Sustainable Transport Procurement by Local Authorities: Greening the Fleet

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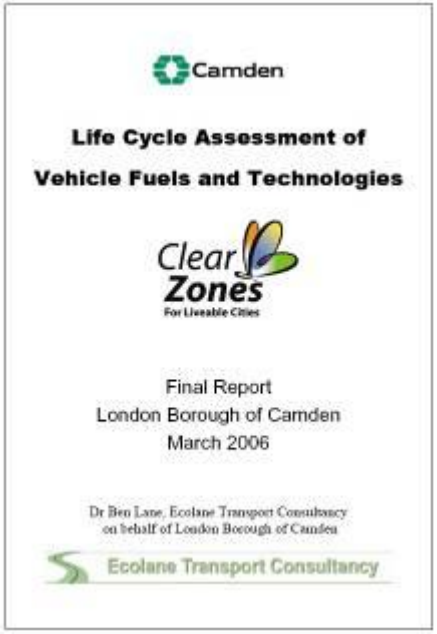
Accelerating the Uptake of Low Emission Vehicles

- Integrated policy development to address CO_2, NOx and PM_{10} 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

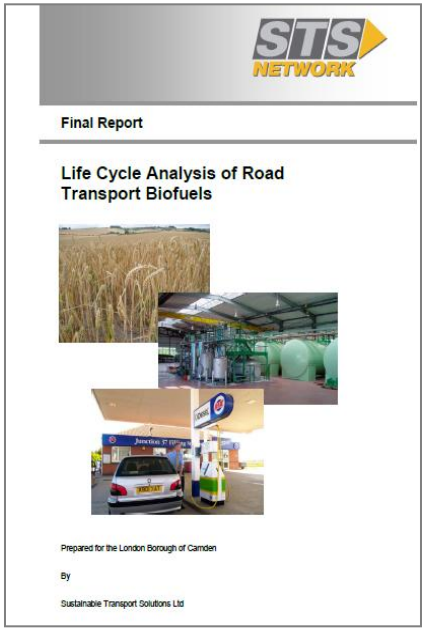
<u>Policy documents</u>

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

Vehicle Fuels and Technology Research



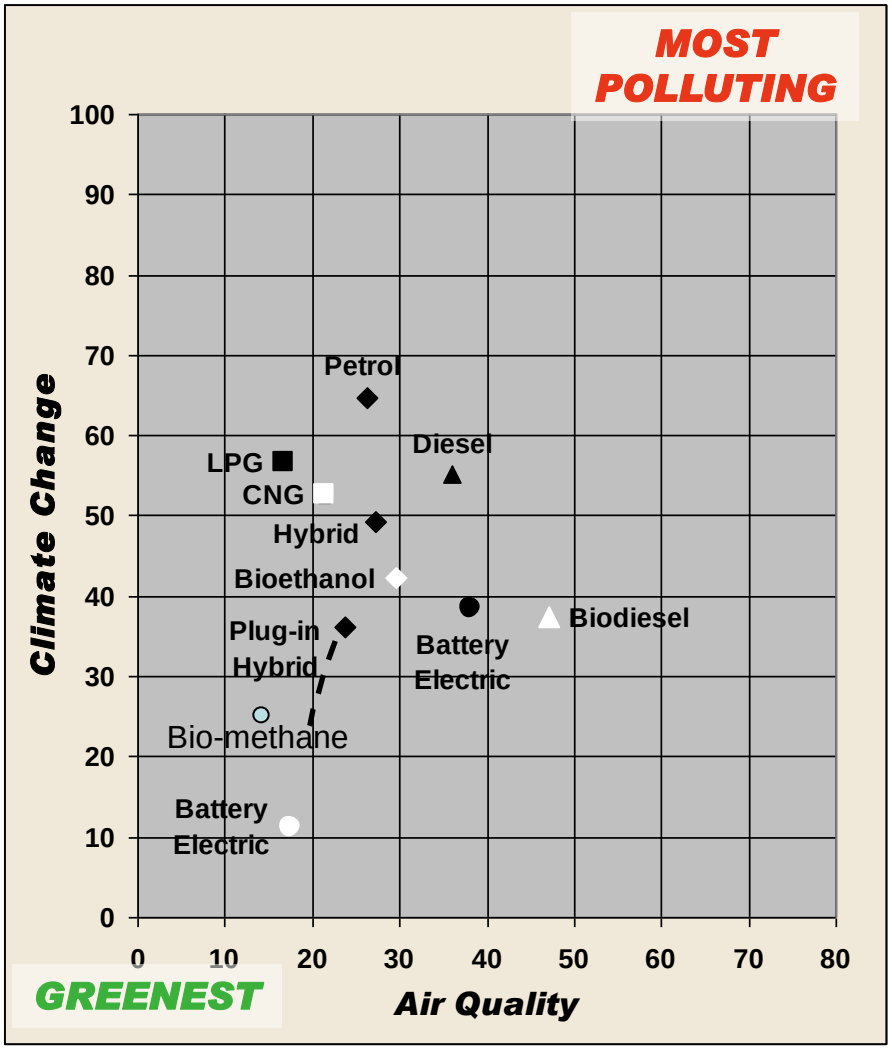
LPG, CNG, fuel cell, electric, hybrid, ULSP, ULSD



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 (NOx, PM_{10}, CO) & climate change (CO_2, N_20, CH4).
- 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 NOx
- Bio-ethanol from cereals - increase in aldehyde emissions, life cycle CO_2

Green Vehicle Fleet Standard

- Introduced a Green Vehicle Fleet Standard for Camden Transport Services and our contractors fleets
- Aim - To reduce NOx, PM_{10} and CO_2 emissions

