

East London Bus Company
Environmental Report 2007



MESSAGE FROM OUR CHIEF EXECUTIVE

One of our first major tasks as a company is, through our emerging Environmental Management System, to formalise our data collection systems to allow us to more accurately measure and improve our environmental performance year on year.

Welcome to the first environmental report for the East London Bus Group (ELBG).

At ELBG, we are very proud of our business. Buses are an integral and crucial part of transport plans for National Government and Transport for London (TfL). Buses allow more people to make the same journey while generating less traffic. We, along with the UK Government and TfL, believe buses have a major part to play in reducing congestion and air pollution on roads and in cities.

However, as a company we recognise that our activities have an impact on the environment. We are committed to implementing an environmental management system certified to ISO 14001 as a formal way of identifying and controlling our environmental impacts.

The purpose of this report is to make our customers and other stakeholders aware of our commitment to improving our environmental performance and to benchmark how we are currently

performing. One of our first major tasks as a company is, through our emerging Environmental Management System, to formalise our data collection systems to allow us to more accurately measure and improve our environmental performance year on year.

We welcome any feedback on this report, so please get in touch and let us know if you have any comments or ideas about how we could improve further.

ABOUT THIS REPORT

Transport accounts for around a quarter of UK domestic energy use and emissions of carbon. Availability of bus travel is increasingly important for giving people choice and encouraging greater use of lower-carbon transport.

ENERGY WHITE PAPER: MEETING THE ENERGY CHALLENGE, DEPARTMENT FOR TRADE AND INDUSTRY, 2007

On average, a bus carries the same number of people as 30 cars in one-tenth of the road space.

DETR UK ROAD STATISTICS

ENVIRONMENTAL POLICY

This is our first environmental report. Its purpose is to benchmark our environmental performance and allow us to set objectives and targets for future improvement. Our major environmental impacts occur in two main areas of our business: from the operation of our bus fleet on London's roads and from our network of bus depots.

Operation of Our Bus Fleet

As a major transport operator, the most significant environmental impact we have is the burning of fossil fuel (diesel oil) in our bus fleet. This results in direct emissions to atmosphere that can impact on local air quality and contribute to global environmental issues such as climate change. This report highlights some of the pro-active steps we are taking to minimise emissions from our vehicle fleet.

Operation of Our Depots

We currently operate 10 bus depots across East London, these depots operate as administration bases as well as for the washing and servicing of the ELBG fleet. As part of our emerging Environmental Management System, we have assessed the major environmental impacts at our depots. These include:

- Waste production
- Water use
- Energy use
- Oil storage
- Air emissions

In this report, we benchmark the current performance of our depots in each of these areas. We have also set targets for future improvement in these areas.

The East London Bus Group (ELBG) principally operates public bus services in London, under contract to the London Buses arm of Transport for London.

ELBG operates over 1,270 buses on around 90 routes across central, north east and south east London. We carry around 300 million passengers per year and our buses travel a total of almost 50 million miles every year.

As a public transport provider, we recognise that our activities have an impact on the environment, from activities on our depots across east and south east London and through the operation of our transport fleet.

Through the implementation of a structured Environmental Management

System, we are committed to reducing the environmental impact of, and preventing pollution arising from, our activities. We are committed to continually improving our environmental performance through the setting and monitoring of objectives and targets and will actively seek ways to reduce waste production, energy and water usage at our depots.

Strategically, as a Group, we are committed to complying with all relevant environmental legislation and other requirements such as Transport for London initiatives and seeking ways in which the emissions from our vehicle fleet can be reduced.

Signed,



Nigel Barrett
Chief Executive Officer

OUR ENVIRONMENTAL MANAGEMENT SYSTEM

Phases of BS8555

1.

Commitment & establishing the baseline

2.

Identifying & ensuring compliance with legal & other

3.

Developing objectives, targets & programmes

4.

Operation & implementation of the EMS

5.

Checking, audit & Management review

CERTIFICATION TO ISO 14001

ELBG is committed to implementing a formal Environmental Management System (EMS) across the organisation. Using this system we will be able to accurately measure and control our environmental impact.

Our target is to achieve certification to ISO 14001 as a group by April 2009. We have started this process through following the structure of BS 8555 – a stepped approach to implementing a management system. We are well on the way with Phases 1, 2 and 3. We have established our environmental baseline through identifying the main aspects of our activities that have an impact upon the environment. We have also identified relevant legal requirements and, as we summarise in this report, have set ourselves objectives and targets for improvement. We hope to become certified to Phase 3 of BS8555 by June 2008.

The next phase for us is to implement changes to meet the challenges we have set ourselves as a company and put in place the systems to monitor our progress.





