)** provided an opportunity for water companies, in partnership with other organisations, to receive funding for innovative initiatives that go beyond business as usual to deliver tangible benefits for customers, society and the environment. The 9 winners of the first round of the Water Breakthrough Challenge were announced on 30 September 2021, each winning a share of £36.1m.

The second **Water Breakthrough Challenge (Breakthrough 2)** combined elements of the first two competitions to provide a unified and streamlined process for water companies and their partners to access the Fund. It consisted of two streams:

- The **Catalyst Stream (Breakthrough 2 Catalyst)** aimed to encourage new ways of working that go beyond business-as-usual innovation practices in the water sector, in particular, increasing and improving collaboration and building partnerships from within and outside the water sector. Entrants were able to win from £100,000 up to £1m per entry. The 13 winners of this stream are sharing in £5.4m.
- The **Transform Stream (Breakthrough 2 Transform)** aimed to spark ambitious innovation and enable new approaches and ways of working, equipping the water sector to address the big challenges it faces, driving far-reaching and long-lasting benefits to customers, society and the environment across England and Wales now and into the future. Entrants were able to win from £1m up to £10m per entry. The seven winners, including four who were offered partial funding are sharing £20.2m.

1.2. About this report

This report is intended to highlight what the water sector, supported by the Fund, has achieved over the pilot period, and reflect on ways the Fund could be improved in the coming years.

The report sets out recommendations, prepared for Ofwat by the delivery partners for the Fund (Challenge Works, supported by Arup and Isle Utilities). These recommendations were predominantly informed by the process evaluations conducted throughout the pilot period which gathered data from entries, assessment processes and surveys to identify what worked well and what could be done

better to improve subsequent competitions in the Fund. Throughout this period, we have also seen positive early indicators that suggest the current Theory of Change is valid and that signal the ability of the Fund to achieve its intended impact.

These findings informed Ofwat's consultation on the future of the Fund, and the recommendations in this report have been considered alongside responses to the consultation in making the decisions outlined in the *Innovation Fund consultation decision document – Approach for 2022-25*.



Diagram 1: An overview of the pilot period

Pilot period				
Jan–Sept 2021 Round 1		Sep–Oct 2021 <i>Rapid review</i>	Oct 2021–Jun 2022 Round 2	
Competitions	Results	Key Improvements made	Competitions	Results
<p>Innovation in Water Challenge (IWC) (Jan–May 2021)</p> <p>Aimed to encourage new ways of working that went beyond business-as-usual innovation practices in the water sector. Bids from £50,000 to £250,000.</p>	<p>61 eligible entries 11 winners shared in £2.1m 100% of entries in partnership</p>	<p>Engagement: Rapid consultation with key sector stakeholders to gather feedback and inform future design.</p> <p>Design: Combined elements of IWC and Breakthrough 1 into the second Water Breakthrough Challenge (Breakthrough 2). Closed the ‘funding gap’ between IWC and Breakthrough 1.</p> <p>Trialed a new IPR policy Implemented new ‘entrant support’ service.</p> <p>Process: Increased entry period to allow for greater collaboration. Streamlined entry experience for entrants.</p>	<p>Breakthrough 2</p> <p>Catalyst Stream (Oct 2021 – March 2022) Aimed to encourage new ways of working that go beyond business-as-usual innovation practices in the water sector. Bids from £100,000 to £1m.</p>	<p>18 eligible entries 13 winners £5.4m awarded</p>
<p>Water Breakthrough Challenge 1 (Breakthrough 1) (May – Sep 2021) Aimed to spark ambitious innovation and enable new approaches and ways of working. Bids from £1m to £10m.⁴</p>	<p>31 eligible entries 9 winners share of £36.1m 44% increase in the average number of partners per entry vs IWC</p>		<p>Transform Stream (Oct 2021 – April 2022) Ambitious innovation and enable new approaches and ways of working, equipping the water sector to address the big challenges facing the sector. Bids from £1m to £10m.</p>	<p>13 eligible entries 7 winners⁵ £20.2m awarded</p>

4. Small water companies were able to bid for less than £1m in their entries.
5. In total, 8 entries were offered funding. At time of publishing, it is yet to be confirmed if 1 entry will accept funding.

2. Pilot period highlights

Ofwat's Innovation Fund at a glance



£200m

of funding has been unlocked by the Ofwat Innovation Fund to unleash a wave of innovation in the water sector and tackle some of the major challenges of our time – delivering transformative benefits for consumers, society and the environment.

