

Appendix 2

Sustainability Report, Quarter 2 2024/25 (23 June – 14 September 2024)

Contents

1 Introduction

2 Measures used in this report

3 Our scorecard

4 Sustainability

Annual Sustainability Reporting

Air Quality

Climate Change Mitigation

Climate Change Adaptation

Green Infrastructure and Biodiversity

Best Environmental Practices

1. Introduction

Summary within the Quarter

In Quarter 2, we published our annual report detailing the progress we have made against our scorecard targets. For financial year 2023/24, we developed our climate related financial disclosures and, for the first time, we also included nature related financial disclosures, using the Taskforce for Nature Related Disclosures framework.

The Ultra Low Emission Zone (ULEZ) Six-Month Report, published on 19 July 2024, evaluated the impact of the London-wide scheme in the first six months of its operation. The data shows that the scheme has been highly effective at reducing the proportion and number of older, more polluting vehicles on London's roads. The ULEZ scrappage scheme closed on 8 September 2024, with 54,716 applications approved and more than £188m committed.

Our trial of air filtration units at Baker Street station completed on 12 September 2024. The aim of the trial was to test the effectiveness and practicality of this type of technology at reducing the impact of dust on air quality on the Underground. We are currently analysing the outputs from the trial. Our 2024 annual monitoring of Underground air quality has continued through this period in driver cabs across eight Tube lines and in 24 stations.

Within our Bus fleet we now operate over 1,715 zero-emission buses, which rely on electricity or hydrogen, and we remain on track to increase this to 1,900 vehicles by the end of this financial year.

Over 5,400 of our colleagues have now completed Carbon Literacy training since its launch in July 2022. In July 2024, Shruti Shah, a High Voltage Power Engineer, was recognised as the 100,000th person to be certified by the Carbon Literacy Project globally. In July, we also launched the first in a series of pilot training sessions focusing on Adaptation, Biodiversity and Green Infrastructure.

Summary of key performance issues outside the Quarter

On 31 October 2024, we released our Solar Private Wire tender, under which we are looking to appoint a delivery partner to facilitate the roll out of solar energy generation directly connected to TfL's network. As one of the largest single electricity consumers in the UK with a use of approximately 1.6 terra-watt hours per year, we seek to utilise renewable energy opportunities and run our operations using 100 per cent renewable electricity.

On 17 October, we announced that the Marylebone Flyover rain gardens are now ready for rainfall after the final plants went into the ground, thanks to the children in Christ Church Bentinck School's Eco Club. Drainage has been installed underneath the road surface at the site of a disused subway system, and the ramps and stairs have been transformed into porous rain gardens, able to capture rainfall from approximately 3,500 square metres of catchment.

In October 2024, we appointed consultants to support a tidal flood defences baseline project, jointly funded by us and GLA Land and Property, the Greater London

Authority's (GLA) property subsidiary. This phase of the project will help us determine where tidal flood defences occur on GLA Group land and identify any additional associated data that can be used to help prioritise future work.

On 10 October 2024, the Environment Agency issued a fine to London Underground of £150,000 for not completing the removal of all polychlorinated biphenyls (PCBs) by the end of 2023 as required by an earlier Compliance Notice, which has been paid. The Environment Agency also require the removal of all PCBs by the 31 December 2024. The last of the equipment which we suspect contains PCBs will be removed and replaced by the deadline. The Environment Agency has acknowledged the mitigating circumstances which delayed the PCB removal programme and our extensive actions throughout the removal programme to ensure the London Underground network is free from PCBs when deciding on the level of fine.

In October 2024, we were awarded the Institute of Couriers Eco-decarbonisation award for biodiversity excellence on our roadsides, accepted by Charles Snead, our Asset Operations lead for environment and energy, who has spearheaded the delivery of our wildflower verge expansion since 2019. This award recognises our efforts to increase biodiversity throughout London.