OUR ENVIRONMENTAL MANAGEMENT TEAM



SUBJECT TO STAFF CHANGES AND RESTRUCTURING

Our Environmental Management Team meets regularly to discuss and review our environmental performance and is structured as above.

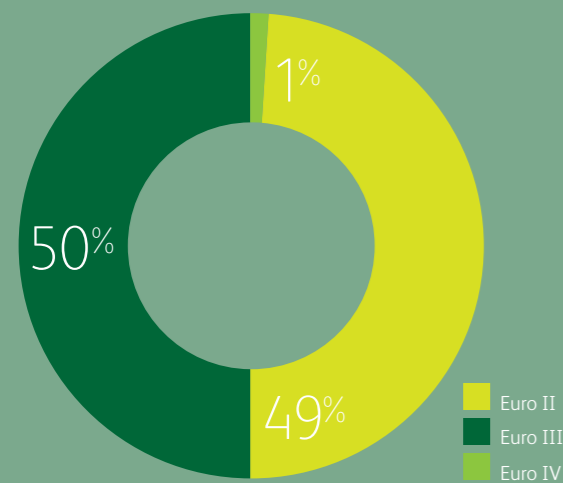
Part of the implementation of a successful EMS is the establishment of a team dedicated to driving the system forward to deliver real improvements.

At ELBG we recognise that a formal system to manage environmental issues is key to improving our performance.

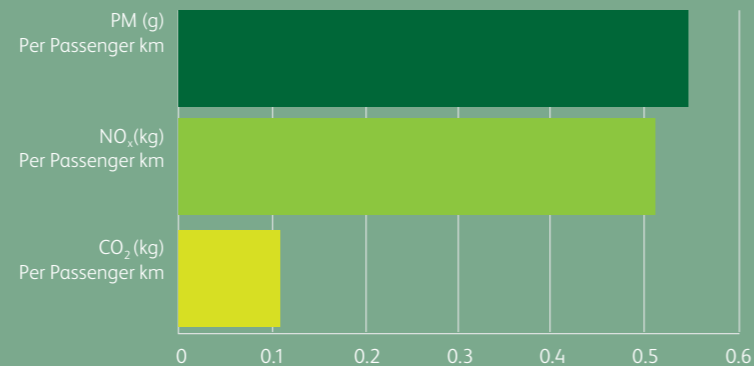
NIGEL BARRETT, CEO

ENVIRONMENTAL IMPACTS FROM OUR BUS FLEET

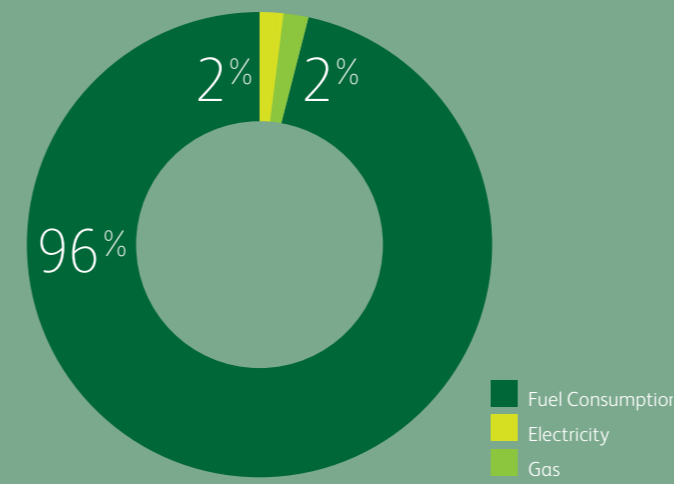
Composition of Service Bus Vehicle Fleet March 2007



Annual Vehicle Emissions



Annual CO₂ Emissions



Case Studies

Bio-diesel

Biofuels are produced from crops or agricultural waste. The net CO₂ emissions from the production and use of biofuels is generally lower than that from fossil fuels because CO₂ is absorbed from the atmosphere during the crop growing phase. All of our vehicles run on a mix of 5% biodiesel, which equates to an overall saving of 3% of CO₂ per km.

Hybrid Trials

We are assisting TfL with a voluntary programme of hybrid trials. Hybrid buses use a combination of a conventional diesel engine and an electric motor which reduces the amount of fuel consumed by the vehicle. TfL have highlighted diesel-electric hybrids as a main contribution to reducing carbon dioxide emissions from the London bus network. When operated in a city environment, TfL estimate that these buses "emit 30-40% less CO₂ than comparably sized diesel buses".

