Materials and resources management

Using resources (including water) wisely and minimising waste

We aim to ensure that we use resources responsibly, by minimising our consumption of natural resources and encouraging the reuse and recycling of materials. The amount of waste produced increases or decreases in direct relation to the volume of maintenance or construction activities carried out as we expand our transport services. We intend to minimise waste as much as possible and reach a position where 'unwanted' materials are no longer referred to as 'waste', but are considered a potential resource.

Some of our businesses have a good track record in recycling up to 99 per cent of waste materials, but we can do more by sharing good practice across the entire organisation. While the amount of unwanted materials produced depends on the nature of the work being carried out, opportunities for designing-out waste and reusing and recycling apply to all construction projects.

Achievements
Our head offices achieve the Department for Environment, Food and Rural Affairs (Defra) good practice water consumption target of $6m^3$ per full time equivalent (FTE) person per year. They also achieve recycling rates of 62 per cent (working towards a target of 75 per cent).

We have standards promoting the use of sustainable drainage. There are also growing numbers of water recycling systems for train, bus and coach depots and stations. Green roofs have been installed at key head offices, depots and stations to help capture rainfall.

We have worked to achieve excellent local reuse of waste on construction or maintenance projects. For example, some of the work on the Metropolitan line embankments achieved 100 per cent reuse of waste materials.

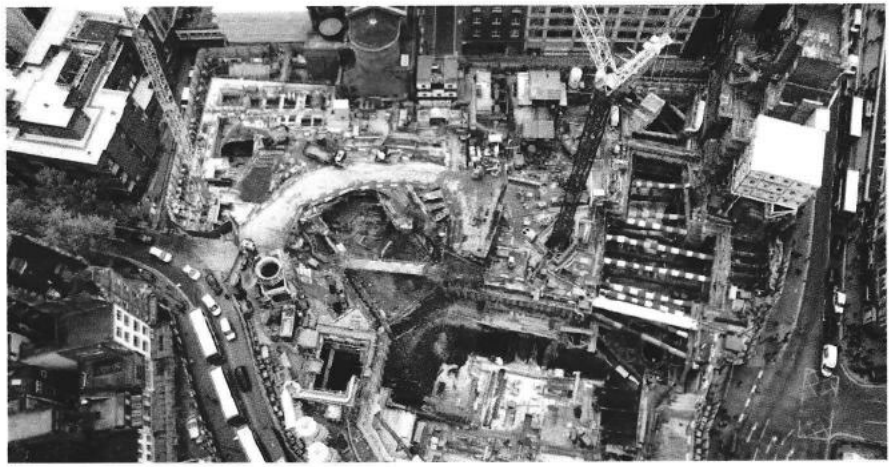
Objectives
- We will continue to minimise generation of waste as far as possible
- For any waste still generated, we will develop a normalised target for reduction, for example, per project spend or passenger kilometre
- We will develop a target for reducing hazardous waste
- We will prioritise reuse of resources and maximise opportunities for recycling unavoidable waste, using innovation and new systems where practical
- We will optimise opportunities to recover energy from remaining waste
- We will continue to purchase reused materials or those with a high recycled content

Targets
- We will reuse, recover and recycle 99 per cent of non-hazardous waste, with interim targets of 30 per cent for recovery by 2031, in line with The London Plan
- Our head offices will aim to achieve a shift from current Defra good practice performance of $6m^3$ water consumption per FTE to Defra best practice of $4m^3$ per FTE

We will achieve these targets by:

- Designing-out waste in construction and design
- Delivering a reduction programme for hazardous waste
- Continuing to invest in low-use and recycled water technologies
- Developing a system to quantify how much we spend on having our waste treated, recycled and disposed of to help us target priorities for where to reduce waste
- Creating a waste exchange process for our organisation and contractors
- Requiring larger capital projects and programmes to achieve external sustainable building or infrastructure certification, equivalent to 'very good' or 'excellent' where possible

Measuring progress
We will measure and report annually on progress made towards achieving our targets and key programme delivery.



Our construction site at Tottenham Court Road is recycling and reusing all of its waste

Pollution prevention

Proactively managing activities to minimise and control pollution

Our activities require the use of materials and substances such as fuels, oils and solvents that could pose an environmental risk if not managed properly. Our HSEMS puts controls in place to prevent spills, leaks and incidents. There are opportunities to further prevent pollution through designing-out or minimising the use of harmful substances where possible, as well as good management practices.