2. Measures used in this report

How we monitor and record our progress

Throughout this report, we use different metrics to analyse the performance of each mode of transport to ensure we have a suitable comparison and can clearly monitor progress and performance. This page provides an overview of these key measures.

CO₂e emissions from TfL operations and buildings

This metric measures the level of emissions across the whole of our operations – burning fuel (Buses, Dial-a-Ride fleet) and our direct electricity use (our buildings, London Underground, Rail). London Underground energy and Buses emission forecasts are aligned to percentage service operated and revised budget operated kilometre targets respectively.

Sustainable Urban Drainage Systems (SuDS) delivery

This measure captures the cumulative total new rainwater catchment area draining into sustainable drainage systems delivered via TfL projects (in square metres).

Green milestone delivery

This measure is a basket of delivery milestones, which each have an assigned delivery date within the 2024/25 financial year. They will cover the delivery of Green (or carbon-specific) activities that involve all teams across TfL and focus on the delivery of key operational, investment activities and work underway in planning stages.

3. Our scorecard

Our role is to enable London to move safely and sustainably, in line with the goals of the Mayor's Transport Strategy (MTS). This includes increasing the attractiveness of public transport and making cycling and walking safer, easier and more convenient. Central policies of the MTS is delivering a good public and transport experience.

The table below sets out the relevant quarterly scorecard metrics, accompanying targets and actual performance.

For operational areas not included on the scorecard, we have included the metric used at an operating business level to provide appropriate insight.

Measure	2024/25 Year-to-date actual	2024/25 Year-to-date target	2024/25 Full-year forecast	2024/25 Full-year target
Sustainability				
CO ₂ emissions from TfL operations and buildings (ktonnes CO ₂ e)	362	358	777	773
Sustainable Urban Drainage Systems (SuDS) delivery (sqm)	3,547*	0*	7,708**	9,000
Green milestone delivery (%)	9	18	82	90

* The first project was expected to be delivered in Period 7(Quarter 3), but it was delivered early in Period 6 (Quarter 2).

** SuDS delivery likely to beat floor target of 5,000 sqm, but some cost and delivery challenges may make full target difficult.

4. Sustainability

Annual Sustainability Reporting

In Quarter 2, we published our annual report detailing the progress we have made against our scorecard targets. Environment and sustainability are at the heart of our decisions and a key thread to all we do and run throughout the heart of our annual reporting. This year we worked to develop our climate related financial disclosures, making progress across the four key pillars of: governance, strategy, risk and impact management, and metrics and targets.

For the first time, we have also included nature related financial disclosures, using the Taskforce for Nature Related Disclosures framework. By looking at the financial value of our natural assets we will be able to invest in business growth and outcomes that will support and enhance nature. Nature related risks and opportunities have been assessed through our Natural Capital account, so that these can be built into our strategic planning processes and future financial disclosure reporting. We will continue to build on our climate and nature related disclosures work, by following best practise and the science based frameworks, to reduce our risks and ensure our reporting is globally relevant and accessible.

Air Quality

London-wide Ultra Low Emission Zone

The ULEZ Six-Month Report, published on 19 July, evaluated the impact of the London-wide scheme in the first six months of its operation. The data shows that the scheme has been highly effective at reducing the proportion and number of older, more polluting vehicles on London's roads. It also shows:

The ULEZ expansion is working better than predicted, with London's air quality continuing to improve at a faster rate than the rest of England, and pollutant emissions in 2023 reducing dramatically compared to a scenario without the London-wide expansion

- (a) PM2.5 exhaust emissions from cars in outer London are estimated to be 22 per cent lower than without the expansion;
- (b) Within the outer London ULEZ area, NOx emissions from cars and vans are estimated to be 13 and seven per cent lower than a scenario without the expansion. This is equivalent to removing 200,000 cars from the road for one year;
- (c) Overall, NO2 concentrations in outer London are estimated to be 21 per cent lower than without the ULEZ and its expansions;
- (d) 96 per cent of vehicles seen driving in London as a whole are now compliant, with a 53 per cent reduction in non-compliant vehicles in only six months.

