

# Sustainable Transport Procurement by Local Authorities: Greening the Fleet



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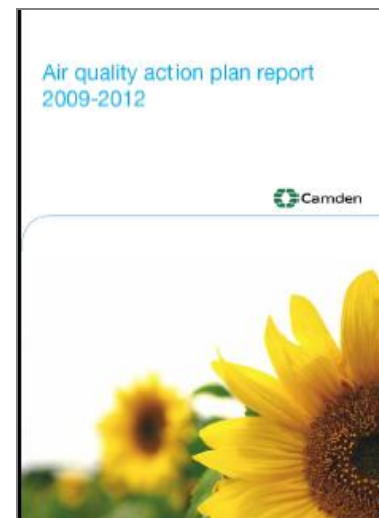


# Accelerating the Uptake of Low Emission Vehicles

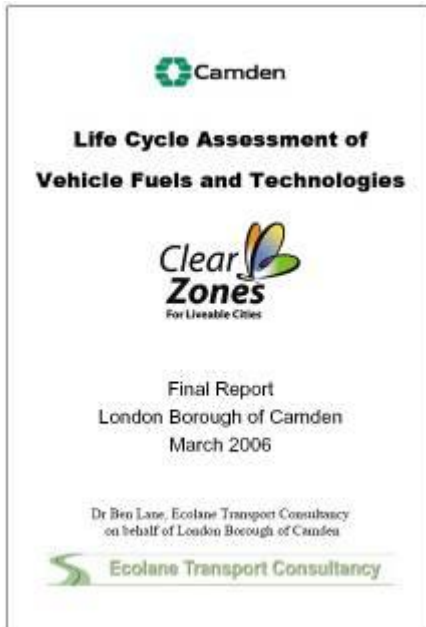
- Integrated policy development to address CO<sub>2</sub>, NO<sub>x</sub> and PM<sub>10</sub> based on life cycle assessment of vehicle fuels and technology
- Reducing emissions from our own fleet - use of LEV and adoption of fuel efficient driving
- Provision of infrastructure to support uptake of low emission vehicles
- Use of s106 agreements to request electric vehicle charging points at new developments
- Dissemination of information to public and businesses regarding LEV to promote uptake

## Policy documents

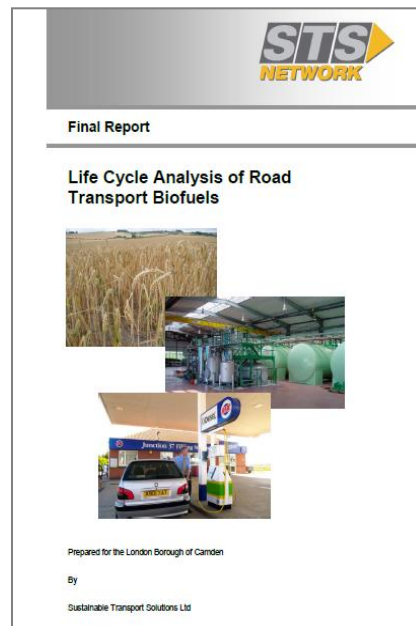
- Air Quality Action Plan
- Carbon Management Plan
- Local Implementation Plan
- Local Development Framework



