



Tideway

**RECONNECTING LONDON
WITH THE RIVER THAMES
DELIVERING A LASTING LEGACY**



Front cover image

Chris Coode, Thames 21



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FOREWORD

More than 150 years ago, Sir Joseph Bazalgette had the vision and determination to see through an ambitious plan to establish the sewerage network that has served London so well. At a time when cholera and other diseases were rampant, Bazalgette's primary aim was to protect public health. The legacy he left is much broader.

It's time to pick up the baton from Bazalgette. We have begun the task of constructing the tunnel that will tackle the problem of untreated sewage flowing into the tidal Thames from the overstretched Victorian network.

Creating a cleaner, healthier river is part of our legacy—but it is far from the whole story. We want to create a wider legacy for the capital and, in doing so, help realise the vision to reconnect London with the River Thames.

The primary task of the project is to provide the infrastructure that London needs to flourish economically and socially for decades to come. The intention is to do much more; seizing the opportunity to maximise the broader benefits that the project can offer.

A range of benefits will remain that go beyond and outlive tunnel construction, including new standards for health, safety and wellbeing in delivering major projects; a rejuvenated river economy and a new public realm for the people of London to enjoy and connect with the River Thames. In delivering these benefits, we are seeking to ensure that the delivery of Thames Tideway Tunnel represents the best long-term value for money.

This document describes in detail what that legacy will be, and sets out the specific commitments we have developed in order to demonstrate its delivery.

Previous infrastructure projects made great progress in leaving a lasting legacy, providing opportunity for Tideway to learn from them, build on them and raise the bar still higher.



Sir Neville Simms
Chairman, Tideway

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INTRODUCTION

Legacy is what will be left behind after the construction of the tunnel. The primary purpose of the project is to reduce sewage overflows into the River Thames, delivering the core benefit of improved water quality.

If the project simply focused on constructing the tunnel, this vision could never be achieved. It is an ambitious statement of intent, and reflects the desire to deliver wider benefits to London for all those impacted by the tunnel for years to come.

In developing the legacy objectives, we followed a number of guiding principles:

- Our project must have a positive, lasting effect
- A value-for-money solution must be achieved for all objectives
- The legacy should raise the standard—building on successes of other nationally significant projects in the UK
- The project strives for continuous improvement

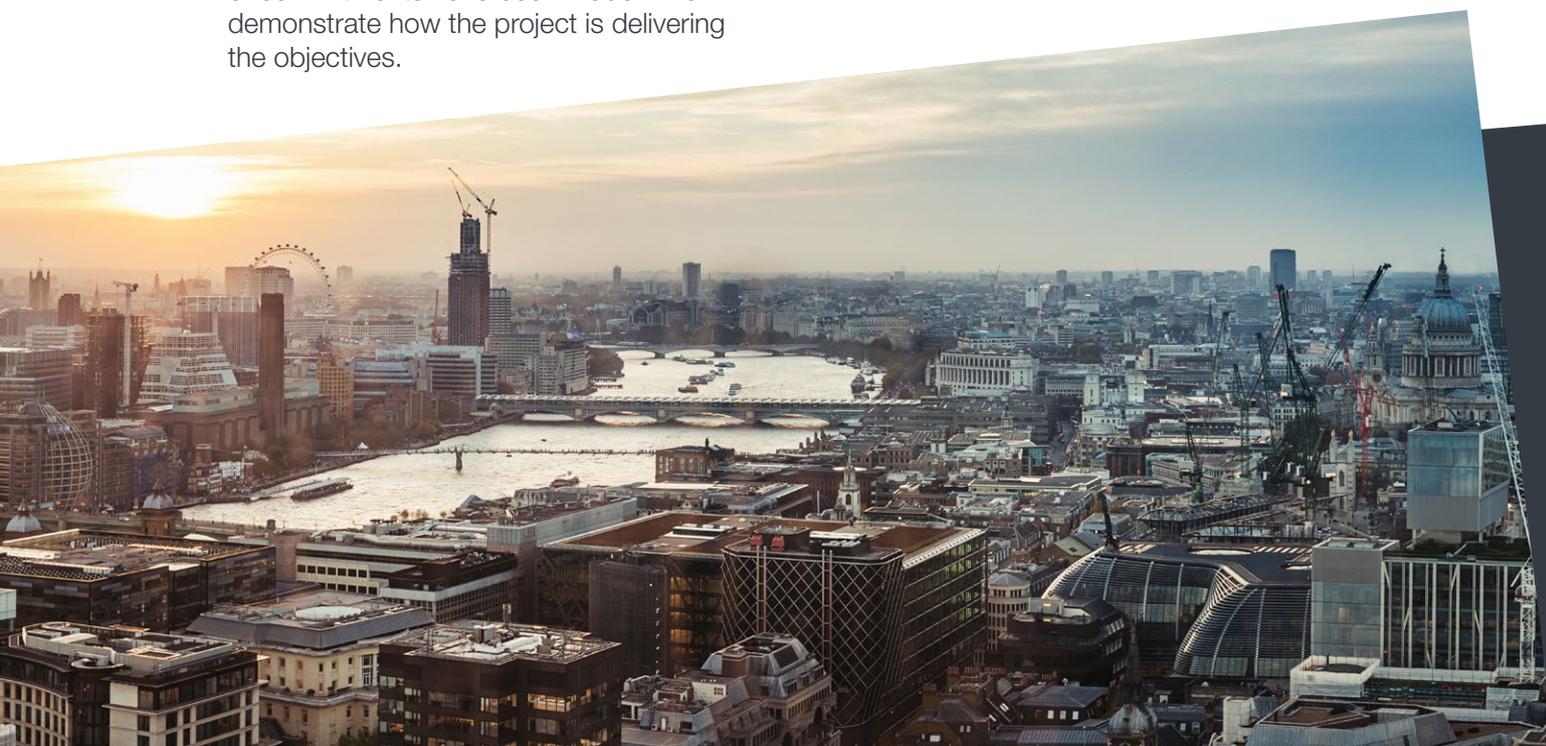
We have set out our objectives under five themes that capture the range of opportunities created by the project—*Environment; Health, Safety and Wellbeing; Economy; People; and Place*. For each of the objectives, a number of commitments have been made which will demonstrate how the project is delivering the objectives.