A car emits 10 times as much CO₂ per passenger as a bus on a 5km urban commuter journey

HOLMAN, C1991 TRANSPORT & CLIMATE CHANGE

As a major transport operator, the most significant environmental impact we have is the burning of fossil fuel (diesel oil) in our bus fleet. This results in direct emissions to the atmosphere that can impact on local air quality and contribute to global environmental issues such as climate change. This section outlines the specific impact we have in this regard and outlines some of the steps we are taking to reduce this impact.

The London Low Emission Zone

We are contracted by Transport for London (TfL) to run public bus routes in London. As such, we are affected by policy and initiatives driven by the London Regional Assembly and the Mayor of London. One such initiative is the London Low Emission Zone (LEZ) coming into force in 2008 to reduce pollution from traffic in the Capital.

The LEZ requires heavy duty vehicles being driven in central London to be compliant with European emission standards ('Euro Standards') which limit the amount of pollution from vehicle engines. For buses, these are two significant deadlines:

- Buses to be compliant with the Euro III standard by July 2008.
- Buses to be compliant with the Euro IV standard by January 2012.

Half of our service bus fleet already complies with the Euro III standard. We have a rolling programme of stock replacement which will ensure all stock is compliant with the Euro III and IV emission standards ahead of the 2008 and 2012 deadlines.

Continuing a regular and efficient maintenance programme to ensure all our buses operate with maximum fuel efficiency, which reduces emissions of all pollutants from our fleet.

We also run a SMART driving programme for our bus drivers so that they learn to operate vehicles with maximum efficiency and minimise unnecessary fuel consumption. TfL estimate that such schemes can result in a 5-10% saving in fuel consumption.

NO_x, SO_x and Particulates

The burning of diesel results in emissions to the atmosphere of nitrous oxides (NO_x) and particulates. All of our buses are fitted with diesel particulate filters to reduce the amount of particulates emitted to the atmosphere from vehicle exhausts.

We also employ selective catalytic reduction to reduce NO_x emissions. Exhaust gases are injected with urea prior to emission to the environment, this reduces NO_x to form harmless water vapour and nitrogen gas. This technology is standard on all Euro IV engines and will therefore be utilised in a greater proportion of our fleet as our rolling programme of stock replacement continues.

Burning of fossil fuels can also lead to emissions of sulphur dioxide (SO₂), however, by using ultra-low sulphur fuel in our buses, we have virtually eradicated exhaust emissions of sulphur dioxide from our bus fleet.

Carbon Dioxide

Although some emissions of carbon dioxide will result from the supply of gas and electricity to or depots, fuel use in our bus fleet accounts for 96% of our carbon footprint.

From April 2006 to March 2007, we used 43.6 million litres fuel oil in the operation of all of our buses on the London network. This is equivalent to just over 114,700 tonnes of CO₂.

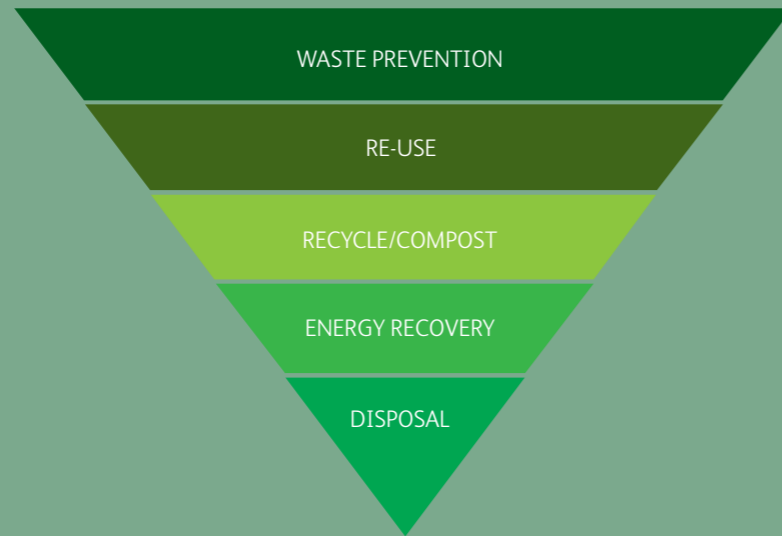
To reduce our contribution to global warming due to emissions of carbon dioxide from our vehicle fleet we are:

- Using a 5% blend of bio-diesel within all of our service vehicles.
- Participating in a voluntary initiative with TfL to trial 5 diesel hybrid buses.