Three different innovation competitions, across two funding rounds



41 projects have been successfully funded across the pilot



£63.6m

has been awarded



Approximately **300** different organisations and partners have been involved in entries



of water companies in England and Wales (**23 of 25**) entered at least one of the competitions

81 technical assessors and judges were engaged across the three competitions

61 assessors

spent **1,000+ hours** reviewing and scoring entries



20 independent judges

made recommendations across the competitions, over **50%** of whom were from industries outside the water sector, giving over **600 hours** of their time to review and discuss entries



240 attendees came to webinars across all competitions

115+ people

people from lead and partner organisations engaged with either surgery sessions or entrant support workshops



15 Breakthrough 2 entries benefited from one-to-one coaching sessions from our entrant support partner

10 of these

were selected to receive funding



280+ pieces of media coverage

across water sector, non-water sector and consumer press, with estimated views of **3.84 million**



2.1. Entries to the Fund

Strong collaboration within and beyond the water sector

A total of 123 entries were submitted in partnership with 298 individual organisations. The Fund saw engagement across the water sector; in particular, 92 per cent of water companies in England and Wales entered at least one of the three competitions. There were 18 further organisations, of which 13 were water companies, who entered all three competitions, demonstrating strong demand within the sector for the Fund and its overall objectives.

While entries were encouraged to submit as part of a partnership, multi-organisation collaboration has been a consistently prominent and positive theme across winning entries. Water companies have worked in collaboration with national and international organisations, third-party suppliers, universities, research centres and consultancy organisations. This also includes working with companies outside the water sector such as gas, energy, digital and engineering. Additionally, various partnerships were formed with customer service and customer representative bodies ensuring that water customers' perspectives were represented in the design of several winning entries.

Successfully met the Fund's intended outcome to enable more partnerships and collaboration across companies, the supply chain and outside the water sector



Types of organisation involved



According to entrants, of the 62 entries received across Breakthrough 1 and Breakthrough 2, 55 per cent were developed by existing partners working in a different capacity, and 40 per cent

were built on newly formed partnerships. In total, 95 per cent of entries in the Breakthrough Challenges were submitted by partners collaborating in new ways via the Fund.

“ ...The level of collaboration between water companies and with other stakeholders is greater than I’ve seen before in the sector. ”

Breakthrough 1 partner, water sector supplier



Accelerating partnerships

We recognise that developing new partnerships can be a time consuming process, and that the quick succession of competitions may have presented challenges for water companies interested in working with new organisations. Despite this, there was an appetite from the sector to participate in activities designed to foster new collaboration(s). Three brokerage events⁶ were held in January 2021 and several focus sessions with water companies in September 2021. Together, this suite of ‘match-making’ sessions provided a powerful platform to catalyse opportunities for collaboration between water companies and innovators. As a result of these gatherings, at least six entries across the competitions were able to collaborate with new partners.

Having completed the pilot, we are now considering how we can further accelerate collaboration and partnerships in the wider ecosystem, and the role that the Fund should play alongside other water sector initiatives such as the Technology Approval Group, or Spring, the UK water sector’s centre of excellence.

Support to entrants – Highlights

The Fund provided surgery sessions throughout each competition’s entry period, with one-to-one coaching also available in Breakthrough 2, alongside regular updates to a ‘Frequently Asked Questions’ section on the website.

240+ attendees participated across 5 competition webinars, with at least 115 people from lead and partner organisations engaging with either surgery sessions or workshops.

Leveraging an appetite for innovation

Entrants were required to contribute a minimum of 10 per cent of funding towards their initiative. This was intended to demonstrate financial commitment and to support the sustainability of the initiative beyond the funding awarded. While some entrants highlighted that this financial contribution might act as a barrier to participation in the Fund, all 123 entries met or exceeded this 10 per cent financial contribution eligibility requirement.

- On average, entrants made a 12.77 per cent financial contribution to their entries across all competitions, exceeding the 10 per cent minimum.
- For winning entries, the total of all financial commitment was approximately £11m.

Importantly, this funding did not only come from water customers in England and Wales. Instead, it was provided from a variety of sources including investment from water companies and other private sources. This signals a wider demand to invest in these innovative water projects, which will be key to unlocking long-term, sustainable innovation in the sector.

A broad approach to innovation

Through the Fund, we aim to support a wide range of initiatives that showcase a diverse mix of solutions and ways of working. While the majority of entries focused primarily on technology-related innovation, 37 per cent of entries reported using non-technological and hybrid approaches (i.e. combining technological and non-technological innovation in a single initiative). These included customer-facing entries proposing reward programmes, financial coaching and behavioural change solutions; as well as sector-facing entries aimed at improving processes, business models, testbeds and training.

6. Early in the delivery of the Fund, an open call for organisations relatively new to the water sector was announced. This attracted organisations looking to form partnerships for the Innovation in Water Challenge. 25 of these organisations then gave 4-minute pitches over the course of three online events, sharing their solutions to help address some of the water sectors biggest challenges.

2.2. Winners: A portfolio overview

A full overview of all of the winning initiatives can be found on our website, and we will share progress updates as they are available.