In 2014 our Legacy Statement was published, which introduced these themes and stated our legacy intentions in some detail. In the three years since then, the Government has given approval for the scheme, a new company has been formed to finance and deliver it and project delivery has begun in earnest.

We have also taken the opportunity to review and refresh our legacy commitments, ensuring that they reflect a project that is now in delivery and that they also match our level of ambition—we have added several new commitments to the set, which totals 54.

The scale of the project, and its place at the heart of one of the world's greatest cities, mean that it presents a historic legacy opportunity.

It is vital that every pound spent on the tunnel is spent in a way that creates maximum value to the project, the economy, the environment, and the people of London. These legacy objectives and commitments will ensure that the Thames Tideway Tunnel achieves these goals.



ENVIRONMENT

Objective 1: Protect and enhance the environment

The Thames Tideway Tunnel will collect sewage before it enters the river and ensure it is properly treated, cleaning up the river for future generations of Londoners. This will also help to prevent fish kills and allow the river to sustain a rich, diverse array of wildlife.

The project will also address the growth of sewage-related litter, visible on the surface of the river and on the foreshore at low tide. The deadly effect of litter pollution on wildlife in waterways around the world has been brought into sharp focus in recent times through campaigns in the media. The tunnel will greatly reduce the quantity of sewage-related litter in the Thames and, in turn, reduce the amount ingested by wildlife, creating a positive ecological legacy.

However, the clean-up will have a broader positive impact on life in the capital. The reductions in sewage-related litter will improve the visual appearance of the river, making the river environment more appealing. This will improve quality of life while reducing costs of collecting the litter for local authorities and others.

In addition, the way we build our new structures in the river can provide a legacy of new habitats for aquatic and other wildlife in and around the River Thames. As well as designing our in-river structures with this benefit in mind, we are also taking steps to ensure that land-based wildlife can have greater protection through installing integrated features such as bird and bat boxes.

However, we do not want our environmental legacy to be simply based on the physical structures we leave behind. We want to leave behind a better understanding of the river by working with academics and ecologists to provide a broader knowledge of river habitats and aquatic ecology.

Healthier fish stocks in the River Thames will be one of the Tideway project's key legacies





“As Environment Secretary, it is my ambition for us to be the first generation to leave our environment in a better state than we found it—and improving the health and prosperity of the Thames is one way in which we will achieve this.”

