

# ENVRONMENTAL REPORT 2021









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#### Foreword



The PLA has long been seen as a leader among the UK's ports and harbours in relation to undertaking early and innovative action to tackle climate change, working to conserve habitats and species, improve resilience and make our waters better places to visit.

As part of this process, we have committed to transparency and so we report on many of the actions

we undertake in the context of environmental responsibility and improvement; some of which relate to our core duties and others that go beyond our key responsibilities.

We make these additional interventions as part of being a responsible organisation and recognise that this is the right thing to do so that we can minimise the impact on the environment we operate in for the benefit of future prosperity and populations – be that people, plants or animals.

#### **Environmental Improvements**

In 2020 the PLA committed to enhancing its environmental performance to continue reduction of organisational impacts, in combination with further setting targets and associated actions to achieve Net Zero, prior to the Government's target of 2050.

The plan has focused actions in the first five years, with targets spanning: biodiversity, energy reduction, increasing renewable energy use, carbon and air emissions reduction, and reductions in waste and water.

2021 was the first year of delivery of some of the actions that will see us meet our interim target of reducing our carbon emissions by 50% by 2025. As a result, we are well on the way to reaching net zero by 2040 (if not before).

**PLA Chief Executive** 

<sup>1</sup> When referring to carbon emissions, this includes all 6 of the Kyoto Protocol gasses commonly assessed in the context of global warming potential when expressed as CO2e (Carbon Dioxide Equivalence).



## PLA's environmental improvements by target

## Looking forward

Air Quality	18.7 t NOx (11% reduction on 2016 baseline)	1.8t PM (12% reduction on 2016 baseline)		Additional shore power facility at Thames Barrier Garden Pier to increase capacity
Carbon	Carbon footprint scope 1+2 – 1292 tCO2e (29% reduction on 2014 baseline)	15.2% of vessel fuel transitioned to HVO, a lower carbon fuel alternative		Transition of the remainder of the fleet to HVO
Waste	32% of office waste recycled, 68% energy from waste	1 waste related incident reported		Review and implement internal waste management plan
Biodiversity	Planned works started at West Thurrock, to enable restoration of saltmarsh habitat			Completion of works to improve habitat at West Thurrock SSSI Calculation of carbon sequestration at West Thurrock
Water Quality	35 sacks of litter removed during annual staff foreshore clean up in 2021	304 hours of hours of analysis to inform design of new litter collector for the Estuary	4 internal water quality related incidents and near misses reported, which were either littering or pollution events	Continuing to roll out new training for employees to improve environmental performance and awareness
Energy	19% reduction in comparison to 2014 (2044MWh electricity and gas)	Up to 73% increase compared to 2020 (115MWh generated by solar PV at LRH and Denton)	13.7MWh of electricity use from charging electric/hybrid vehicles	Increasing renewables across estate



Targets	Baseline
Nitrogen dioxide and particulate matter emissions targets: 30% reduction by 2026	2016: 21.0 t NO2 and 2.0 t PM

In 2019, the PLA was awarded the first round of funding in the Clear Air Thames project to retrofit a Selective Catalytic Reduction (SCR) system, an exhaust gas clean-up technology that removes a significant proportion of nitrogen dioxide from exhaust gasses. This was fitted to a PLA service vessel in 2021: *Driftwood II*. Based on manufacturer claims, it is expected to remove up to 90% of the nitrogen dioxide in the exhaust gas.

Within a *wider energy diversity research* project undertaken in the year; we had an in-depth case study undertaken to explore the feasibility of accommodating alternative energy infrastructure at one of our operational sites for the vessels to transition to alternative fuels. This work will inform the fleet review planned for 2022.

#### **Monitoring and results**

As part of our ongoing air quality monitoring, the diffusion tubes attached to our vessels and various piers had been put on hold due to COVID restrictions in 2020. Once the restrictions were eased in June 2021, we were able to restart the use of the diffusion tubes. The preliminary results show a lower period average monthly nitrogen dioxide concentration at the piers, compared with the 2018-2019 results. It is most likely linked to the lower background pollutant levels, as seen across the UK.

The PLA continued the remote air quality monitoring at Greenwich while a separate unit was offered for use to monitor sites with third parties for shorter periods.