Head to: waterinnovation.challenges.org/winners



During the pilot period, the Fund offered a total of £63.6m to 41 winning entries, with 167 partners involved in transformative entries that aim to deliver long-lasting benefits to water customers, society and the environment.

At the time of publishing this report, the longest running projects have been live for approximately 12 months, and only two winners have completed their initiatives and delivered a final report. As such, this report does not focus on the outcomes of individual initiatives, and instead provides an overview of the portfolio of

winners, and their intended outcomes. Updates on two initiatives are provided in the case studies on page 15.

More detailed insights into the progress and learnings from winning initiatives will be shared as they develop. There are robust monitoring arrangements in place to support and enable winners to take well managed project and innovation risk, while capturing valuable insights into progress, impact and lessons learned. The role of the Fund in sharing these insights with the sector is explored further in 3.4 Supporting sharing and learning.

Winners Portfolio

Transformative entries that aim to deliver long-lasting benefits to water customers, society and the environment



Total number of winning entries

41



Total funding offered

£63.6m



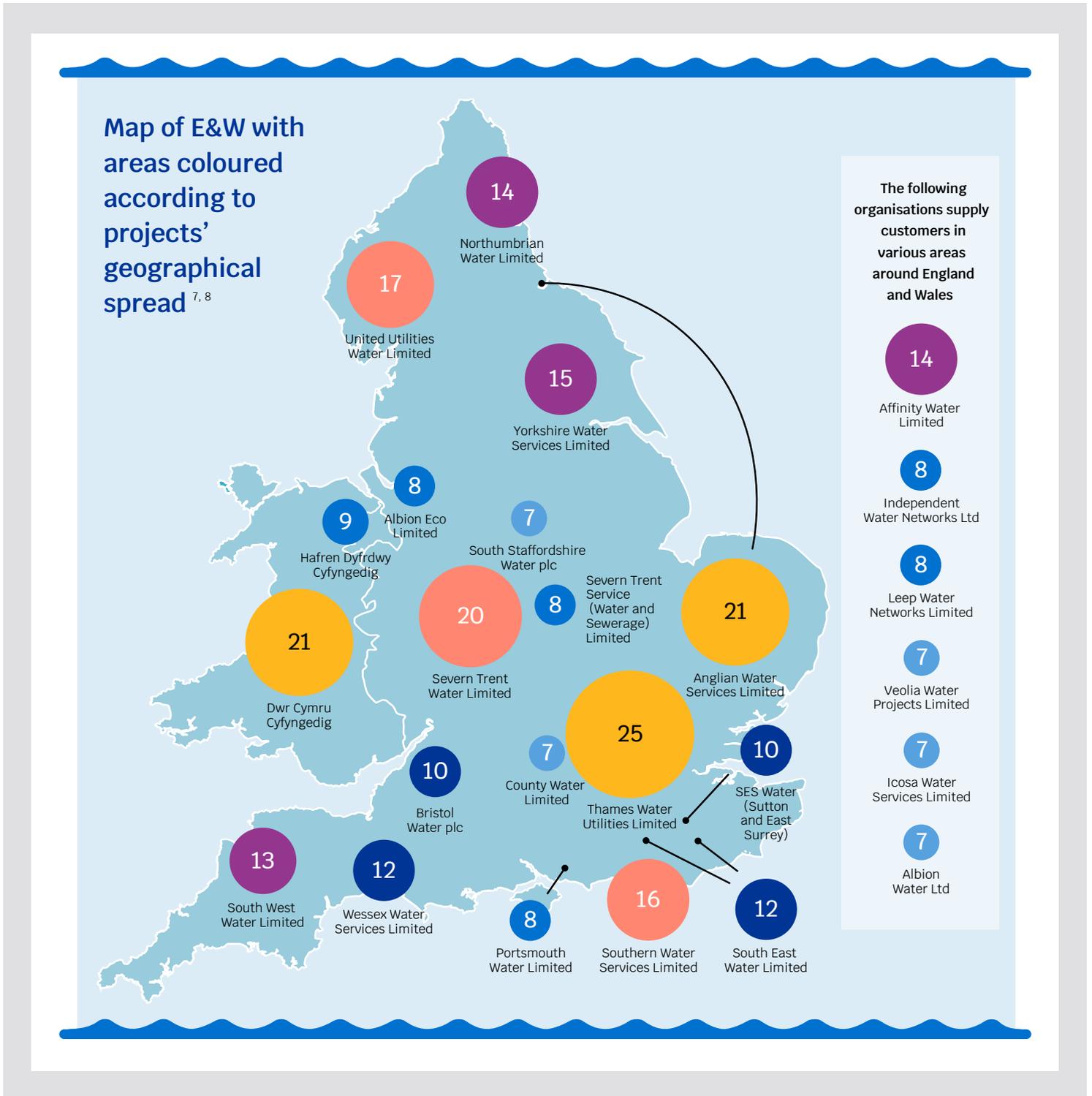
Total number of partners

167 organisations

Geographical spread of winners

The portfolio of projects funded through the pilot period saw a widespread geographical distribution. Projects will be delivered across water companies' service areas, with benefits

impacting water customers across England and Wales. Detailed information on all NAV sites is available on Ofwat's website.



