



# Low-carbon transport incentives in London and ideas to better align them across Europe

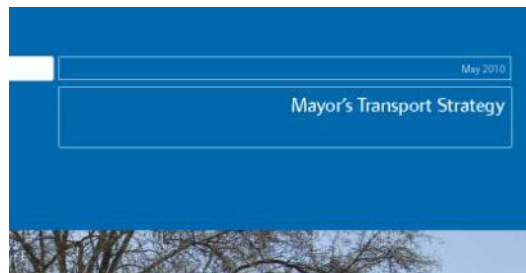
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# Setting the context for London

- Just under 8.2 million people live in London today
  - eight London boroughs have over 300,000 residents
- London's population is expected to approach ten million within the next twenty years
  - increasing by the equivalent of two buses full of people every day!
- There are around 25m transport trips in London every day
- Over 80% of all passenger journeys use the road network and 90% of goods are moved by road... all contribute to emissions
  - around 10m car trips (inc. passenger);
  - 4 million bus trips;
  - 6 million walking trips;
  - 0.5m cycling trips;
  - 0.3m taxi journeys;
  - nearly all freight movements



# London's strategic approach

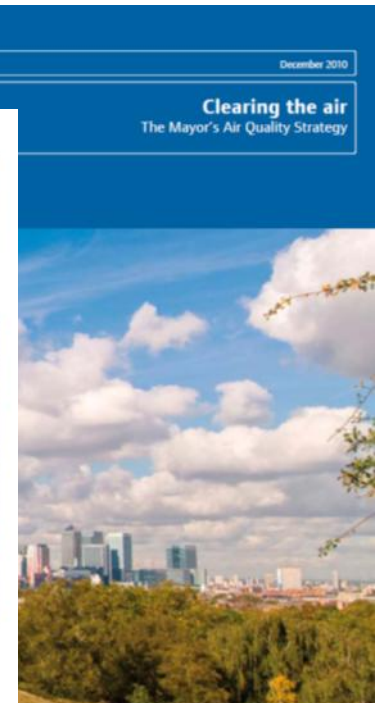


**DELIVERING LONDON'S  
ENERGY FUTURE:  
EXECUTIVE SUMMARY**  
THE MAYOR'S CLIMATE CHANGE MITIGATION AND ENERGY STRATEGY  
OCTOBER 2011  
MAYOR OF LONDON



**THE LONDON PLAN**  
SPATIAL DEVELOPMENT STRATEGY FOR GREATER LONDON  
JULY 2011

MAYOR OF LONDON



December 2010  
**Clearing the air**  
The Mayor's Air Quality Strategy

MAYOR OF LONDON

Reduced CO<sub>2</sub> emissions from ground-based transport, contributing to a London-wide 60 per cent reduction by 2025



# Mayor's Climate Change Mitigation and Energy Strategy

Minimising CO<sub>2</sub> emissions through a shift to more carbon efficient modes of transport



Minimising CO<sub>2</sub> emissions through more efficient operation of transport



Minimising CO<sub>2</sub> emissions from transport in the GLA



Minimising CO<sub>2</sub> emissions from transport through the use of low carbon vehicles, technologies and fuels



# Mayor's Air Quality Strategy

## Reducing emissions from public transport



## Promoting technology changes and cleaner vehicles

### Emissions control schemes



### Cleaner taxis



## Smarter choices and sustainable travel



## Localised action and non vehicle solutions



# London Low Emission Zone (LEZ)

- Covers the whole of London (1,580 square kilometres) and operates 24/7, 365 days a year
- Introduced in 2008 to target oldest and most polluting HGVs, buses and coaches
- Cars and motorcycles not affected
- Daily penalty charge €600 - €1100
- Compliance with current standards high at 92 per cent for lorries, buses and coaches, and 98 per cent for vans and minibuses.



# London Low Emission Zone (LEZ)

- By late 2015, compliance further improved with the expected fleet turnover
  - less than 1% of the van and minibus fleet
  - 8,000 out of 950,000 vehicles
- Current standard for HGVs, buses and coaches is Euro IV for PM
- In January 2012, new requirements included Euro III for light commercial vehicles
- New requirement from 2015. All TfL buses will meet a Euro IV NO<sub>x</sub> requirement (8,500 vehicles)





# Congestion Charging scheme

- Covers heart of UK Government, business, media and banking (approx 19 km<sup>2</sup> or 1.3% of London)
- Helped reduce emissions from vehicles travelling within the zone and encouraged people to use public transport, walk or cycle.
- €12 daily Congestion Charge to drive between 07:00 and 18:00, Monday to Friday





# Congestion Charging scheme

- New discount in 2013 to ensure only greenest vehicles receive a 100 per cent discount
- **Existing:** Green Vehicle Discount
  - 100% for electric vehicles
  - cars 100g/km or less CO<sub>2</sub> and Euro 5 standard
- **New:** Ultra Low Emission Discount
  - any type of pure electric vehicle
  - cars with CO<sub>2</sub> emissions of 75g/km or less that meet Euro 5
  - vans with CO<sub>2</sub> emissions of 75g/km or less that meet Euro 5.
- No conventional diesel car currently meets this criterion!