Work is now underway in producing the One Year Report. This will provide a fuller analysis of the scheme, once a full year of air quality monitoring data is available and will be supported by an advisory group of external experts.

The main mitigation to the ULEZ, a £210m scrappage scheme, to support London residents, charities and small businesses, closed to new applications on 8 September 2024, due to a period of slowing application rates. It is proposed that any funds remaining following the planned closure will be considered for other uses to further the MTS.

Data up to the closure date of 8 September 2024, shows that 54,716 applications have been approved and more than £188m has been committed. Since 15 March 2024, when donating non-compliant vehicles to Ukraine, via a trusted partner, for humanitarian reasons, was permitted, over 500 vehicles have been donated. A full evaluation of the scrappage scheme is now underway, with publication of a report due by the end of this financial year.

To support with the ULEZ expansion, a number of ULEZ support offers were also secured to help Londoners (irrespective of whether they received a scrappage grant) save money and use greener, cleaner forms of transport. This includes offers from over 30 partners receiving money off hire and subscription services for bikes, e-bikes, cargo bikes and e-scooters, discounts on car clubs and many other great deals. To date, there have been over 2,000 redemptions of the ULEZ support offers and continue to run for a limited time only.

This is in addition to a set of temporary exemptions (“grace periods”) to support disabled people, community transport minibuses, people using wheelchair accessible vehicles, and businesses and charities with brand-new compliant vehicles or a retrofit solution on order. Over 7,500 applications have been accepted to date for these grace periods. Further, we also recently extended the ‘minibuses used for community transport’ grace period by two years to match the other grace periods (October 2027) to further support this group.

Air Quality on the London Underground

Our programme to tackle air quality on the London Underground, focuses on enhancing our track cleaning, undertaking academic research, and regular monitoring, as well as using innovative technologies to reduce dust.

Our trial of air filtration units at Baker Street station completed on 12 September 2024. The aim of the trial was to test the effectiveness and practicality of this type of technology at reducing the impact of dust on air quality in the Underground. We are currently analysing the outputs from the trial and what lessons we can learn for the future and are now looking forward to other air filtration trials elsewhere on the network.

We are developing a funding bid to the European Institute of Technology Urban Mobility to help support funding for a trial of new air quality monitoring technology on the Tube. We have been pulling together a consortium of partners for the bid and a possible future trial made up of technical, academic and city partners.

Our 2024 annual monitoring of Underground air quality has continued through this period in driver cabs across eight Tube lines and in 24 stations. While driver cab monitoring has completed, station monitoring was being finalised during this period, with reports expected to be published later this year.

Climate Change Mitigation

Zero-emission Buses

London continues to have the largest zero-emission bus fleet in western Europe, having grown from just 30 buses in 2016. Within our fleet we now operate over 1,715 zero emission buses, which rely on electricity or hydrogen rather than fossil fuels, and we remain on track to increase this to 1,900 vehicles by the end of this financial year. Since March this year, four further routes have converted to zero-emission – namely routes 152, 276, 307 and 384. Our opportunity charging trial on route 358, expected to launch later this year, will continue to build on the electric bus charging infrastructure network by using pantograph technology, which allows vehicles to charge while in service. Leveraging this type of technology, is a key component in our vision be a strong, green heartbeat for London.

Building decarbonisation

We continue to progress building decarbonisation projects that were previously awarded Public Sector Decarbonisation Scheme funding at Therapia Lane Tram Depot, Neasden Depot and Finchley Central Signal Depot. Plans for the decarbonisation at the selected buildings include measures to remove the reliance on life expired gas heating assets by replacing boilers with air source heat pumps as well as energy saving installations including LED lighting, solar panels and improved insulation.