Targets	Baseline
Carbon reduction targets: 50% reduction by 2025 and Net Zero by 2040	2014: 1845t CO <sub>2</sub> e (Scope1+2)

In preparation for transitioning the entire vessel fleet to HVO (Hydrogenated Vegetable Oil), which produce lower carbon and air emissions compared with standard Marine Gas Oil (diesel), the PLA installed new fuel storage facilities at Royal Terrace Pier, Gravesend, to store the biofuel. The use of this lower carbon fuel has already reduced our carbon emissions by approximately 167 tonnes CO<sub>2</sub>e.

We are also switching our land-based plant from diesel to HVO to further reduce air and carbon emissions and have purchased our first fully electric 'pool' car to support the earlier plug-in hybrid vehicles.

The PLA commissioned an energy diversity study which has helped us refine our plans to decarbonise our fleet and plan our infrastructure requirements for the future.

We lead the *Hydrogen Highway* programme on the Thames which is part funded through the Government's MarRI-UK initiative. This will help the organisation and other Thames users better understand the risks and opportunities associated with safe use of hydrogen as a fuel and a cargo. The work will begin in 2022.



#### Monitoring and results



PLA Carbon Footprint History (Scopes 1 + 2)

While there was a reduction in our activity during COVID that affected our emissions, normal activity levels began to return as we entered 2021, albeit we think 2022 will be the first post covid year of 'normal' activity levels. The use of low carbon fuels and more efficient working has meant that the PLA remains on track to reduce carbon emissions by 50% or more by 2025.

We report our Carbon footprint (scopes 1+2) and in 2021 it was 1292 tCO<sub>2</sub>e (29% reduction on the 2014 baseline) in absolute terms. Trade in the Thames has increased over the period since the baseline was set and therefore it is more representative to consider these figures relative to our activity. We therefore use intensity metrics to reflect our carbon efficiency, in 2021 these values were:

- 24.95 tCO<sub>2</sub>e per million tonnes of cargo handled by the Thames terminals (41.46 in 2014)
- 0.092 tCO<sub>2</sub>e per pilotage act (0.165 in 2014)

# Litter and Waste

Targets	Baseline
Single Use Plastic Free organisation. Increased recycling and no waste to landfill	2019: 6 waste related incidents reported internally

#### Actions

Our newly refurbished London River House was completed in 2021, with improved equipment and facilities to reduce waste and minimise environmental impact.

The Environment Group researched the possibility of using food waste and composting across the PLA Gravesend sites. Currently it is not feasible due to the limited volumes of organic wastes. This will be reviewed again in the future.

#### **Monitoring and results**

In 2021, one waste related observation was reported and investigated internally which is a decrease from our baseline year 2019.

Our waste contractors report that no office waste goes to landfill and so we have achieved our 100% landfill diversion target. The proportion of office waste that is recycled is down compared to last year but the amount of overall office waste is also down from 44t in 2020 to 40t in 2021. Office printing remains at a similar level to 2020 and

	Biodiversity
-	

Targets	Baseline
Improve the connectivity between biodiversity habitats Improve the biodiversity of sites across the PLA estate.	2016

In the autumn of 2021, approximately 300m of brushwood fascines were installed to facilitate the natural build-up of sediment, which was designed to result in the restoration of saltmarsh habitat on West Thurrock Saltmarsh and Lagoon SSSI. Over the winter, before the birds returned, the sediment had already started to build up and the site will be completed in early 2022 with ongoing monitoring to measure the success of the project.

We undertook a feasibility study on the potential impact of new requirements set out by the Environment Act, using Biodiversity Net Gain across our sites. The feasibility study suggested that there were high potential areas that could help the PLA, developers and the wider river stakeholders improve biodiversity.

#### Monitoring and results

The existing management plan for Oliver's Ait (an island in the Thames owned by the PLA) will be reviewed in 2023, therefore additional monitoring was undertaken in preparation.



West Thurrock Saltmarsh and Lagoon



Targets	Baseline
No reportable pollution incidents Increased number of hazard observations	2019: 13 water quality related incidents reported internally

As part of helping to manage and reduce litter, we commissioned specially designed litter pick stations, which have been installed at two of our Gravesend offices. These stations encourage employees to take time to enjoy the local Thames environment on their work breaks, while also improving the environment through a small litter pick.

In October, 35 bags of rubbish were collected during a two-hour litter clean up with over 20 volunteers from the PLA. Plastic bottles, cans, cotton buds, wipes, and food packaging were the most common items among all the litter we collected – along with a sofa!