<u>Key Requirements</u>

- 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

Minimum compliance targets for vehicle purchased in 2010/11	**Minimum compliance targets for vehicle purchased in 2011/12**	**Minimum compliance targets for vehicle purchased in 2012/13**
Light Duty Vehicles (cars/vans/mini-buses)		
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
Heavy Duty Vehicles (lorries)		
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 20012/3	Minimum compliance targets 2013/14	Minimum compliance targets 2014/15
Light Commercial Vehicles				
Euro 4	85%	80%	75%	65%
Euro 5	15%	20%	25%	25%
Euro 6				10%
Heavy Duty Vehicles and Mini Buses				
Euro 4	80%	70%	70%	70%
Euro 5	20%	30%	30%	30%
Euro 6				
Passenger Cars				
Euro 4	75%	65%	60%	50%
Euro 5	25%	35%	40%	40%
Euro 6				10%
Motorcycles and scooters				
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.

<u>Monitoring and Recording</u>

- Fuel consumption, mileage, PM10, NOx and CO_2 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'Rouke, John Lewis soon National Grid
- Camden awarded Guardian Newspaper – Innovation in Fleet Management Award 2011

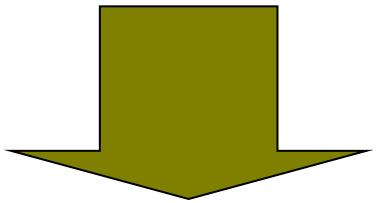
Environmental Benefits

- 90% reduction in PM emissions
- 60-85% NOx emissions

} Below Euro 6 emission standard

} When compared to diesel vehicle

- 65-75% lifecycle CO_2 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 .



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

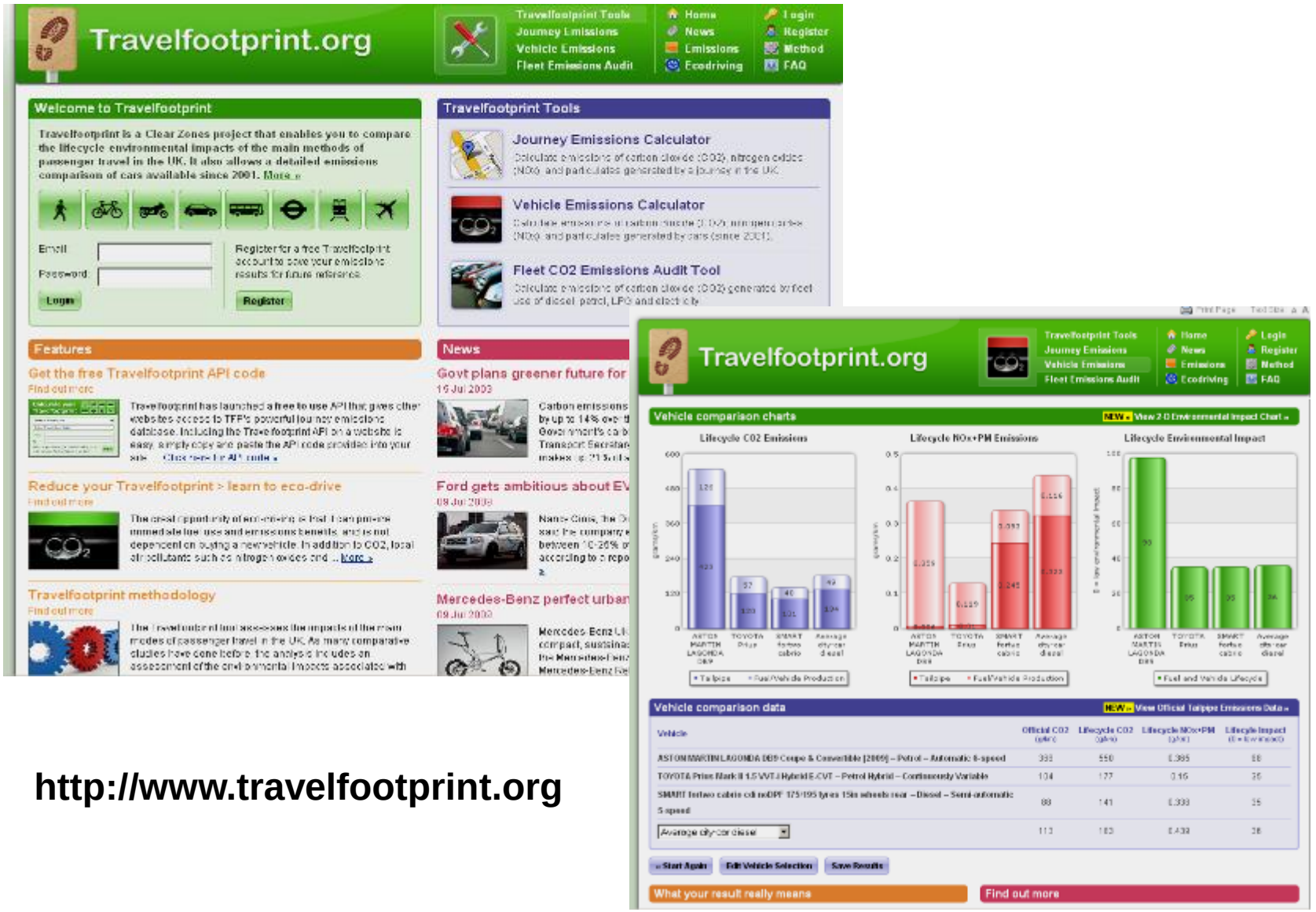
- Installed the UK's first charging point for commercial electric vehicles at Camden's depot at Kings Cross; part powered by solar panels

- 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



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