



Low Emission
Strategies

Building on Good Practice

Low Emission Strategies

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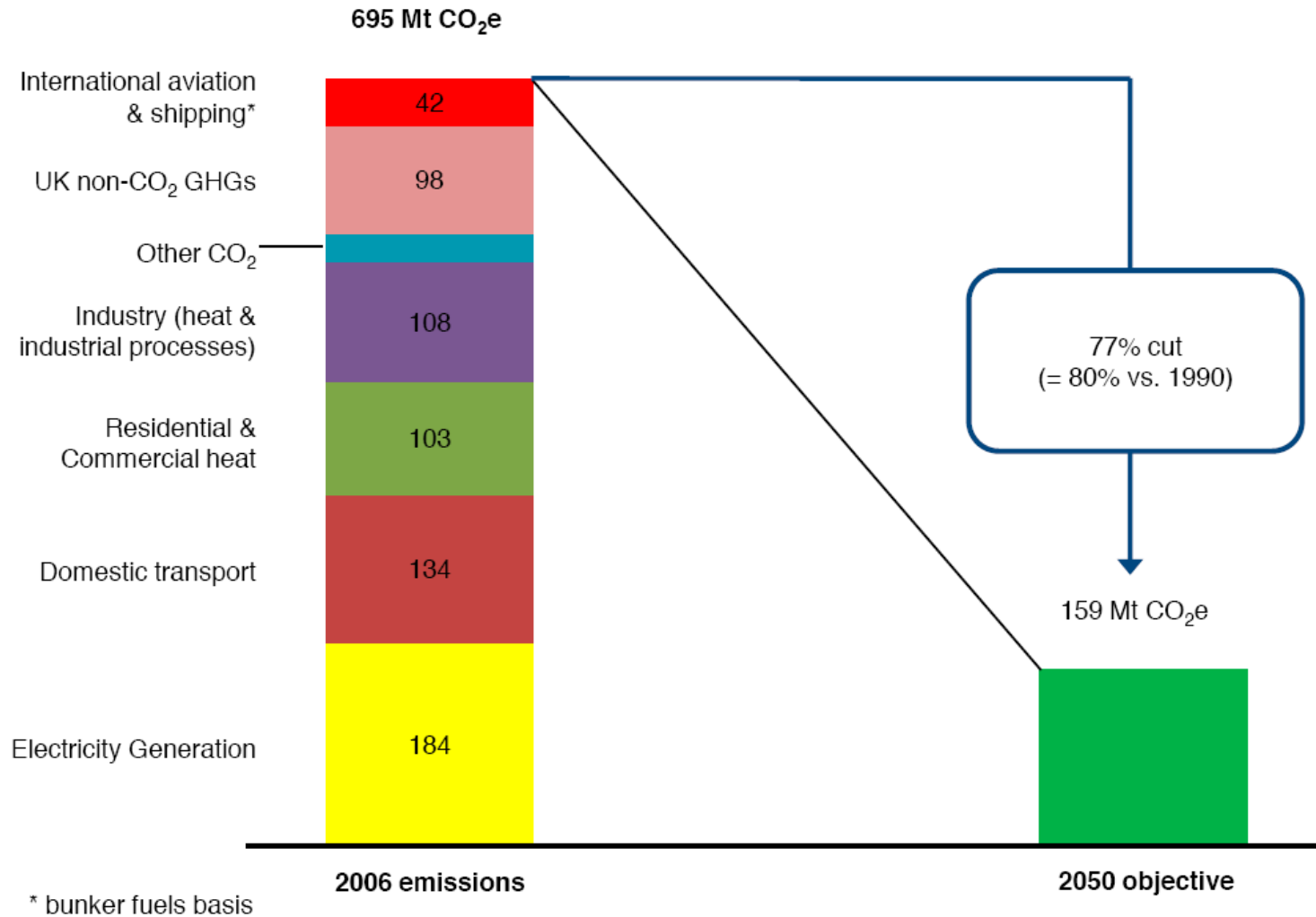
Low Emission Strategies Programme

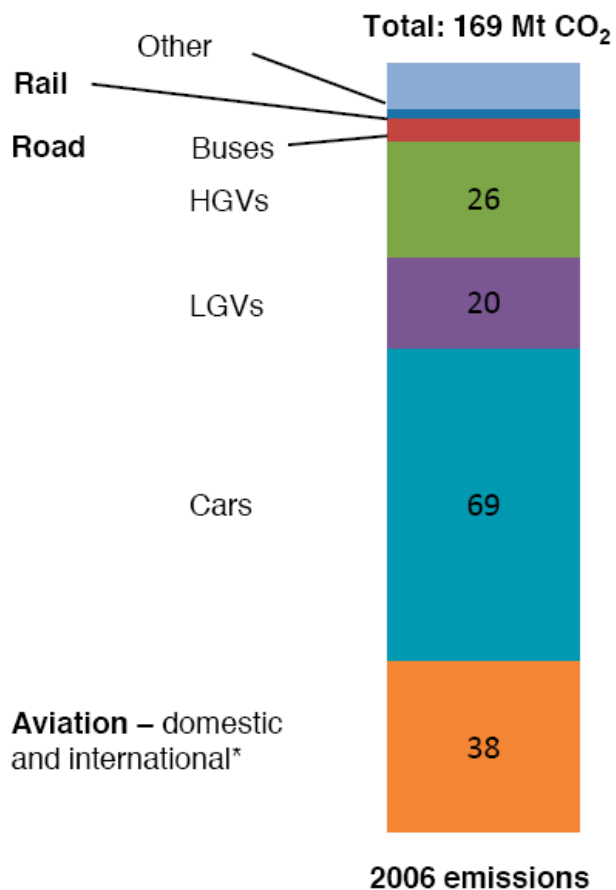
- **Background to Low Emission Strategies**
- **Case Studies**
- **Regional Group Initiative**
- **Procurement Guidance**
- **Supplementary Planning Document Guidance**
- **Low Emission Toolkit**
- **Royal Town Planning Institute**