## Ultra Low Emission Zone (2020)

- The Mayor announced his intention to create the world's first Ultra Low Emission Zone in central London from 2020.
- “The vision is very simple, what we want to work towards in central London is that almost all vehicles running during working hours are to be zero or low emission.”
  - benefits in air quality and CO<sub>2</sub>
  - stimulate new clean, green technology
  - fair to buyers of vehicles of all kinds
  - fair and reasonable for the motor industry



# Greening London's buses





## Greening London's buses

- Most used public transport mode – **fifth of all daily journeys** in the Capital
- Estimated **49.5 million journeys in one week** – around half the number of all bus journeys in England
- More than **2.3 billion passengers a year** and approx 40 per cent growth in bus kilometres since 2000
- TfL bus fleet now contains 8,500 vehicles
- $PM_{10}$  – reduced from 200 tonnes a year in 1997 to 17 tonnes today
- $NO_x$  – 20% of all road transport in London but only 2% of all kilometres driven
  - central London disproportion is even higher

## Greening London's buses – action to date

- Created youngest bus fleet of any major European or world city (average bus age is 6 years);
- Delivered Europe's largest hybrid bus fleet with more than 420 hybrid buses on London's roads today;
- Installed filters on all buses made before 2005 to reduce PM
  - Results have shown a reduction of up to 77 per cent PM<sub>10</sub> exhaust emissions at source
- Trialled innovative new technologies like hydrogen;
- Developed, tested and commenced the installation of selective catalytic reduction (SCR) equipment to 900 buses to reduce NO<sub>x</sub> emissions.

## Greening London's bus fleet – future investment

- Grow the hybrid fleet to 1600 vehicles by 2016
- Deliver the world's largest bus retrofit programme to reduce NO<sub>x</sub> emissions from a further 1,000 older buses by up to 90%.
  - commenced late 2012 and completed by 2014
- Pilot programme using biodiesel in 10 bus depots.
  - fitting biodiesel tanks and operating the buses will take place from 2013
- Trial of pure electric buses from 2013 and range-extended diesel-electric hybrid buses from 2014.
- Ensure cleanest buses go through London's air pollution hotspots.
  - 187 air quality focus areas where high concentrations of NO<sub>2</sub> coincide with high levels of human exposure, e.g. along high streets, near schools and at hospitals.



# Taxi and private hire vehicles

- New age limits introduced from 2012 to retire some of oldest most polluting vehicles. Over 2000 vehicles removed from the fleet this year.
- Annual licensing requirements
  - Taxi 15 year age limit (over 6000 vehicles expected to be excluded in first 5 years)
  - Private hire vehicles 10 year age limit
- New licensing requirements
  - all new taxi and private hire vehicles must be Euro 5 standard
- Collaborating with taxi vehicle and alternative fuel manufacturers to develop new technology
  - Vehicles with lower fuel consumption
  - Future trials of electric / hybrid technology
  - Five hydrogen taxis currently being trialled



## Encouraging electric vehicles

- Since its launch two years ago, 1,300 charging points have been installed at over 300 sites in the Capital
- Sites include supermarkets, shopping centres, council and private car parks, hospitals and on the street – Europe's largest urban charging network
- One-stop shop website providing information on electric vehicles, charging, membership, charge point locations

[www.sourcelondon.net](http://www.sourcelondon.net)



# Aligning the incentives for low-carbon transport across the EU, member states and local governments

- More can be done to support low carbon transport across Europe without the need for legislation.
- The challenge is to help those cities that need it without restricting the freedom of action of cities with more experience and capacity.
- The website could be a 'one-stop shop' for EU funding directed at low-carbon transport
- London lacks policy levers over: wider vehicle fleet using London's roads; industrial and waste management operations; rail infrastructure; and airport operations



## Aligning *low-carbon transport across the EU, member states and local governments – standard indicators*

- London wants to establish a limited set of indicators at EU level. These could include:
  - CO<sub>2</sub> emissions per head
  - Performance against air quality and CO<sub>2</sub> targets
  - Modal share of public transport, walking, cycling and private vehicles
  - Road safety figures
  - The proportion of zero or low-emission private and public transport vehicles in circulation (including electric, hybrid, hydrogen etc.)
  - The number of electric vehicle charging points per head of population
  - Existence and scope of a sustainable urban mobility plan

## *Aligning low-carbon transport across the EU, member states and local governments –best practice*

- Focus should be on outputs not process
- Access Restriction Schemes
- Development of best practice for consultation required before the introduction of schemes, including liaising with key groups representing foreign-registered vehicles.
- The existing [www.lowemissionzones.eu](http://www.lowemissionzones.eu) site should be developed into a central information point for all schemes across the EU to enable effective journey planning for business and citizens.

## *Aligning low-carbon transport across the EU, member states and local governments -consistency*

- The Commission should pursue the following measures :
  - Develop standard vehicle documentation enabling cross border recognition of vehicle age, size, weight, CO<sub>2</sub> emissions and Euro standards
  - Develop standard retrofit documentation enabling cross border recognition of retrofitted vehicles. There should also be common standards for retrofit equipment
  - Encourage all schemes to provide information in a minimum number of languages to enable effective communication / registration etc
  - Encourage the development of technical solutions to ensure that registration and/or payments can be done online, so that businesses and citizens ensure they are compliant before departure.
- The Commission should press for more stringent emission standards, covering both pollutants and CO<sub>2</sub> and incorporated into a single (Euro) standard.



# Aligning low-carbon transport across the EU, member states and local governments – urban freight

- Urban freight cannot be seen in isolation from long distance freight movements.
- Freight needs to be delivered in a sustainable way to city centres. London recommends the following:
  - A freight portal or freight “centre of excellence” should be established with funding to continue beyond three years to help achieve meaningful behavioural change
  - The freight portal could also include a ‘city directory’. London has a “freight portal” which includes both London and national information.
  - Promote best practice in procurement by public authorities so that any contracts involving use of HGVs are carried out to reduce emissions and use the highest standards of safety and technology.
  - Actions at EU level to encourage the freight industry to clean up its fleets. TfL’s Fleet Operator Recognition Scheme (FORS) aims to do this.

Questions?

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