7. Impacted water company areas in England and Wales as reported by winners.

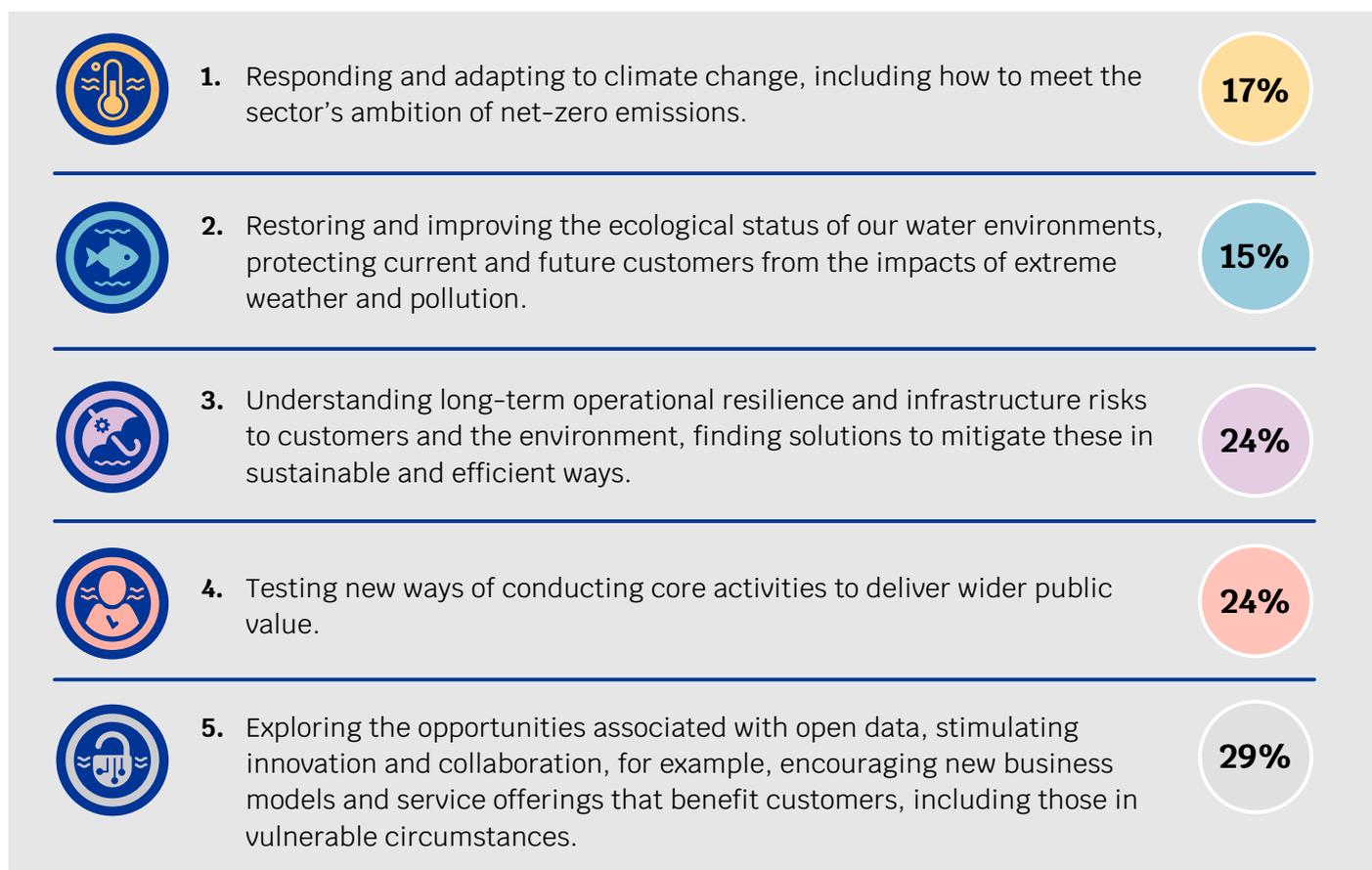
8. [The raw data](#) underpinning this infographic is available on the Fund's website.

Innovation theme, maturity level, type and impact

Entrants to every competition in the pilot period had to demonstrate how their initiative aligned with one or more of our strategic innovation

themes. These are outlined below, alongside the proportion of winning initiatives which address each theme:

Theme



Note: Percentage of all entries to the Innovation Fund as reported by entrants. Entries could indicate they address more than one theme.