Achievements

We have assessed the risk of pollution and ensured controls and contingencies are built into local emergency plans. Our HSEMS, along with training for staff and contractors, helps to encourage good management practices, but there is more that could be done to improve some of our operating premises, and those of our main suppliers. Opportunities to 'design-out' pollution will be taken, where possible, for new premises or during refurbishment.

Audits are carried out to check that procedures are being followed at our buildings, construction sites and main suppliers' operational premises. We follow an incident reporting procedure to establish trends and inform the audit and remedial works programme.

Objectives

- We will embed best practice to prevent pollution
- We will minimise the risk of pollution and ensure no pollution incidents occur as a result of our activities

Targets

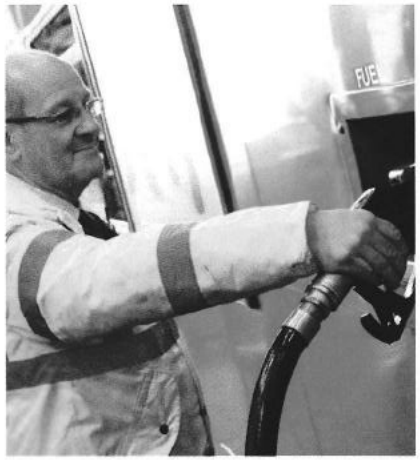
- Zero pollution incidents each year

We will achieve this target by:

- Annually assessing and reducing risk for our highest risk sites
- Improving processes for reporting and investigating environmental incidents

Measuring progress

We will measure and report annually against our pollution prevention target and on progress with our delivery programmes.



We regularly deliver spill prevention training

The built environment

Respecting, protecting and improving the built environment and enhancing the travel experience and wider quality of life that London offers

We are helping to achieve the London-wide aim of improving the built environment, or urban realm. This contributes to the quality of life in the Capital and helps to create a strong sense of place, for example at interchanges.

Through sustainable design and construction, we can reduce exposure to pollution and noise and help to prevent crime. We aim to lead the way in designing measures to manage rainwater run-off and make the city increasingly resilient to more frequent extreme weather events.

In addition, many of our buildings, stations and assets have a strong heritage that contributes to London's identity, that we have a responsibility to preserve.

Achievements

Steps have been taken to enhance the pedestrian environment by removing clutter, recognising the needs of people with disabilities and improving the appearance of the urban realm. In addition to improving our own networks, we support work through the boroughs' Local Implementation Plans.

Huge efforts have been made to improve cycling infrastructure, stations and interchanges, which is helping to enhance London's reputation as a place to visit and do business. Working with other transport authorities and partners, we have achieved excellent design on schemes including Windrush Square in Brixton, Kingsland High Street in Hackney, the King's Cross terminal and new Crossrail stations. Several projects have received honours, including Civil Engineering Environmental Quality Assessment awards and Building Research Establishment Environmental Assessment Method awards, in recognition of best practice.

We share experience and good practice with borough councils, housing associations and built environment professionals through guidance documents that make up the Streetscape toolkit and supporting Urban Design London to share best practice.

Objectives

- We will develop a target for the number of schemes achieving an improvement in urban realm scores
- We will improve the built environment to support an integrated, safe and seamless travel experience
- We will protect and restore our heritage assets
- We will embed sustainable design and maintenance solutions to enhance development of the built environment
- We will apply a holistic approach to design governance across the organisation
- We are recognised as a leader in design standards for the built environment

We will achieve these objectives by:

- Implementing a programme to update design and material guidance and, in 2014, we will publish:
  - Refreshed London cycling design standards
  - Refreshed Streetscape guidance for the TLRN
  - Guidance for the development of our stations and interchanges
  - Pedestrian Design Guidance
- Surveying, recording and understanding our assets and their heritage value, to identify opportunities for conservation and restoration
- Exploring and developing a method to measure improvements in the quality of the built environment starting in 2015
- Continuing to work with English Heritage, conservation officers and other interested stakeholders to share information and develop best practice
- Communicating the value of the built environment across our organisation

Measuring progress
We will measure and report annually on progress against our built environment activities and delivery plans.

We deliver schemes to improve all aspects of the urban realm

The natural environment

Respecting, protecting and enhancing the natural environment and its contribution to the quality of life

We have significant land holdings across London, particularly along track sides and the verges of the TLRN. These spaces provide vital habitat for flora and fauna as well as green links through the Capital. The natural environment is a key contributor to improving the quality of life in London.

In addition, adding 'green infrastructure' can provide ecosystem services including ecological benefits, capturing polluting particulate matter, providing shading and cooling and reducing the speed and nature of run-off water.