#### **Monitoring and results**

As part of the ongoing work to develop a new litter collector designed for the environment in the lower Thames Estuary, we trialled the operation of one of our existing litter collectors in a new location downstream. We installed timelapse cameras on the trial litter collector to allow analysis of its effectiveness and to inform the design of the new litter collector in the lower estuary.

To understand what types and volume of litter are in the local area we conducted an appraisal survey at Cliffe foreshore. This will help us monitor the effectiveness of our lower estuary collector once deployed in 2022.

In 2021, four water quality 'near misses' were reported internally which is a decrease from our baseline year 2019. These 'near miss' reports included litter in our car park and an oil leak on the deck of a barge which was contained and cleaned up immediately, preventing any pollution entering the water.



Like many industrial sites, the Denton facility had halogen light fittings across the operational and external areas, an upgrade to lower energy LED fittings was completed and is anticipated to halve the power required to light the site. Energy savings will be monitored over time and are expected to be substantial.

#### Research

The Environment Group has developed, lead and managed a feasibility study of the potential for renewable integration into the PLA's estate, including remote site and piers. The energy report, has been used to plan future site works in a coordinated manner and many of the recommendations will be incorporated in the future.



#### Monitoring and results

In 2021 the PLA used 2044MWh of purchased electricity and gas (19% reduction on 2014), and generated 115MWh by solar Photovoltaic (PV) arrays. The increase in production was due to installations at London River House as part of the site's refurbishment in 2020, with 2021 as the first full year of operation.

The PLA has electric vehicle charging facilities at our two main offices in Gravesend. A total of 13.7MWh of electricity was used to charge electric/hybrid vehicles, of which 3.1MWh was used for PLA-owned electric/hybrid vehicles, and 10.6MWh for employee/visitor electric/hybrid vehicles.

## Employee involvement

The PLA has an Environment Group attended by senior management, chaired by the responsible Director for Environment in the organisation. This group delivers action across the organisation. In 2021 a PLA Green Committee was also created to support and push for implementing positive improvements in everyday actions.

The Environment Group also has several subcommittees focusing on specific aspects. In 2021 these included: travel, waste, and energy:

- The travel committee are waiting for COVID impacts on employee travel to become clear, in order to progress their ideas for active travel.
- The waste committee reviewed composting ideas in sites in Gravesend.
- The energy committee has delivered research on renewables across the estate.
- The green committee met quarterly in 2021. 26 ideas were explored, ranging from rooftop solar panels, to how we can reduce paper usage. The organisation's Employee Idea Reward Scheme also raised a few ideas that the Green Committee reviewed. The committee were part of the PLA's Net Zero Plan, including carbon offsetting, as well as biodiversity and the green fuel strategy.

#### Engagement

The team has continued to develop and deliver in house training courses for the staff to help understanding of legal compliance as well as the continued improvement of reporting and responsible culture. Sustainable procurement techniques and assessments are now embedded in the process.

In the Job Crowd 2021 awards under the Graduate Employment category, we won the Best for Environmental and Ethical Awareness award.

## Port & Tidal Thames Activities

We continue to maintain the Thames Vision to 2035, while consulting on the 2050 revision. In the environment section of the vision, the goals and targets are supported by specific strategies and action plans with stakeholders across the port and River Thames. Within these, there are several specific actions the PLA is delivering while with others the PLA takes a collaborative, or supportive role to facilitate changes in the estuary.

Whilst this Annual Report focuses on the actions delivered by the PLA, there are some references to our work with or supporting other organisations. For more information about these please check out the relevant sections of the *PLA website*.

#### **Environment Fund**

Our 2021 Environment Fund supported volunteer projects tackling litter and invasive non-native species (INNS) on the tidal Thames.