Through the pilot period, the Fund attracted and supported innovations at all stages of development, with entries to the competitions ranging across every level of innovation maturity.⁹ Among winners, there was a slight trend towards initiatives ending

at the 'Validation and Optimisation', and the 'Deployment and Post-launch' stages (respectively, Innovation Maturity Level 4 and 5 – see Appendix B). This demonstrates that most winners planned to have developed their innovations into proven concepts by the end of the Fund.

9. The entry process required entrants to establish their projects' initial and intended final stage. This was done using the framework that linked project stages to innovation maturity levels and which was detailed in each competition's Entrant Handbook.

Impact examples and winners' intended outcomes

Our winners are tackling some of the biggest challenges facing the water sector. Intended outcomes from funded initiatives include:



Inauguration of the world's first water neutral new housing development (in collaboration with New Appointments and Variations (NAVs))¹⁰



Elimination of nitrous oxide (N₂O) process emissions from secondary wastewater treatment and the associated climate impact



Development of a new technology to reduce and reuse carbon dioxide (CO₂) emissions from Combined Heat and Power engines (CHPs)



Establishment of a co-designed national framework of governance and standardisation for catchment data collection and integration, monitoring methods and training



Creation of blueprints for autonomous waste catchments, tested and ready to be scaled across the UK



Definition of the requirements for a lining solution fit for the 21st century water network



Establishment of a National Leakage Research and Test Centre for developing and testing new solutions and approaches without disrupting customers' supplies or affecting water quality, testing from which is set to be accepted by the majority of UK water companies



Reduction of total number of customer service-related issues (leakage, service interruptions, and pressure issues) by 30% through the use of artificial intelligence and mathematical optimisation - a first step to achieve autonomous control in water systems across the UK



Design and validation of 'Customer Transition Pathways' framework and tools to support the sustainable transition to zero water poverty by 2030

10. NAVs are limited companies which provide a water and/or sewerage service to customers in an area which was previously provided by the incumbent monopoly provider.

2.3. Case studies

We published updates and case studies for each of our winners on our website, to provide an overview of initiative aims and intended outcomes. Here are two examples of the projects that have been advancing over the past year, already showcasing some promising learnings for the water sector.

Case study: **Supporting vulnerable customers**

Lead and Partners

Severn Trent Water with the Consumer Council for Water; South East Water and Thames Water.

Location

Leicester, England.

Objectives

The project set out to determine the relationships between the types of communication methods used to connect with customers and their effectiveness. This involved research and trials, focussing on a demographically diverse pilot location in Leicester, to test and ascertain how the right campaigns and support can be directed to those most in need. By testing new, innovative ways of delivering communication to customers, it is hoped that the sector can deliver improved public value by targeting resources even more effectively when rolling-out campaigns and better serving vulnerable customers.

Impact to date

Early reports from these scaled experiments showed very positive results. Using targeted marketing and behavioural science techniques in communications has resulted in an increase of 13 per cent in Priority Services Register sign-ups within the target areas and 48 per cent in sign-ups to affordability schemes. Behavioural science techniques employed during initial experimentation were a huge success, with some of them seeing as much as a 900 per cent increase in sign-ups than previous Severn Trent campaigns. The project identified a huge appetite for local schools, community centres and religious groups to work closely with the water sector to understand, educate and help the vulnerable customers in their communities. The insights obtained will be used to tailor customer journeys and communication channels to be more appropriate and effective, facilitating a step-change improvement for the water sector in the engagement of hard-to-reach customers.

Case study: **Seagrass Seeds of Recovery**

Lead and Partners

Affinity Water with Anglian Water; the Centre for Environment, Fisheries and Aquaculture Science; the Department of Zoology and Wadham College, University of Oxford; the Environment Agency; Natural England; Project Seagrass; Salix River & Wetland Services; Swansea University; the University of Sussex.

Location

Stour and Orwell in Suffolk, England.

Objectives

This project on nature-based solutions is creating local opportunities to increase biodiversity and carbon/nitrogen sequestration, seeking to create a roadmap to unlock the 'blue carbon' potential (carbon captured by marine ecosystems) of seagrass restoration for the water sector and beyond. Seagrass meadows enhance the stability of the coastal zone, locking carbon into the seabed, improving water quality, and creating a habitat for small animals, which enhances the resilience of coastal ecosystems.

Impact to date

Early reports from these scaled experiments showed very positive results. Using targeted marketing and behavioural science techniques in communications has resulted in an increase of 13 per cent in Priority Services Register sign-ups within the target areas and 48 per cent in sign-ups to affordability schemes. Behavioural science techniques employed during initial experimentation were a huge success, with some of them seeing as much as a 900 per cent increase in sign-ups than previous Severn Trent campaigns. The project identified a huge appetite for local schools, community centres and religious groups to work closely with the water sector to understand, educate and help the vulnerable customers in their communities. The insights obtained will be used to tailor customer journeys and communication channels to be more appropriate and effective, facilitating a step-change improvement for the water sector in the engagement of hard-to-reach customers.