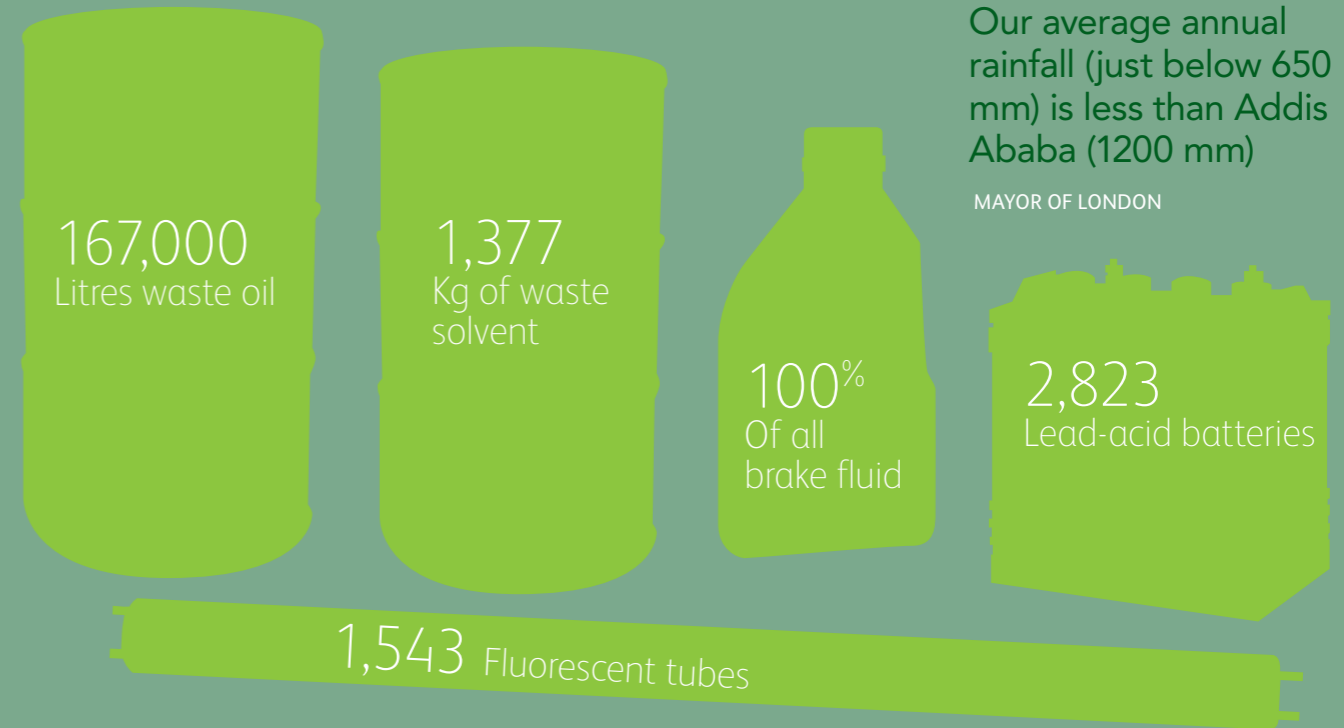
ENVIRONMENTAL PERFORMANCE AT OUR DEPOTS

We operate 10 depots across London, operations at these depots generate waste and use energy, water and hazardous substances such as oil. All of which give rise to associated environmental impacts. This section of our report deals with these impacts and the initiatives we are implementing to mitigate these.

The Waste Hierarchy



Last Year we Recycled:



London receives less rainfall per head than Madrid and Istanbul. Our average annual rainfall (just below 650 mm) is less than Addis Ababa (1200 mm)

MAYOR OF LONDON

WASTE

Our operations give rise to the following waste streams:

- Non-hazardous wastes - including paper, plastic, cardboard, waste packaging, broken glass, litter from buses generated by our passengers, canteen waste, scrap metal and used tyres.
- Hazardous wastes – including fluorescent tubes, paint, filters, thinners, batteries, waste oils and other wastes generated from the maintenance of our vehicle fleet.

The Government's 'Waste Strategy for England 2007' outlines the Government's commitment to diverting waste from landfill through implementing the 'waste hierarchy'.

Sending waste to landfill is not sustainable and it leaves a liability that will need to be managed for generations to come. Sending waste to landfills means resources which may be able to be re-used or recycled are

lost forever. Landfills also lead to the production of methane (one of the most potent greenhouse gases) and polluting liquids.

We are already recycling the following waste streams in order to reduce the amount of waste we send to landfill:

- Scrap metal
- Waste tyres
- Waste oil, batteries and fluorescent tubes
- Toner cartridges

Last year we produced 1400 tonnes of general waste at our depots, much of which will be sent to landfill. We recognise that through implementing waste minimisation measures and further exploring options for re-use and recycling waste, we can reduce this figure.