Five initiatives won a share of the total £25,000



## Actions in environmental partnership work

## Looking forward

Air Quality	4 operators accredited via Thames Green Scheme	2 incentive providers on the Thames Green Scheme	174 visits by ship with an (ESI) Environmental Ship Index positive score over 50, eligible for Green Tariff discount	Update the emissions inventory for the tidal Thames, to assess changes in the past 5 years
Carbon	£1.3 M match fund towards a maritime hydrogen highway project in 2022	> 300 people attended PLA Environment webinar on climate	The first Sustainable Innovation Call was launched	Hydrogen Highway London Case Study – examining future fuels and safety in the port
Litter and Waste	80% of the foreshore was graded predominately free of litter during Rapid Appraisal surveys	127.5 tonnes of driftwood and litter was recovered from the river	95 clean up events posted on Cleaning the Thames	Installation of water fountain at Richmond Lock & Weir
Biodiversity	Completion of a feasibility study for the development of a Biodiversity Net Gain market on PLA owned land	Advice provided on 57 River Works Licence applications	Completion of ecological surveys on PLA land at Oliver's Ait, Allhallows & Cliffe and as part of biannual Rapid Appraisals	
Water Quality	5 community projects funded by us under the Thames Environment Fund	Advice provided on 25 external dredge applications	44 water quality related incidents and observations were reported to the PLA on the river	Publish updated Maintenance Dredge Framework
Energy	Designated the first tidal energy demonstrator site in the Thames, which should be optimal should a developer want to trial a tidal device			



Targets	Baseline
Port Wide Nitrogen dioxide and particulate matter: 20% reduction by 2026	2016: 3053 tonnes NOx, 109 tonnes PM, (111tonnes SOx)

#### Engagement

The PLA has been on the Environmental Shipping Index Advisory and Working Groups to provide technical advice on the development of the scheme to reflect changes in the International Maritime Organisation's Regulations.

We are also members of the Clean Air Thames Board, a project aimed at demonstrating air quality improvements along the Tidal Thames by retrofitting inland vessels with an after-exhaust treatment system.

#### Actions

We have conducted a trial on two types of 'drop-in' lower emissions fuels; HVO (Hydrogenated Vegetable Oil) and GTL (Gas To Liquids). The findings on emissions reductions and engine performance have been shared as a technical *report* that is published on our website, which has been supported by presentations at workshops and conferences. A few other operators on the Thames have begun to trial the use of alternative fuels for their operation.

The Environment Team supported a University College London Masters project, which investigated the benefit of the use of drop-in alternative fuels on inland vessels on the tidal Thames. It indicated the adoption of the fuels could improve air quality in London.



#### Monitoring and results

There has been an increase in vessels with an ESI (Environmental Ship Index) rating of 50 or better, which shows an overall improvement in shipping standards. Those that qualify for the Green Tariff discount (ESI of 30 or better) have reduced in 2021 v 2020.

In the first year of the Thames Green Scheme (our incentive scheme for inland craft), four Operators have been accredited. Three of the operators, including the PLA, have been awarded Silver and the other one awarded Bronze. One oil lubricant supplier also joined the scheme as an incentive provider, allowing those accredited to have a discount. The PLA will be joining as an incentive provider in 2022.

Ambient air quality monitoring around Greenwich Ship Tier (an area used by Cruise vessels) continued despite the low numbers of ships visiting. During 2021 we resumed the diffusion tube network in central London as COVID restrictions were lifted. Our previous work on the Tidal Thames emissions inventory was provided to assist other statutory undertakers in their air quality work.



Targets	Baseline	
Port wide – 68% reduction by 2051	2016: 195,350 tonnes	

#### Engagement

We have presented at external conferences and workshops on our air quality strategy, energy transition in ports, low carbon and alternative fuel transition. We also hosted the Environment Conference 2021, focusing on Net Zero (especially Climate Mitigation); topics included sustainability, innovation and habitats. More than 300 people attended the online conference.

During 2021 we launched our first Sustainable Innovation Call to seek a technical solution for establishing the first zero emission berth in the Thames. The initial call for innovation was hosted by Knowledge Transfer Network (KTN).

The PLA is part of the Thames Estuary Growth Board to drive sustainable economic growth within the Thames Estuary; two of the key focus areas are on hydrogen investment in the port and light freight services.

#### Actions

The PLA, as the lead consortium member, successfully applied for the MARRI-UK Funding for the Hydrogen Highway Project. The six project work packages cover energy diversity research, trialling hydrogen power generation, establishing the business case for back hauling hydrogen into central London, ship design and health & safety requirements.

Work was commissioned to assist with energy demand forecasting across the port area to assess the energy solutions and infrastructure that may be needed on/along the river to support the transition to zero emission. A summary of the study has been published on our website and *will be available illustrated in interactive maps in 2022*.

#### **Monitoring and results**

Using the PLA's Emissions Inventory data, we supported the reporting of greenhouse gas emissions from the Tidal Thames for the London Energy and Greenhouse Gas Inventory, an emission inventory published by the Greater London Authority that quantifies the total greenhouse gas emissions and energy consumption by London.