3. Recommendations

During the pilot period, we completed process evaluations for IWC, Breakthrough 1 and, Breakthrough 2 (Catalyst and Transform). While these process evaluations each identified potential changes that may improve future competitions, on the whole they found that the competitions were appropriately designed and met the expectations of key stakeholders such as entrants, assessors and judges.

Survey data suggesting satisfaction with the quality of entries, the ease of participating and the value of the additional support and events we provided. We thank everyone who took the time to provide us with feedback and insights through surveys, interviews, and workshops – these have been invaluable as we continue to iterate and improve on our processes, and ensure the Fund is delivering for our entrants, partners and the water sector as a whole.

We remain committed to improving and streamlining processes wherever possible. However, we also recognise that changes we

make to the design of the Fund (i.e. eligibility criteria or timelines for entry submission) have an knock-on impact on all participants in our competitions. Adaptations could, for example, require entrants to take additional time to review project/resources plans, adapt their internal processes and/or engage in lengthy consultations with their partners.

As such, there are many aspects of the Fund that are recommended to keep the same. From maintaining largely consistent winners agreements, through to continuing to use ‘innovation themes’ to help steer innovation without restricting types of solutions. Rather than outlining the ways we believe the Fund should remain the same, this report instead focuses on recommendations for ways to improve the Fund and the competitions.

We have split these recommendations into five categories, with supporting insights, and evidence for each.



3.1. Design of the Fund

Entries to the Fund

When the Fund was first launched, we observed a strong response to the competitions from the sector, with 92 entries received for IWC and Breakthrough 1. However, 30 entries were received for Breakthrough 2, of which only 16 were entirely new to the Fund. Additionally, only £25.6m of the £39m available in Breakthrough 2 was ultimately awarded. We believe that in combination, the scheduling of our competitions and resourcing constraints within water companies contributed significantly to these issues. We explore this issue further below in 3.2 Delivery of the Fund.

New partnerships

One of the key outcomes the Fund is trying to drive is an increase in collaboration and partnerships across water companies, the supply chain, and outside the sector. Through the pilot period, we have seen good progress towards this with 100 per cent of entries to the competitions being submitted in partnership.

Furthermore, 95 per cent of entries¹⁰ reported that their partnerships were collaborating in new ways, with 40 per cent forming new partnerships and 55 per cent working with existing partners in different capacities.

We have worked to help develop new partnerships with brokerage events. Of the 30 suppliers who took part in these events, five went on to be involved in entries to the Fund, including two winning entries. Although these are positive signals of an increasingly collaborative water sector, throughout the pilot period, we also heard from the supply chain that it can be difficult to get traction with water companies to explore new innovation on a tight timeline. As the UK water sector's centre of excellence, Spring will have an important role to play in helping to coordinate innovation and partnerships across the sector. Equally, we recognise that the Fund may also be able to help water companies address the bottleneck in the innovation pipeline.



Recommendation 1

Consider introducing a new competition which encourages entries from early stage innovators and innovators from outside of the water sector, for example by allowing entries from non-water companies.

3.2. Delivery of the Fund

Timelines

The pilot period saw three competitions delivered in a tight timeline, and we recognise that this put considerable pressure on water companies and their partners to take part. Over the course of this period, we've seen a drop in the number of entries being submitted to each competition – whereas 92 entries were received in IWC and Breakthrough 1, 30 entries were received in Breakthrough 2 – only 16 of which were new to the Fund.

Water companies told us a major driver was the compressed timeline, which put pressure on resourcing plans at a busy time of year. We also know that delays to signing winners' agreements and receiving payments have in turn delayed winners hiring new staff to deliver their initiatives.



Recommendation 2

Schedule competitions carefully, with consideration to how they can be delivered at a sustainable pace, with entry processes as streamlined as possible.



Recommendation 3

Increase the number of payment runs to winners, allowing water companies to sign winners' agreements and receive funds more quickly.

3.3. Engaging with Fund stakeholders

Expanding our approach

The first three competitions in the Innovation Fund were delivered at a rapid pace, within a 12-month period. Our communications and engagement activities have reflected this. A priority throughout this time has been encouraging water companies to participate, and informing them of the ongoing changes to the design of the competitions as we learned and iterated.

Post-pilot we see an opportunity for communications and engagement activity to further extend to support wider objectives of the Fund to grow the capacity and capability of the water sector, and encourage and support innovation.