We have set the following objectives to improve our performance:

- To further formalise data collection and recording in relation to waste production.
- Introduce clear work instructions and staff training to improve waste segregation and recycling.

In 2005 methane accounted for about 8% of the UK's greenhouse gas emissions. In 2005, the main source of methane was landfill sites, accounting for 40% of the total (SOURCE: DEFRA E-DIGEST OF STATISTICS)

WATER CONSUMPTION

Water is a precious resource. An increasing population and decreasing rainfall is putting pressure on our water supplies, particularly in London and the South-East. Consumption of water also has indirect environmental impacts including the energy used to treat and pump the water to customers. We use water in our bus depots for

domestic purposes such as toilet, catering and wash facilities for our staff. However, our main water consumption results from the regular cleaning of our bus fleet.

Each one of our 1,200 service vehicles are cleaned every day to comply with legislative requirements and to maintain a pleasant journey environment for our passengers. Last year we used 126,000m³ of water, that's 100m³ for every bus we operate over the course of one year. Our vehicle wash facilities allow us to re-circulate approximately 70% of the wash water we use. This means it can be used again and helps us to contribute to the conservation of London's water supply.

We have set ourselves the following objectives for reducing water consumption:

- Through our Environmental Management System, improve the way we monitor and record our water use.
- Implement measures at our depots to maximise water efficiency.

70% of our vehicle wash water is re-circulated and used again.

ENERGY

Everybody is aware of the threat of climate change, particularly from the emission of carbon dioxide (CO₂) to the atmosphere. As a company we contribute to this problem through the use of fossil fuels (electricity and gas) to heat and light our depots.

In 2006 electricity usage across our depots was 6,200 MWh, this is equivalent to 2,700 tonnes of CO₂. Over the same time period, our gas usage was 9,100 MWh, equivalent to just over 1,700 tonnes of CO₂.

Energy usage in our depots only accounts for 4% of our carbon footprint. Despite this, we believe there are things we can do to improve our energy efficiency at our depots.

As such, we have set ourselves the following objectives in relation to energy consumption:

- Through our Environmental Management System, improve data collection on energy usage at our depots.
- To conduct a review of energy usage at our depots.
- To implement work instructions to ensure energy consumption is minimised where possible.

The most cost effective way of reducing emissions is to use energy more efficiently (DEFRA)

A SUMMARY OF OUR OBJECTIVES AND TARGETS

OBJECTIVE	TIMESCALE
BUS FLEET	
To review current emissions and investigate the suitability of alternative fuels and power for our buses	Ongoing
To be at the forefront of the future development of hybrid technology through continuing engagement with TFL	Ongoing
WASTE	
To formalise data collection for waste produced at our depots	June 2008
Implement work instructions and staff training at our depots to improve waste management	December 2008
WATER	
Through our Environmental Management System, improve the way we monitor and record our water use	June 2008
Implement measures at our depots to maximise water efficiency	December 2008
ENERGY	
To improve data collection on energy usage at our depots	June 2008
To conduct a review of energy usage at our depots	December 2008
To implement work instructions to ensure energy consumption is minimised where possible	December 2008
ENVIRONMENTAL MANAGEMENT	
To achieve certification to Phase III of BS8555	June 2008
Gain certification to ISO 14001 as a group	December 2009
SOLVENT USE	
Review and reduce solvent use in our paint spray facility	December 2008
OIL STORAGE	
To review and upgrade oil storage facilities at our depots	December 2008

OTHER INITIATIVES

Air Emissions

Our Leyton depot operates a paint spray facility for the re-spraying of vehicles in the fleet. This is regulated under a license from the Local Authority. Solvent usage in this facility was 1,497kg in 2006. We have an objective to reduce solvent usage through more efficient use and cutting back on wastage. This will help to reduce associated emissions to the atmosphere. We have also recently fitted a silencer to the facility to prevent any noise nuisance to our local neighbours.

Oil Storage

Our depots store maintenance oil and fuel on site. We understand the many risks of bulk storage and the ongoing environmental impacts of accidental spills to the ground. To this end, we have set the following objectives

- Upgrade and improvement of oil storage facilities at our depots.
- Implementing work instructions for the correct handling of oil on site to minimise leaks and spills.

The Future

Following the production of this first environmental report, we will be working towards the objectives we have outlined above, and measuring our progress to allow us to report on this in our next report.

We welcome feedback on this report from any of our stakeholders. Please send any comments you may have to:

Peter Sumner
Engineering Director
East London Bus Group
2-4 Clements Road
Ilford, Essex
IG1 1BA
email: peter.sumner@elbg.com

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