We have been working on feasibility studies at a further six of our buildings on our operational estate as part of our building decarbonisation programme which were completed in November 2024. This work was undertaken in partnership with Arcadis, who are providing technical support in developing the second tranche of feasibility studies. In parallel, we have continued to work with Arup, our existing partner for the development of the first tranche of feasibility studies, on six of our buildings, to add more detailed assessment of carbon saving options to early-stage Phase 3 Low Carbon Skills Fund reports. The two sets of feasibility studies combined with the first package of work with Arcadis means we have now completed building decarbonisation feasibility studies for 39 buildings across our operational estate. The outputs of the studies have improved our understanding on the suitability of interventions for decarbonising different types of buildings by looking at their associated cost, carbon and programme impacts. The findings have enabled the team to conduct prioritisation exercises for which buildings we should focus on progressing first to further design and delivery stages.

Solar Private Wire

Through our Solar Private Wire project we are aiming to connect new to earth, solar PV (photovoltaic technology that uses sunlight to generate electricity) in close proximity to our network, which may not necessarily be on our own estate. This will enable TfL to connect to solar PV at a scale that far exceeds that which is available solely on our own rooftops and land.

Procuring renewable energy in this way means we would bypass the National Grid for such energy and significantly reduce carbon emissions associated with our operations. The scheme has the potential to deliver up to 64 megawatts of electricity per year. Our current plan is to appoint a Delivery Partner, to a Single Supplier Framework by January 2026.

After the reporting period for this report, on 31 October, we released our Solar Private Wire tender, under which we are looking to appoint a delivery partner to facilitate the roll out of solar energy generation directly connected to TfL's network. As one of the largest single electricity consumers in the UK with a use of approximately 1.6 terra-watt hours per year, we seek to utilise renewable energy opportunities and run our operations using 100 per cent renewable electricity.

Carbon Literacy training

Since we launched our Carbon Literacy training programme in July 2022, over 5,400 of our colleagues have now completed this training. In July 2024, Shruti Shah, a High Voltage Power Engineer, became the 100,000th person to be certified by the Carbon Literacy Project globally. Of the first 100,000 people to be certified globally, more than 4,200, or more than four per cent of the global total were trained at TfL. After being deemed outstanding by our Safety, Health and Environment directorate, Shruti's pledges were put forward to be a candidate for the 100,000th certificate. Shruti has pledged to consider carbon efficient products in her design, assess the total life cycle of electrical equipment, utilise our own internally developed carbon model tool in her projects, and instigate conversations around carbon reductions within her team.

Climate Change Adaptation

Improving Sustainable Drainage on our Network – Marylebone Flyover

We are supporting London to tackle the impacts of flooding from surface water by installing SuDS across our network. SuDS reduce flooding risk by slowing and reducing the amount of rainwater that reach the drainage networks, and can include rain gardens, permeable paving and green roofs. They are a key part of our Adaptation Plan's aim to help to make our capital more resilient to the effects of extreme weather, while also supporting biodiversity.

Following this reporting period, on 17 October we announced that the Marylebone Flyover rain gardens are now ready for rainfall after the final plants went into the ground, thanks to the children in Christ Church Bentinck School's Eco Club. Drainage has been installed underneath the road surface at the site of a disused subway system, and the ramps and stairs have been transformed into porous rain gardens, able to capture rainfall from approximately 3,500 square metres of catchment. The gardens have been planted with a variety of trees, shrubs and flowers that have been curated to support pollinating insects, while thriving in the local climate with minimal maintenance.

With a target to create a minimum of 5,000 square metres of additional catchment draining into SuDS per year, in alignment with the MTS, this project has made a significant contribution to this target being achieved this financial year.

London Climate Resilience Review and London Surface Water Strategy

We are supporting London to become a more resilient city by working with the GLA and other organisations and local authorities, on the London Climate Resilience Review, which was published on 17 July 2024. The review was commissioned by the Mayor of London to make recommendations on how London can become more resilient to increased extreme weather events, in response to the heavy flooding in 2021 and the record-breaking heatwave of 2022. We attended and contributed to a

series of workshops, took part in an interview, and reviewed and provided feedback on draft reports.