Over the course of the pilot period, we have sought feedback from the Fund's stakeholders in the water sector and beyond, through surveys, workshops and 1-to-1 conversations. Although these have provided valuable insights and informed our delivery of the Fund, we have increasingly seen low response rates to surveys.

To monitor both the effectiveness of our delivery of the Fund, and its impacts, it is vital that we continue to gather reflections from our stakeholders.

Broader engagement within water companies

The Fund has seen widespread participation from across the sector, with 23 out of 25 water companies taking part in at least one competition. However, our engagement with water companies has primarily been through a single point of contact within each water company, and in many cases these individuals were leading most (if not all) of their organisation's entries. For instance, 12 individuals led 49 per cent of the 123 entries submitted to the Fund, and two lead contacts were responsible for 18 per cent of entries.

Although some degree of centralisation is important for water companies to be able to prioritise entries and make effective decisions, broader engagement with senior leaders, and other 'non-innovation' teams may present new opportunities to amplify the impact of the Fund, or to generate new entries. In addition, this reduces the risk to project delivery if these individuals were to move on to other roles or leave their organisations.



Recommendation 4

Bring together all Fund related engagement in a joined up plan that links to the Fund's broader objectives, and explore more efficient and engaging ways to collect feedback from stakeholders.



Recommendation 5

Engage with a wider range of stakeholders within water companies, working with existing contacts to create more ways for senior decision-makers and non-innovation teams (including operational, customer-facing and corporate services teams) to stay informed, and shape best practices.

3.4. Supporting sharing and learning

Sharing IPR

The Fund is being delivered for the benefit of customers, society and the environment throughout all of England and Wales. As such, it's vital that the insights and innovations developed through the Fund are shared with water companies across England and Wales.

This is the reasoning behind our intellectual property rights (IPR) policies, which throughout the pilot have required winners to share IPR developed with the wider sector.¹¹

We have seen positive signs that the winners are open to sharing learnings, knowledge and intellectual property generated through the Fund, including through Spring's knowledge transfer service. However, there is an opportunity for more to be done to ensure the wider benefits of funded initiatives are fully realised by the sector at large.

Sharing lessons learned

Innovation inherently comes with risk, and regardless of the technical success of a winning project, it's important that wider benefits, learning and knowledge are shared with the sector.

Through our monitoring reports from winners, we have seen a willingness from water companies to engage in this knowledge sharing through sector-wide working groups and industry events. We have also heard from winners that there may be an opportunity to better support winners in the Fund to capture, share and embed insights into sector-wide innovation processes.

Embedding capability

Internal capacity was a major barrier to water companies participating in the Fund. This is explored above in 3.2 Delivery of the Fund. These capacity constraints are reflected by the substantial involvement of consultancies in entries.

Consultancies play an important role within the water sector, providing a flexible workforce which can bring new skills, experience and ideas from other sectors.

However, there is a risk that this knowledge is not being embedded within water companies themselves, which may limit the long-term impact of the Fund on the culture and capabilities of the water sector.

Developing new capability

Across all three competitions, a common piece of feedback to unsuccessful entrants was to find ways to bring in new perspectives and build on the expertise which exists in other sectors.

This was particularly evident for entries involving open data, supporting vulnerable customers, encouraging, attracting and developing talent, and equity, diversity and inclusion (EDI).

In Breakthrough 2, we engaged a support partner to help entrants better articulate their ideas in their entry forms. Of the 15 teams who took up this offer of support, 10 went on to receive funding.

Moving forward, there may be an opportunity for similar support to be provided to winners or entrants for other skill gaps, as a way to rapidly develop new capability within the sector.



Recommendation 6

Work with water companies to progress plans to manage and share intellectual property developed through the Fund, in the long term.



Recommendation 7

Consider ways the Fund itself could support winners to capture and share insights and lessons, and ensure innovation skills and knowledge are embedded within water companies and the wider sector (particularly in instances where external partners are responsible for significant components of an initiative).



Recommendation 8

Explore how the Fund could leverage outside expertise to bridge skills gaps within the sector (for example, bringing in experts on open data, talent retention, and equity, diversity and inclusion).



3.5. Promoting equity, diversity and inclusion

The Fund was successful in attracting and engaging a wide range and diverse group of organisations, for example, academia, consultancies and start-ups. However, during the pilot period it was not possible to comprehensively source and collate information about the diversity of the teams entering the competitions. Additionally, it is well acknowledged that there are many challenges in collecting diverse voices in the process of innovation, particularly on tight timelines (i.e. speaking to a wide range of customers/users to collect feedback on innovations).

During the pilot period, the lack of diversity within the water sector, and in some cases the entry delivery teams has been highlighted through numerous channels, for example, through the assessment process. This is important, because it is well established that the best innovations come from diverse thinking and diverse teams. While many water companies are driving impactful equity, diversity and inclusion (EDI) initiatives, there are opportunities for the Fund to support EDI across the sector, both within the workforce, and for beneficiaries of the initiatives that are funded.