# Vehicle Fuels and Technology Research



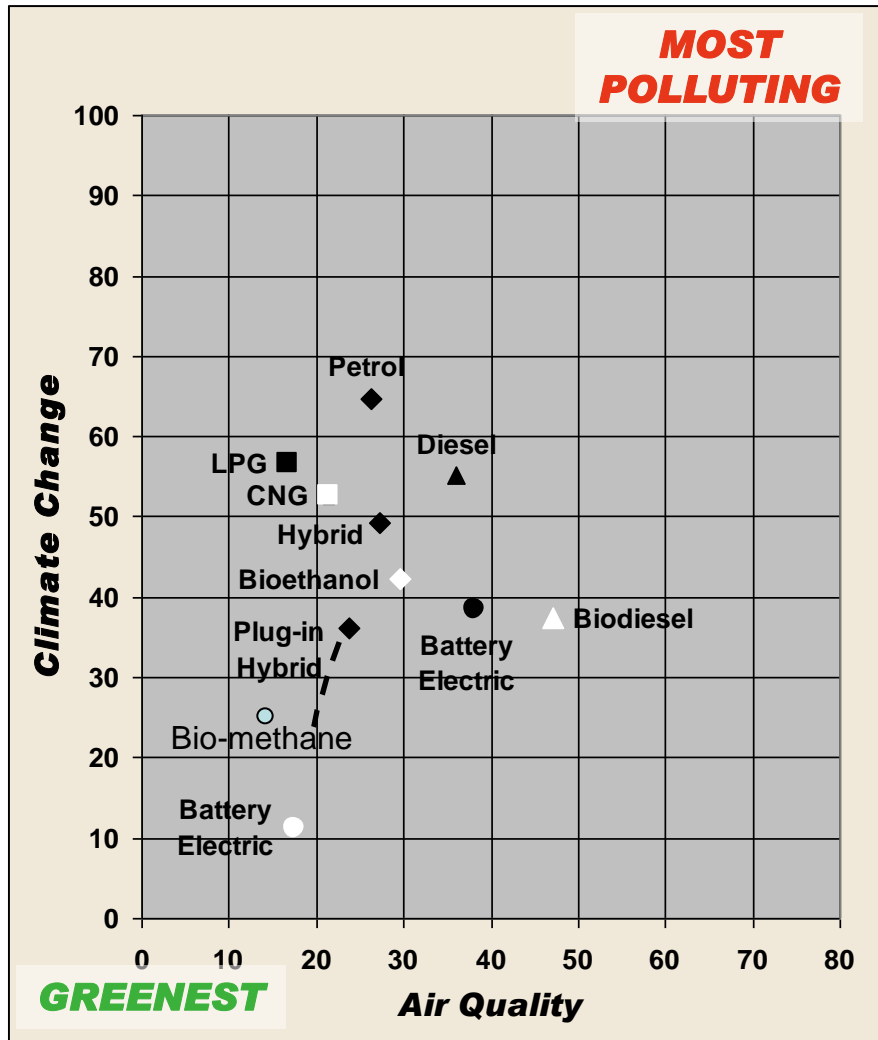
**LPG, CNG, fuel cell,  
electric, hybrid,  
ULSP, ULSD**



**Bio-diesel from  
vegetable oil, cooking  
oil, bio-ethanol from  
cereal crop, bio-methane  
from landfill and sewage**

- Life cycle emissions comparison of different vehicle fuels & technology.
- Covered life cycle emissions associated with vehicle cycle, fuel cycle & vehicle use.
- Emissions - air quality (NO<sub>x</sub>, PM<sub>10</sub>, CO) & climate change (CO<sub>2</sub>, N<sub>2</sub>O, CH<sub>4</sub>).
- Guided development of policies and strategies to ensure the lowest emissions and least polluting clean vehicles adopted & promoted

# Life Cycle Emissions Comparison of Vehicle Technology and Fuels



## Key Results From Two Studies

- Electric vehicles largest emissions reductions when using renewable electricity
- Vehicle size influences emissions
- Bio-methane cleanest burning fuel and lowest life cycle environmental impact
- Bio-diesel produced from waste oil second best performing biofuel
- Bio-diesel reduces PM emissions but slightly increases in NO<sub>x</sub>
- Bio-ethanol from cereals - increase in aldehyde emissions, life cycle CO<sub>2</sub>

# Green Vehicle Fleet Standard

- Introduced a Green Vehicle Fleet Standard for Camden Transport Services and our contractors fleets
- Aim - To reduce NO<sub>x</sub>, PM<sub>10</sub> and CO<sub>2</sub> emissions

## Key Requirements

- Use of low emissions vehicles & procurement compliance dates
- Compliance with European emission standards & compliance dates
- Vehicle efficiency measures
- Provision of information to monitor emission reductions

# Hierarchy of Vehicle Fuels and Technology

*Decreasing  
emissions*



1. Electric
2. Bio-methane
3. Hybrid
4. LPG
5. CNG/LNG
6. Retrofit Hybrid Assist
7. Bio-diesel/Bio-ethanol
8. Petrol/Diesel fitted with particle trap