# Litter and Waste

Targets	Baseline
2022: 75% of the tidal Thames foreshore graded B or above (predominately free of litter) in our Rapid Appraisal surveys	2017: 55% of the tidal Thames foreshore graded B or above (predominately free of litter) in our Rapid Appraisal surveys

#### Engagement

Thames Litter Forum is a collaborative group of organisations, which the PLA created and maintains; working to tackle litter in the tidal Thames.

The PLA has also supported the Zoological Society of London's #OneLess project as part of their 'Pioneer Network' where we pledged to work alongside existing partners to champion and promote the message of eradicating single-use plastic water bottles in London and drive the refill campaign.

#### Actions

Four litter-related projects were funded under the Thames Environment Fund including Dartford and Crayford Creek Restoration Trust, AHOY and the Whale Company.

95 foreshore clean ups were logged on the Cleaning the Thames portal, with the PLA, providing cages to assist with litter disposal and advice.

We also started construction on a new litter collector for the lower Thames Estuary in partnership with DP World London Gateway.

#### **Monitoring and results**

The PLA Driftwood service of vessels and collectors recovered 127.5 tonnes of driftwood and litter from the river. The PLA also supplied 21 cages to support the disposal of litter during clean up events on the Thames.

In partnership with Thames21, the Environment Team carried out our litter 'rapid appraisal' monitoring in March and September. In 2021, 80% of the tidal Thames foreshore graded B or above,



improving on the target set by the Litter Strategy, which is very positive, given the anecdotal evidence that there was an increase in littering and fly tipping over the Covid period.

# Biodiversity

Targets	Baseline
Improve the connectivity between biodiversity habitats Improve the biodiversity of sites recognised for their wildlife interest No increase in the number of Invasive Non-native Species on the tidal Thames	2016

#### Engagement

The PLA has completed review of the nature pages of the PLA website to include information on the key species and habitats on the tidal Thames for the public and any specialists. This has become a useful research tool with a collation of ecological information. *https://www.pla.co.uk/Environment/Nature* 

#### Actions

Following the success of the biannual boat based rapid appraisals from Erith to Richmond, to monitor litter, in 2021 habitat surveys were included.

A Tree Management Plan for the upper river tow path has been developed in partnership with the London Borough of Richmond-upon-Thames, this covers the river between Richmond and Kew, which is partly owned by the PLA. The plan identifies priorities for management, considering safety, navigational safety, protected species and vistas.

#### Research

The PLA commissioned a feasibility study to identify the opportunities to realise the market value of its landholdings in the emerging biodiversity net gain market. The Environment Act 2021 sets the context for Biodiversity Net Gain, and every development will have to deliver a 10% net gain in biodiversity from 2023. This provides a significant opportunity for the PLA to be a provider of net gain to developers.

#### **Monitoring and results**

Ecological surveys and reporting have been completed on Oliver's Ait, and the PLA's agricultural landholdings at Allhallows and Cliffe. Monitoring has been ongoing of the PLA investment funded work at RSPB reserves in Essex and Kent, showing positive trends in bird numbers and site condition.

# Water Quality

Targets	Baseline
Cleanest river since the industrial revolution Water Framework Directive, the Thames River Basin District is to achieve Good Ecological Potential by 2021	2021

#### Engagement

The PLA continues to participate and engage with the Dredging Liaison Group, providing quarterly updates to stakeholders. We also contributed to the 'Your Tidal Thames Catchment Partnership', led by Thames Estuary Partnership and Thames 21.

In March 2021, the PLA hosted a workshop for terminal operators in the Thames on the proposed CEFAS Action Level changes. Over 35 stakeholders attended the workshop, and the PLA has kept operators updated with the latest information regarding these changes.

The PLA's Marine Compliance team conducted two emergency response training exercises (June and September) on the Thames in response to simulated pollution incidents on the river. These involved a number of partner organisations including terminals, emergency services, local boroughs, the Maritime and Coast Guard Agency and saw the deployment of equipment and vessels provided by Thames Oil Spill Clearance Association.

#### Actions

The PLA assessed and consented 25 dredge licence applications across the Thames and processed 139 applications for the Thames Tideway Tunnel, facilitating its construction which, when complete will remove storm sewage discharges across the Thames in London.