**Secretary of State for Environment
Rt Hon. Andrea Leadsom MP**

We are also spearheading initiatives that will not only reduce the impact of our activity on London’s environment, but leave new, innovative practices to benefit future construction projects.

We have committed to minimising our carbon footprint and will be reporting our progress through the Government’s Infrastructure Carbon Review.

Through our ‘Sustainable transport—more by river’ strategy, we will ensure that we transport more components and remove more excavated material by river than originally planned in our Development Consent Order. We will take an extra 200,000 HGV movements off London’s roads than originally planned, to further limit pollution, congestion and to protect cyclists and pedestrians.



Improved river health will support greater use of the Thames for leisure. Photo: Clearwater photography

Commitments

1. Improve water quality and reduce biochemical oxygen demands in the tidal Thames by dramatically reducing CSO discharges into the river
2. Reduce adverse litter conditions in the tidal River Thames
3. Provide infrastructure that support a more resilient biodiversity
4. Undertake and support research to provide a broader understanding of habitats and aquatic ecology of the tidal River Thames
5. Minimise the carbon footprint of the project
6. Reduce lorry movements on the project further than the reductions agreed in the Development Consent Order

HEALTH, SAFETY AND WELLBEING

Objective 2: Raise standards and performance in health, safety and wellbeing

Keeping everyone working on the project safe, healthy and happy is a fundamental philosophy at Tideway. We do things safely, or not at all. Our aim is to think differently, and in so doing, create and live by standards that transform health, safety and wellbeing for major construction projects.

One death or serious injury at any point during the project would be one too many. This applies at every site, every office and along every access route. It does not apply solely to staff involved in construction work, but to members of the communities affected by the project.

Achieving this aim requires a new health, safety and wellbeing strategy, which we call RightWay. This involves defining, and committing to, significantly higher standards for the things we do—from personal protection equipment and site layout to how we engage with those working on the project.

The first element of RightWay is Right Start, which develops standards and actions to prevent incidents that typically occur at the start of major projects. Right Start includes one of our key legacy aims in this area—to raise the standard of site/project inductions. As part of their project induction, every member of the workforce, from tunnel operatives to

delivery drivers and office staff, goes through an immersive, multimedia health and safety training day called EPIC (Employer's Project Induction Centre).

By March 2017, 6,675 employees, contractors and stakeholders had attended the course, for which we have received outstanding feedback. EPIC's innovative and interactive training has already been recognised by the industry, winning the EvCom live training award in November 2015.

Clear communication is key to preventing incidents. Research has shown that 30 percent of all incidents in the construction industry are due to poor communication. So we have introduced a new health, safety and wellbeing communication assessment, with technical and pictorial questions to check understanding. This is the first time this approach has been undertaken on a major project.

Commitments

7. Aspire to have no major incidents on the project
8. Raise the standard of health, safety and wellbeing inductions
9. All supervisory staff trained in health and safety to a level above industry norms
10. Promote new industry occupational health standards and working practices
11. Introduce industry-leading initiatives to reduce the risk to vulnerable road-users arising from vehicle movements
12. Introduce a health and safety communication standard across the project
13. Improve health and safety on the river for river transport workers





A scene from Tideway's award winning EPIC health and safety induction

We aim to promote new industry occupational health standards and working practices. We have engaged an occupational health service provider to develop a new standard of awareness and management of the workplace, the worker and their wellbeing. As part of this commitment, Tideway is one of the founding supporters of the industry wellbeing initiative Mates in Mind, which aims to improve and promote positive mental health across the construction industry in the UK.

We also want to leave a safety legacy for those travelling on London's roads and on the river. We plan to introduce industry-leading initiatives to reduce the risk to vulnerable road-users. This includes improved design of the cabs in Heavy Goods Vehicles (HGVs), to allow drivers to see cyclists and other road-users more clearly.

Increasing the number of these vehicles in use around London will leave a real benefit for subsequent projects.

In addition, we want to improve health and safety for those who work on the river. In conjunction with the Port of London Authority, Transport for London and the Company of Watermen and Lightermen, Tideway has established the Thames Skills Academy (TSA) to meet the needs of employers on the River Thames. The TSA will set new standards for health and safety training. All those who work on our project as Boat Masters will complete an enhanced training programme, including a state-of-the-art shipping navigation simulator test at a specialist marine training centre.