# Procurement Compliance Dates

**Table 1 – Low Emission Vehicle Compliance Dates**

<b>Minimum compliance targets for vehicle purchased in 2010/11</b>	<b>Minimum compliance targets for vehicle purchased in 2011/12</b>	<b>Minimum compliance targets for vehicle purchased in 2012/13</b>
<i>Light Duty Vehicles (cars/vans/mini-buses)</i>		
10% from options 1-3 50% from options 4-6 40% from options 7&8	15% from options 1-3 50% from options 4-6 35% from options 7&8	20% from options 1-3 50% from options 4-6 30% from options 7&8
<i>Heavy Duty Vehicles (lorries)</i>		
10% from option 2 50% from options 4&5 40% from options 7&8	15% from option 2 50% from options 4&6 35% from options 7&8	20% from option 2 50% from options 4&6 30% from options 7&8

The proportion of brand-new vehicles purchased during the provision of the contract shall comply with the hierarchy of fuel and technology options (1-8) and target dates identified in Table 1.

Voluntary compliance will be taken into account in evaluating tender submissions.

# Compliance with Euro Standards

**Table 2 – Vehicle Emission Standards and Compliance Dates**

	Minimum compliance targets 2011/12	Minimum compliance targets 2012/3	Minimum compliance targets 2013/14	Minimum compliance targets 2014/15
<b>Light Commercial Vehicles</b>				
Euro 4	85%	80%	75%	65%
Euro 5	15%	20%	25%	25%
Euro 6				10%
<b>Heavy Duty Vehicles and Mini Buses</b>				
Euro 4	80%	70%	70%	70%
Euro 5	20%	30%	30%	30%
Euro 6				
<b>Passenger Cars</b>				
Euro 4	75%	65%	60%	50%
Euro 5	25%	35%	40%	40%
Euro 6				10%
<b>Motorcycles and scooters</b>				
Euro 3	100%	100%	100%	100%



# Vehicle Efficiency Requirements

- All drivers shall receive eco-driver training
- Where practicable smaller vehicles shall be used for a service
- Adopt measures that minimise fuel usage and mileage, such as telematics and route planning
- Programme of vehicle maintenance to ensure that all engines, exhaust after treatment technology (including catalysts and particle traps), and tyres are regularly inspected and maintained to prevent excess emissions.

## Monitoring and Recording

- Fuel consumption, mileage, PM10, NOx and CO<sub>2</sub> emissions

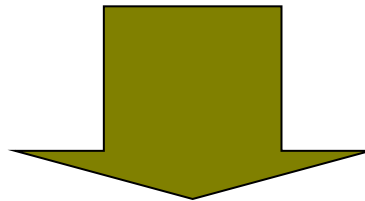
# Compressed Biomethane Gas

- CBM derived from the decomposition of organic waste at landfill site in Surrey operated by Gasrec
- 2009 - CBM vehicle trial with Veolia, Iveco, Gasrec and Camden – successfully showed CBM direct substitute to CNG
- 2010 - Installed 6 tonne CBM refuelling station & procured 17 CBM vans (Volkswagen & Mercedes Benz)
- Refuelling station used by Waitrose, Laing O'Rourke, John Lewis soon National Grid
- Camden awarded Guardian Newspaper – Innovation in Fleet Management Award 2011



# Environmental Benefits

- 90% reduction in PM emissions
  - 60-85% NOx emissions
  - 65-75% lifecycle CO<sub>2</sub> emissions
  - Captures methane released from decomposition of organic otherwise goes to atmosphere - GHG impacts
  - 50% reduction in noise
  - Route to reducing organic waste at landfill site when combined with AD
  - Production of biomethane gas does not entail land use changes associated with cultivating first generation biofuels .
- Below Euro 6 emission standard
- When compared to diesel vehicle



**Clean, Renewable and Sustainable Transport Biofuel**

# Electric Vehicles

- Establishing a network of on & off street electric charging points across Camden – 28 to date part of Source London
- Installed the UK's first charging point for commercial electric vehicles at Camden's depot at Kings Cross; part powered by solar panels
- Incentivise the replacement of petrol and diesel LGV with electric – FREE to charge
- Created the Newride website – information dedicated to EVs & location of charging points in London
- Introduced the first EV and plug-in hybrid assist car clubs in UK



# Raising Awareness



## Travelfootprint.org

- Travelfootprint Tools
- Journey Emissions
- Vehicle Emissions
- Fleet Emissions Audit
- Home
- News
- Emissions
- Ecodriving
- Login
- Register
- Method
- FAQ

Welcome to Travelfootprint

Travelfootprint is a Clear Zones project that enables you to compare the lifecycle environmental impacts of the main methods of passenger travel in the UK. It also allows a detailed emissions comparison of cars available since 2001. [More »](#)



Email:

Password:

[Login](#) [Register](#)

Register for a free Travelfootprint account to save your emissions results for future reference.