Recommendation 9

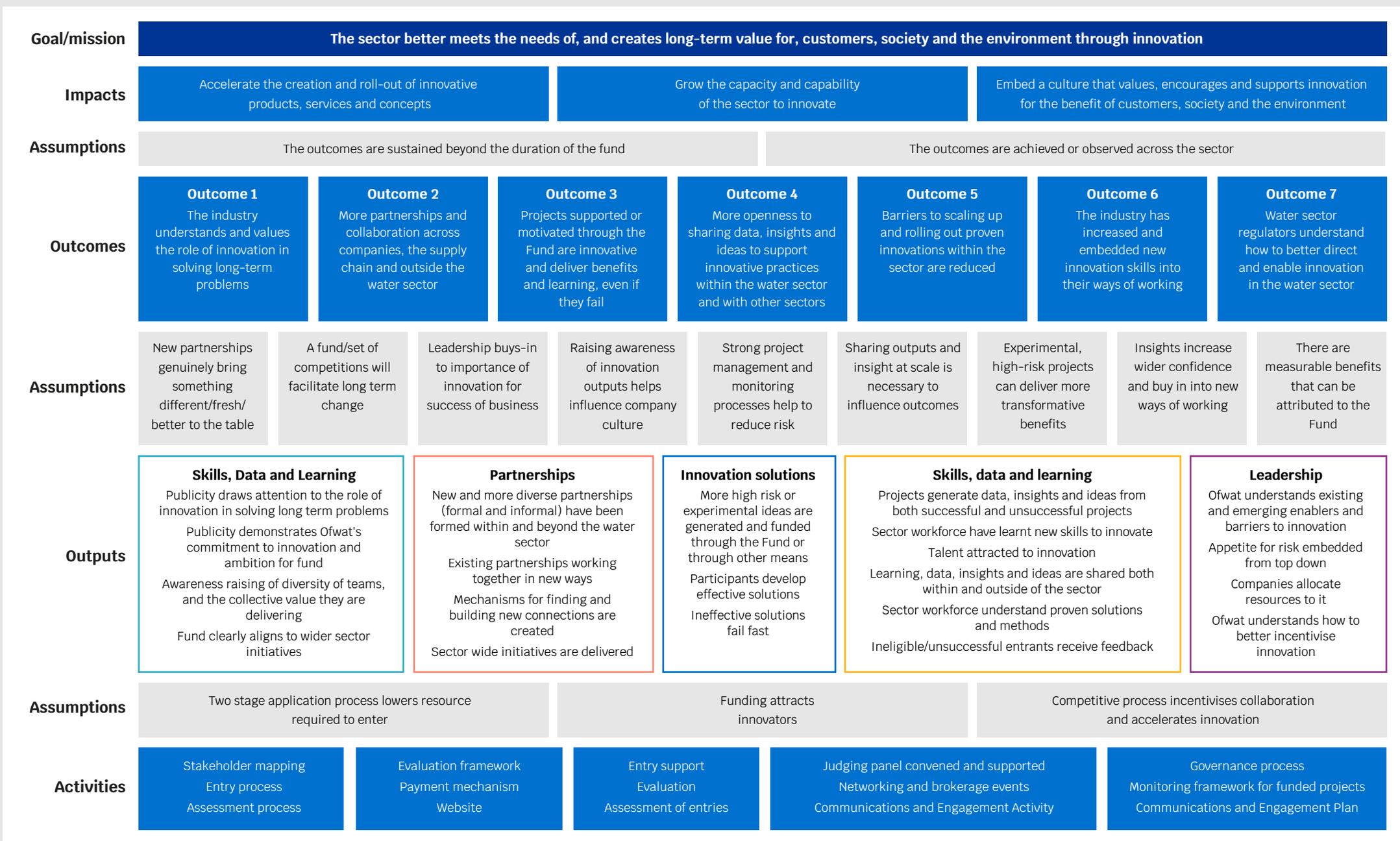
In considering the diversity of water customers, review how the design of the Fund could help winners think about and apply EDI principles within their projects to ensure benefits can be realised by a wide customer base.



Recommendation 10

Within the design and processes of the Fund, consider how EDI principles can be embedded in the Fund to ensure it is accessible to all, and to further minimise unconscious bias.

Appendix A: Theory of change



Appendix B: Innovation maturity levels

Innovation maturity level	Description	Typical activities to be supported in this phase of maturity	Approximate Technology Readiness Level equivalent
1 Initial research	Understanding the problem and exploring possible solutions	Initial industry and 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	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	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	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	Roll-out and implementation, standard/specification finalisation and publication, user training or education, benefits testing and evaluation, continuous improvement and lessons learnt for future development	TRL 8-9

Ofwat Innovation Fund

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