ECONOMY

Objective 3: Improved competitiveness and vitality for London

A modernised sewerage network underpins the capital's general economic prosperity. The economic benefits will be felt across many areas.

The Mayor's London Plan says that London's population is set to increase by up to two million by 2036, and the capital will require between 49,000 and 62,000 more homes each year. It is vital that the sewerage network that will serve these new homes is upgraded.

There are several more parts of London's economy that will benefit from the tunnel's construction:

- A vibrant and ecologically sound River Thames will increase its appeal for tourism and transport. By protecting the River Thames ecosystems, the project will help to preserve and sustain the commercial fishing industries through healthy marine life and the jobs that go with it
- It will deliver a boost to employment, creating more than 4,000 direct, sustainable jobs during construction
- Dozens of the capital's small and medium sized businesses will join Tideway's supply chain

By caring for the river, the project will promote the capital's global reputation as a world-class trading centre. The project will also improve the economic competitiveness of the wider UK economy, with contracts awarded across the country for materials and services, and we will track this spend to show this wider benefit.

Commitments

14. Provide London's essential infrastructure through an enhanced sewerage system that supports growth
15. Remove the immediate risk of EU imposed infraction fines
16. Create more than 4,000 direct, sustainable jobs
17. Create a visible, informed and engaged supply chain that can compete for contract opportunities
18. Demonstrate Tideway is supporting the UK economy



The project will deliver a major boost to London's river economy



Charlotte Thompson of Thames Rib Experience, which is one of the businesses that could benefit from an increase in river usage

Objective 4: Contribute to the rejuvenation of London's river economy

Another key economic legacy objective is to contribute to the rejuvenation of London's river economy, both recreationally and commercially, supporting the Mayor of London's strategy.

The project's use of river transport will be on a scale unprecedented in modern times. We have committed to transport 90 percent of tunnel spoil—about 4.2 million tonnes—by river. This will require a major modernisation of the fleet of commercial boats operating on the river, which we will seek to encourage through our procurement process.

We will also support the development of river transport-related skills. Tideway is a key initial member of the new Thames Skills Academy, along with the Port of London Authority, Transport for London and the Company of Watermen and Lightermen (CoWL).

This newly established Group Training Association will deliver modern, high-quality training to a new generation of river workers, providing transferable skills to subsequent projects and roles.

Commitments

19. Use river transport to remove the majority (90 percent) of material excavated to create the main tunnel
20. Support the development of river transport related skills through Thames Skills Academy
21. Encourage modernisation of marine equipment through our procurement process
22. Seek opportunities to support the continued use of river infrastructure, such as enhanced river walls

ECONOMY

Objective 5: Improving the UK's exportable knowledge base; encourage innovation

We will build on the excellent work of other major infrastructure projects and help create a springboard for the UK workforce and companies to become world-class. Not only will our innovations be shared with the industry so future projects may benefit, but we have helped create a new web-based forum, the Infrastructure Industry Innovation Platform (i3P), to achieve this goal.

We will actively encourage innovation through the supply chain and ensure that small and medium sized enterprises have the best opportunity to get involved. For example, by engaging with the supply chain and enhancing their knowledge and skills through mentoring workshops.

We will promote best practice, delivering the principles of the construction industry's Fair Payment Charter and supporting a new responsible procurement handbook to ensure these practices are passed onto other projects.

Commitments

23. Engage with local businesses, small and medium sized companies and social enterprises, helping them to grow their skills and opportunities
24. Offer sustainable employment either through retention and progression on Tideway or through transition from and to other major projects
25. Continue to support the Tunnelling and Underground Construction academy (TUCA)
26. Share our innovations with the industry so they can benefit future projects
27. Design a procurement approach that will encourage innovation
28. Create commercial arrangements that encourage innovation and shared risk
29. Deliver the principles of the Fair Payment Charter
30. Support ethical sourcing practices in the supply chain



"The Thames Skills Academy will provide Thames operators with a one stop shop for potentially all our marine and afloat training needs. The TSA will help train the next generation of Boatmasters Licence holders, supporting crew and customer service staff to get the extra skills the business needs."

Chris Livett, Chief Executive, Livett's Group





The project's legacy will apply to London and the wider UK economy

PEOPLE

Objective 6: Increase prosperity, local employment and workforce diversity

The project will create significant opportunities to boost local employment and prosperity within London.