The pressures on the natural environment continue to increase as there is more competition for space, both on and off our networks. We are also seeing a rise in pests, diseases and weed species such as Japanese knotweed.

Achievements
LU's Biodiversity Action Plan and the Green Estate Management Plan for the TLRN set out our plans to continue managing the natural environment responsibly, and to look for opportunities to enhance the value of our land as a habitat and resource to be enjoyed by residents and visitors.

We have robust processes in place to protect the natural environment and install green infrastructure whenever possible. These also help us to react quickly to threats, such as outbreaks of oak processionary moth caterpillars.

Objectives
- We will protect, manage and enhance the natural environment within our land holding
- We will develop the habitat and biodiversity potential of the natural environment
- We will develop a valuation system to measure losses and gains, building on the experience we gained when working with the boroughs to place a value on street trees
- We will manage the natural environment to help alleviate the impacts of extreme weather and climate change

Target
- We will measure and report on the percentage of our land holding with improved habitat and biodiversity quality

We will achieve this by:

- Publishing a refreshed Green Estate Management Plan for the TLRN
- Communicating the value of the natural environment across the organisation, including improving skills and competence relating to key biodiversity issues
- Developing a method to measure biodiversity losses and gains starting in 2015
- Surveying and recording the biodiversity value of our assets to identify priority areas for protection and enhancement as part of management plans

The Emirates Air Line

- Developing and improving plans to inform future management and enhancement of the natural environment and to help reduce the impacts of extreme weather events and climate change. Starting in 2015, this will include:
  - Biodiversity protection and enhancement
  - Succession planting
  - Control of pest and diseases
  - Control of harmful weeds and invasive plants
- Continuing to work with Natural England, the Forestry Commission, the London Tree Officers Association, RSPB and other interested stakeholders to share information and develop best practice

Measuring progress

We will measure and report annually on progress against our objectives and target for improved habitat and biodiversity quality.

Windsor House
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London SW1H 0TL

June 2014

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Appendix 3: Environmental Planned General Inspection Template

Appendix 3
ENVIRONMENTAL PLANNED GENERAL INSPECTIONS

Asset Area:		Location Inspected:	
PGI conducted by:		Date:	
Contact Number:		Conducted: E/H, T/H, Both	
Accountable DER:		PGI No.	PGI/APS/ / - .
Contact Number:			*(e.g. PGI/APS/SYS/07-001)*
DLO/Contractor:		SPC Name:	
Sub-Contractor:		Supplier Contact No.	
NOTE: Please obtain a copy of the PiCER and/or Station Entry Form, from the Station Supervisor, to show all the people involved with inspected works Site and attach to this PGI Form when complete.			

Summary of Works: (Planned Works/Maintenance/Fault/Inspection/Survey/Project/Minor Works etc)

Refer to QUENSH for specific guidance to on-site requirements; refer to Site File for site specific risk assessments and method statements.

Instructions:
YES: if satisfactory or assessment complete – **NO**: if unsatisfactory and list on sub-standards condition form – **N/A**: if not applicable.
Note: if Document Reference Numbers are required and the space provided is insufficient, use the reverse of this page to record the details.

QUENSH Clause / Legislation	QUESTION	YES (Y) NO (N) Or N/A	IF NO ENTER HAZARD CODE	REFERENCE NUMBERS, DATES DUE FOR RENEWAL, COMMENTS
1. WASTE & LITTER				
EPA 1990 Pt II	Is waste generated on site take to transfer station or back to works compound?			
	If compound are blank transfer/consignments notes available?			
	Are spoils re-used on site where ever possible to avoid land fill disposal?			
DOCR 1991	Does the Site File contain the Waste carriers Licence for removing waste from site?			
HWR & WEEE	Is Hazardous waste, Non-hazardous waste and WEEE being segregated and stored adequately for transport?			
SWMP 2007	Is the site waste management plan or arrangements available (if CDM notifiable project – F10 in site file?)			
	Does the site waste management plan include the arrangements for the removal of liquid waste & WEEE?			
Q-41	Is the site being well maintained and free from clutter, spills, litter and settled dust?			
2. NUISANCE (inc. dust, odours, noise, vibration, smoke, other emissions)				
EPA Pts 1+3 and NASN 1993	Are environmental nuisance's being controlled? • Dust Suppression/Damping Down • Noise screening/silencing • Vibration control • Position and intensity of lighting • Plant emissions (inc odour)			