Our Green Infrastructure and Biodiversity Plan, published in March this year, and Transport Adaptation Steering Group were mentioned as exemplars in this field. The review also strongly endorsed our work for the London Surface Water Strategic Group, which published an [interim report](#) in July.

However, the review also identified areas for improvement. Guided by our Climate Change Adaptation Plan (2023) to help us prioritise, we must proceed with retrofitting our existing infrastructure to enable it to cope with the impacts of climate change. We must also accelerate our action to launch a pilot to identify weather as a contributing factor of asset degradation. Related to this work, we are piloting the integration of weather as contributory factor in London Underground electronic incident reporting, ahead of a TfL-wide assessment of incident reporting systems.

Tidal flood defences baseline project

In line with our Climate Change Adaptation Plan, in October 2024 we appointed consultants to support a tidal flood defences baseline project, jointly funded by us and GLA Land and Property, the GLA's property subsidiary.

The Environment Agency only owns 12 per cent of London's tidal flood defences. As landowners, we therefore need to have a proactive programme in place to ensure that tidal flood defence structures on our land will be raised to required future levels where necessary. This phase of the project will help us determine where tidal flood defences occur on GLA Group land and identify any additional associated data that can be used to help prioritise future work.

The aim is for all tidal flood defence structures on GLA Group land to eventually be surveyed, which will enable us to develop a programme of future improvement work in line with the Thames Estuary 2100 Plan.

Launch of training pilot for Adaptation, Biodiversity and Green Infrastructure

In July, we launched the first in a series of pilot training sessions focusing on Adaptation, Biodiversity and Green Infrastructure. The aim of this training is to give colleagues working in relevant areas an awareness of the challenges and opportunities surrounding each of these themes to ensure we are best placed to continue to serve London for generations to come. Following the pilot sessions, we plan to assess how best to target and implement to the most relevant colleagues.

Green Infrastructure and Biodiversity

National Courier Award for biodiversity excellence

In June this year, we announced that we had delivered on our pledge of doubling our area of wildflower verges, so that we now have over 260,000 square meters of wildflower verges on our road network. Wildflower verges encourage biodiversity (allowing wildflowers to thrive and supporting pollinators, such as bees and butterflies), and can lead to greater amounts of carbon being stored in the soil. The programme is a key part of TfL's Green Infrastructure and Biodiversity Plan, which sets out how London's strategic transport authority will seek to respond to the ecological crisis. In October 2024, we were awarded the Institute of Couriers Eco-

decarbonisation award for biodiversity excellence on our roadsides, accepted by Charles Snead, our Asset Operations lead for environment and energy, who has spearheaded the delivery of our wildflower verge expansion since 2019. This award recognises our efforts to increase biodiversity throughout London. We will continue to maintain these verges to ensure they remain safe for all road users, while seeking further opportunities to expand wildflower verges in future years.

Best Environmental Practices

Removal of Polychlorinated Biphenyls assets

On 7 October 2019, we received a Compliance Notice from the Environment Agency requiring the removal of all equipment containing PCBs on the London Underground network by the end of 2023. PCBs on our network were safely contained within electrical components, not accessible to the public and had not escaped into the environment. We made good progress in complying with the Notice, however, due to a number of issues which were outside of our control, including the coronavirus pandemic, we were unable to remove and replace all PCBs by that date. We have continually updated the Environment Agency with our progress in removing PCBs from the network, including where there were risks to completion. At the end of 2023 we confirmed to the Environment Agency that the remaining PCBs would be removed from the London Underground network by the end of 2024.

On 10 October 2024, the Environment Agency issued a fine to London Underground of £150,000 for not completing the removal of all PCBs by the end of 2023 as required by the Compliance Notice, which has been paid. The Environment Agency also require the removal of PCBs by the 31 December 2024. The last of the equipment which we suspect contains PCBs will be removed and replaced by the deadline. The Environment Agency has acknowledged the mitigating circumstances which delayed the PCB removal programme, and our extensive actions throughout the removal programme to ensure the London Underground network is free from PCBs, when deciding on the level of fine.