Of approximately 4,000 direct, sustainable jobs created on the project during peak construction, we have committed that 25 percent will be residents from the 14 boroughs situated along the tunnel's route. For river transport workers, at least 30 percent will live in Greater London, Kent or Essex. We have also set a target that one in ten new starters in our contractor workforce should have been previously workless, to deliver a local jobs boost where it is needed most.

We will also be a strident supporter of fairness for our workforce, as well as diversity within it. We support the London Living Wage, and

we will promote job security through direct (PAYE) employment in our supply chain. Diverse organisations have been shown to make better decisions and have higher performance, yet women make up just 11 percent of the UK construction workforce.

We want to actively change this through a number of initiatives, including implementing the first Returner Programme outside the banking industry, for those who have been out of employment for two years or more, typically because they had caring responsibilities.

Commitments

31. At each drive site, 20 percent of employees will live in the local Borough
32. 20 percent of the workforce across each main works contract area (West, Central, East) to live in the local boroughs within that area
33. 25 percent of all staff to live in 14 directly affected local Boroughs
34. 30 percent of river workers to live in Greater London, Kent or Essex
35. Support the London Living Wage campaign
36. Appoint skills managers to establish employment brokerage
37. Promote job security through direct employment in our supply chain
38. Employ local workless people—those who are unemployed, economically inactive, claiming particular benefits such as Employment Support Allowance, and those under-employed (working fewer than 16 hours per week)
39. Create an inclusive environment that will enhance diversity across Tideway specifically for Disability, Black, Asian and Minority Ethnic (BAME), Lesbian, Gay, Bisexual, Transgender, Questioning (LGBTQ), Gender (women) and aim to set new standards for the industry



Tideway apprentice engineer,
Bianca Wheeler



Tideway apprentices with Water Minister, Dr. Thérèse Coffey MP and Tideway Chairman Sir Neville Simms



Tideway's STEM ambassadors aim to inspire the young engineers of the future

PEOPLE

Objective 7: Inspire and upskill a new generation

With the UK predicted to need 182,000 new engineers by 2022, the skills gap in the engineering and construction industry is clear.

Tideway aims to help address this issue by inspiring and training the next generation of engineers, supervisors, operatives, and river workers, for both current and future projects.

A key element of this commitment is the creation of apprenticeships. We will employ one apprentice for every 50 full-time, on-site workers, including a mix of intermediate, advanced and higher level apprenticeships. We will create a total of between 250 and 400 apprenticeships during the project.

We will help to create a new generation of river workers through our support for the Thames Skills Academy, a newly established Group Training Association which aims to produce individuals with skills that can be used on the river for years to come.

We also recognise the need to inspire young people to study STEM subjects—Science, Technology, Engineering and Maths. Through our STEM ambassador programme our staff run workshops, practical lesson activities, and offer advice on interviews and networking to encourage and inspire future industry workers. There are also opportunities for those aged 16 and over who are interested in engineering, design or construction to get first-hand work experience on the project.

As a socially responsible project, we also aim to give new chances to those who may have been marginalised by society and are struggling to gain new skills, such as ex-offenders. Breaking the cycle of crime for ex-offenders determined to put their past behind them benefits the individual and society. We are working with various charities in order to ensure that we will employ one ex-offender for every 100 employees on the project.

Commitments

40. Create apprenticeship opportunities, one for every 50 full-time workers on the project
41. Champion the promotion of careers in engineering and construction, including a minimum of one volunteer hour per annum for every three staff employed on site to support the project STEM Ambassador (or equivalent) programme
42. Provide teaching and learning resources
43. Work with charity partners to employ one ex-offender per 100 workers on the project



“Being a Tideway apprentice means I can do my qualifications while getting experience working on one of London’s most exciting infrastructure projects.”

**Tideway apprentice engineer
Bianca Wheeler**

PEOPLE

Objective 8: Greater wellbeing for all, improved health for river users

A primary benefit of the project is a dramatic reduction of untreated sewage in the river. Quality of life for all in the capital will be enhanced by the increased opportunity for recreational use of the river.

The project aims to encourage as many people as possible to share in the benefits and get closer to the river—be that through walking, angling, rowing, sailing, or just turning to face the river. It is fundamental to our vision to reconnect London with the River Thames.