### Travelfootprint Tools

**Journey Emissions Calculator**  
Calculate emissions of carbon dioxide (CO<sub>2</sub>), nitrogen oxides (NO<sub>x</sub>) and particulates generated by a journey in the UK.

**Vehicle Emissions Calculator**  
Calculate emissions of carbon dioxide (CO<sub>2</sub>), nitrogen oxides (NO<sub>x</sub>) and particulates generated by cars (since 2001).

**Fleet CO<sub>2</sub> Emissions Audit Tool**  
Calculate emissions of carbon dioxide (CO<sub>2</sub>) generated by fleet use of diesel, petrol, LPG and electricity.

### Features

Get the free Travelfootprint API code  
[Find out more](#)

Travelfootprint has launched a free to use API that gives other websites access to TFP's powerful journey emissions database. Including the Travelfootprint API on a website is easy, simply copy and paste the API code provided into your site. [Click here for API code »](#)

Reduce your Travelfootprint > learn to eco-drive  
[Find out more](#)

The great opportunity of eco-driving is that it can provide immediate low cost and emissions benefits, and is not dependent on buying a new vehicle. In addition to CO<sub>2</sub>, local air pollutants such as nitrogen oxides and ... [more »](#)

### Travelfootprint methodology

[Find out more](#)

The Travelfootprint analysis assesses the impacts of the main modes of passenger travel in the UK. As many comparative studies have gone before, the analysis includes an assessment of the environmental impacts associated with

### News

**Govt plans greener future for 15 Jul 2009**  
Carbon emissions by up to 14% over 9 years, says the Transport Secretary. [more »](#)

**Ford gets ambitious about EV 08 Jul 2009**  
Nancy Gibbs, the Director, says the company is aiming to reduce CO<sub>2</sub> emissions by 10-20% or according to a report. [more »](#)

**Mercedes-Benz perfect urban 09 Jul 2009**  
Mercedes-Benz UK compact, sustainable. [more »](#)



## Travelfootprint.org

### Vehicle comparison charts

[View 2D Environmental Impact Chart »](#)

#### Lifecycle CO<sub>2</sub> Emissions

Vehicle	CO <sub>2</sub> (g/km)
ASTON MARTIN LAGONDA DB9	320
TOYOTA Prius	103
SMART Fortwo cabrio	46
Average diesel	174

#### Lifecycle NO<sub>x</sub>+PM Emissions

Vehicle	g/km
ASTON MARTIN LAGONDA DB9	0.325
TOYOTA Prius	0.119
SMART Fortwo cabrio	0.245
Average diesel	0.333

#### Lifecycle Environmental Impact

Vehicle	Environmental Impact (0-100)
ASTON MARTIN LAGONDA DB9	99
TOYOTA Prius	25
SMART Fortwo cabrio	20
Average diesel	34

### Vehicle comparison data

[View Official Topgear Emissions Data »](#)

Vehicle	Official CO <sub>2</sub> (g/km)	Lifecycle CO <sub>2</sub> (g/km)	Lifecycle NO <sub>x</sub> +PM (g/km)	Lifecycle Impact (0-100)
ASTON MARTIN LAGONDA DB9 Coupe & Convertible [2005] - Petrol - Automatic 8-speed	320	550	0.395	99
TOYOTA Prius Mark II 1.5 VTEC Hybrid CVT - Petrol Hybrid - Continuously Variable 5 speed	104	177	0.116	25
SMART Fortwo cabrio cabrio (maxDP: 175/195 tyres 15in wheels over) - Diesel - Semi-automatic 5 speed	88	141	0.233	20
Average diesel	174	183	0.333	34

[Start Again](#) [Edit Vehicle Selection](#) [Save Results](#)

What your result really means [Find out more](#)

<http://www.travelfootprint.org>

# Next Steps

- LED sign on Euston Road
- Further publicity for LEVs – Car free day etc.
- Working with freight operators – Biomethane and EV
- Idling policies and campaigns
- Health studies/communications



**Thank you for listening**