Two emergency response training exercises, saw the deployment of equipment and vessels provided by Thames Oil Spill Clearance Association

As part of a drive to streamline and reduce 'red tape', the PLA has introduced a new 'Accelerated Dredge Licensing' process with an approach similar to that adopted by the Marine Management Organisation (MMO).

PLA Byelaw 49 came into force on 1 January 2015, preventing the discharge of sewage into the Thames from specified vessels. This is consistent with the continuing improvement of the Thames environment, particularly with Thames Water's project to stop the discharge of untreated sewage into the river and ultimately brings the Thames into line with a number of other UK harbours and inland waterways. In 2021, this was extended with the introduction of General Direction 10, to cover all commercial vessels in the Thames, as previously the passenger boat industry and commercial sailing yachts were not required to contain their 'Blackwater'.

During the year, the PLA conducted research into refining the requirements for operators under above referenced PLA Byelaw 49 and the newly published General Direction 10.

#### Monitoring and results

As part of our data management project, we collated ten years of sediment sample data, creating a GIS database to help inform dredge licencing and the management of the estuary, enabling changes over time to be considered.



Targets	Baseline
Encourage uptake of new and green technologies to reduce the port's environmental impact	2012

#### Engagement

Applications for river works consented by the PLA require an assessment of inclusion of sustainable technologies, but adoption is low. Some stakeholders (for example, the RNLI and Woods Quay) are taking the opportunity to future proof installations and include renewables.

#### Actions

We continue to encourage and support use of more sustainable technologies and have three key examples of how this is being implemented:

1) by providing a mooring for tidal energy demonstrations and trials. We have designated an underutilised mooring in a representative site for tidal energy research, to research the capture of the Thames' power without a significant impact on safety or ecology.

2) by carrying out an energy diversity strategy to ascertain key areas of the river for clean energy. The forecasts that have been produced indicate that there are a few key areas of the river where there is a large demand for power, and along the river, in all scenarios the decarbonisation of land and riverine transport will see significant increases in electrical demand.

3) by ensuring all applications for river works also have an assessment of inclusion of sustainable technologies.

#### **Monitoring and results**

No monitoring has been completed on energy in the port in 2021.

Additional	Partnerships
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Targets	Baseline
To adapt and minimise the risks associated with climate change	Ebb Flag trend: average from 2011 <sup>2</sup>

<sup>2</sup> The yearly data is compared with the average from previous years to account for inter-annual variability.

#### Engagement

The PLA are on the Advisory Board and Sustainability Framework Working Group for Thames Estuary 2100 (TE2100) to provide expertise and experience on the development of the updated plan. The PLA participates in the Thames Water London Effluent Reuse Scheme working groups; providing technical advice on conceptual design to ensure navigational safety and the environment issues have been considered.

The Climate Adaptation work of the PLA has been presented at London Climate Change Week and we participated in COP 26 public events, including our CEO giving a keynote address at the International Maritime Hub in Glasgow.

#### Actions

The PLA submitted our *Climate Change Adaptation report* to DEFRA (Department for Environment, Food and Rural Affairs) under the Climate Change Act 2008.

#### Research

Annual reporting on the weather-related navigational incidents to better understand of the risk and help preventing reoccurrences; once trends are found these will be published accordingly.

## Conclusion



Across 2021 the PLA Environment Team, the wider organisation and our many partners have worked to improve the sustainability of our operations, facilities and behaviours whilst also protecting the river from marine incidents. We have also worked on conserving and where possible enhancing habitats, such as West Thurrock Marshes and coordinating and collaborating to foster clear-ups to make the Thames cleaner. Whether through direct removal of rubbish, litter and debris

from the Thames or though community and volunteer clean ups. 2021 also saw our first ever Environment Fund, where we made £25,000 available for community groups that sought to tackle litter or non-native invasive species in the Thames, this saw 5 groups receive funding.

Our on-site solar power generation has increased, which we are proud of, and we continue to examine options to further enhance on-site renewables generation. We worked with external organisations to review our sites for renewable opportunities, and we will build on this work in future years. Considerable work has focused on building a proposal for a hydrogen highways project with academic and regulatory partners, which will look at future fuelling options for craft on the Thames in the form of Hydrogen and the opportunities and constraints this brings. This will be a really exciting project for 2022.

#### Dr. Derek McGlashan Interim Head of Environment



The PLA's environmental work contributes to the following UN Sustainable Development Goals:





CUSTODIANS OF THE TIDAL THAMES

PROTECT | IMPROVE | PROMOTE

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