The goal must be for as many people as possible to engage in the new recreational opportunities afforded by the project. We are taking specific direct actions to deliver this, for example building a new slipway at the Shadwell Basin Outdoor Activity Centre, which will support the centre's kayaking, canoeing, sailing and rowing activities.

We also support river-based organisations to create new 'river reconnection' activities, including:

- Introducing young people to rowing, particularly those who would not otherwise get the opportunity. We do this through a partnership with London Youth Rowing
- Developing 'citizen science' project Thames River Watch, run by environmental charity Thames21 to raise awareness about issues affecting the health of the River Thames. Volunteers complete water quality and litter surveys and take part in foreshore clean-ups



Commitments

44. A significant reduction in health risks from waterborne pathogens

45. Inspire people to engage in river activities and support events that will help people reconnect with the river



Tideway paddleboarders take part in the 2016 'Source to Sea' river relay

PLACE

Objective 9: Improved public realm

When Sir Joseph Bazalgette implemented his visionary overhaul of London's sewerage system more than 150 years ago, transforming public health, he also changed the look and character of the city with the creation of the Chelsea, Victoria and Albert Embankments.

Similarly, the Thames Tideway Tunnel will create new areas of public realm and connect the capital's residents and visitors with the river more closely than is currently possible.

For years, when the river was devoid of life, London turned its back on the river as a social space. It is a trend that the clean-up of river quality in recent years has reversed. Our project can ensure the momentum continues in the right direction: *to reconnect London with the river*.

We will create three acres of new public realm along the route of the tidal River Thames. Our designs will ensure that we plant two trees for every one displaced by the project, ensuring a long-term benefit to the city and recognising the role of green infrastructure. We are working with Trees for Cities, the largest urban tree planting charity in the UK, to help deliver this commitment.

A key part of our Place legacy will be our enhancement of the Thames Path, improving it where we can and opening up sections currently closed to the public.

This will directly reconnect more Londoners with the Thames and support the London Plan's aim to develop strategic walking routes along the river. We will ensure that this is done in a fully inclusive way, providing people of reduced mobility with the opportunity to connect with the river in a way that was previously not possible.

To inform and enrich our design of public realm, we have developed twin strategies around heritage interpretation—communicating the Thames's unique cultural heritage—and public art. Our ambition is that art on the Tideway will reposition the tidal River Thames as a new cultural venue, through a bold, world-class art programme created with local communities and other stakeholders.

We will also collaborate with other developers to enhance local space where our activities overlap with theirs, creating long-term benefits for local communities along the river.

Commitments

46. For every tree displaced by the project, plant two new ones
47. Create three acres of new foreshore in the public realm
48. Enhance the Thames Path, reopening sections currently closed to the public
49. Give people of reduced mobility the opportunity to connect with the River Thames in a way that has not previously been possible
50. Use a Heritage Interpretation Strategy and Public Art Strategy to create memorable, integrated site-specific artworks responding to, and referencing, the history of the site and wider narrative of the Tidal Thames and enrich Tideway's public realm legacy
51. Collaborate with other developers to enhance local space, where our activities overlap with other local developments
52. Develop sustainable strategies for the long term management and maintenance of new public realm



An artist's impression of the new public space at Chelsea Embankment

A Tideway volunteer at a foreshore clean-up at the River Brent



PLACE

Objective 10: More cohesive communities

Tideway is committed to being a responsible business, a good neighbour and to give back to the communities in which we work. As well as engaging with communities close to our sites during construction, we want to leave a lasting legacy for London through community investment. We want our investments, of money and time, to help unite communities, across the capital.

Our local community investments will be determined in partnership with residents and community groups. We will work with them to deliver projects that bring people together for shared interests and support. We want to create enduring partnerships and involve our workforce in a significant volunteering programme to support these investments.

Similarly, we will develop long-term partnerships with pan-London organisations to bring people from different parts of London together around river activities, which will also help realise our vision of reconnecting Londoners with the Thames.

Commitments

- 53. Deliver and fund community investment that will support local communities and where possible encourage members of that community to come together
- 54. Deliver and fund pan-London community investment activities which bring communities together from across the capital



“The project will not only safeguard our precious environment. It will create new landscapes, artworks, and public experiences which reflect the river’s rich history and reconnect us to the Thames, which is in many ways the lifeblood of our great capital.”

**Duncan Wilson, Chief Executive,
Historic England**

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