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Average annual growth rate: 1990-2006

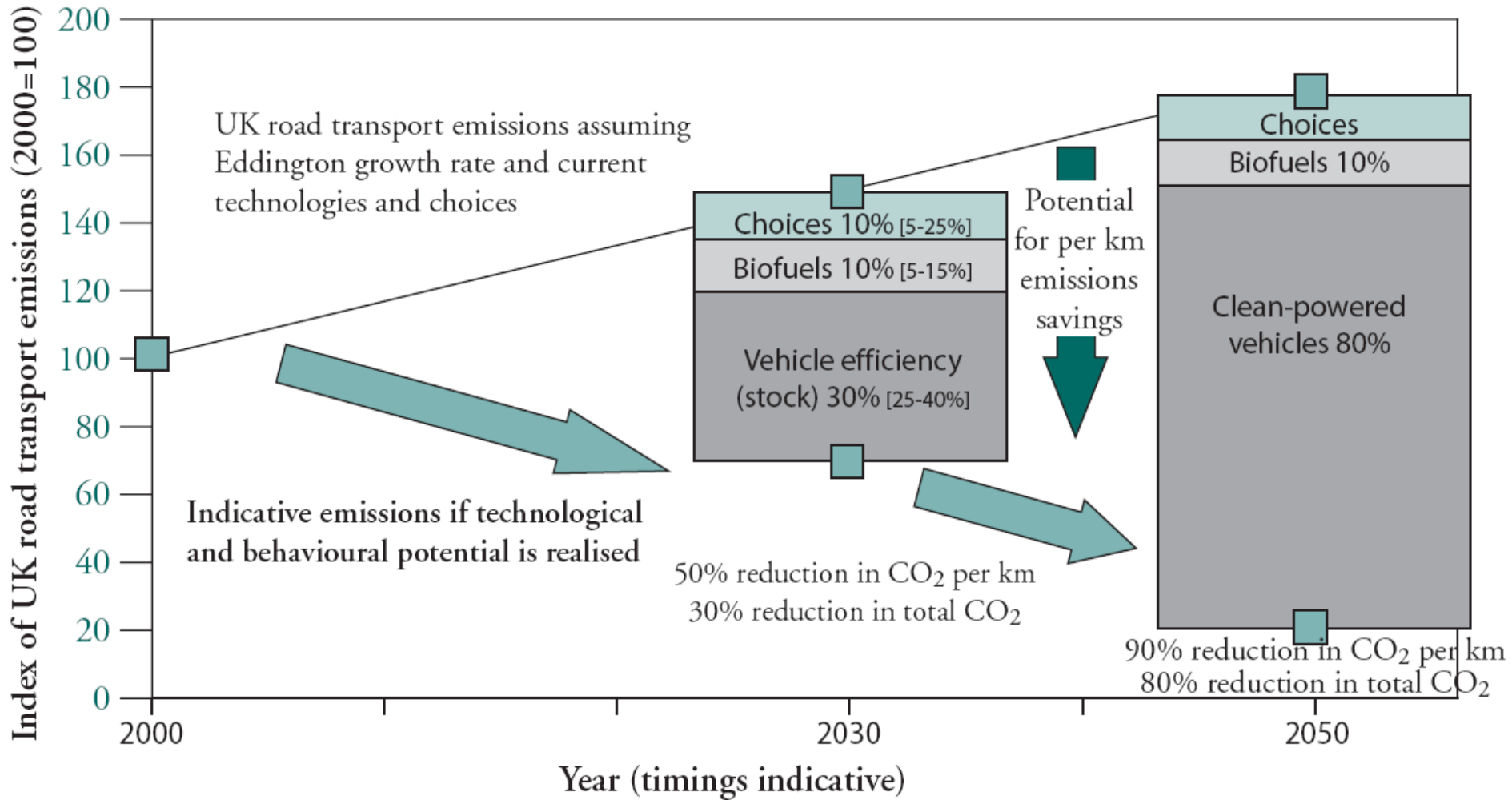
	<u>Kilometres⁺</u>	<u>Emissions</u>
HGVs:	1.0%	0.7%
LGVs:	3.0%	4.0%
Cars:	1.1%	-0.2%
Aviation:	4.3%	5.2%

* bunker fuels basis

+ passenger-km where applicable, otherwise vehicle-km



Action for Road Transport



www.defra.gov.uk

Low Emissions Strategies

using the planning system to reduce transport emissions

Good Practice Guidance

January 2010



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Emission Reduction Progression

Avoid



Shift



Improve



Low Emission Strategies Programme



Low Emission

Edinburgh

Regional Groups

Leeds City Region

Liverpool City Region

Sussex

Peer Group

City of London

Croydon

Greenwich

Hillingdon

Leeds

Leicester

Lewes

Maidstone

Mid Devon

Oxford

Sefton

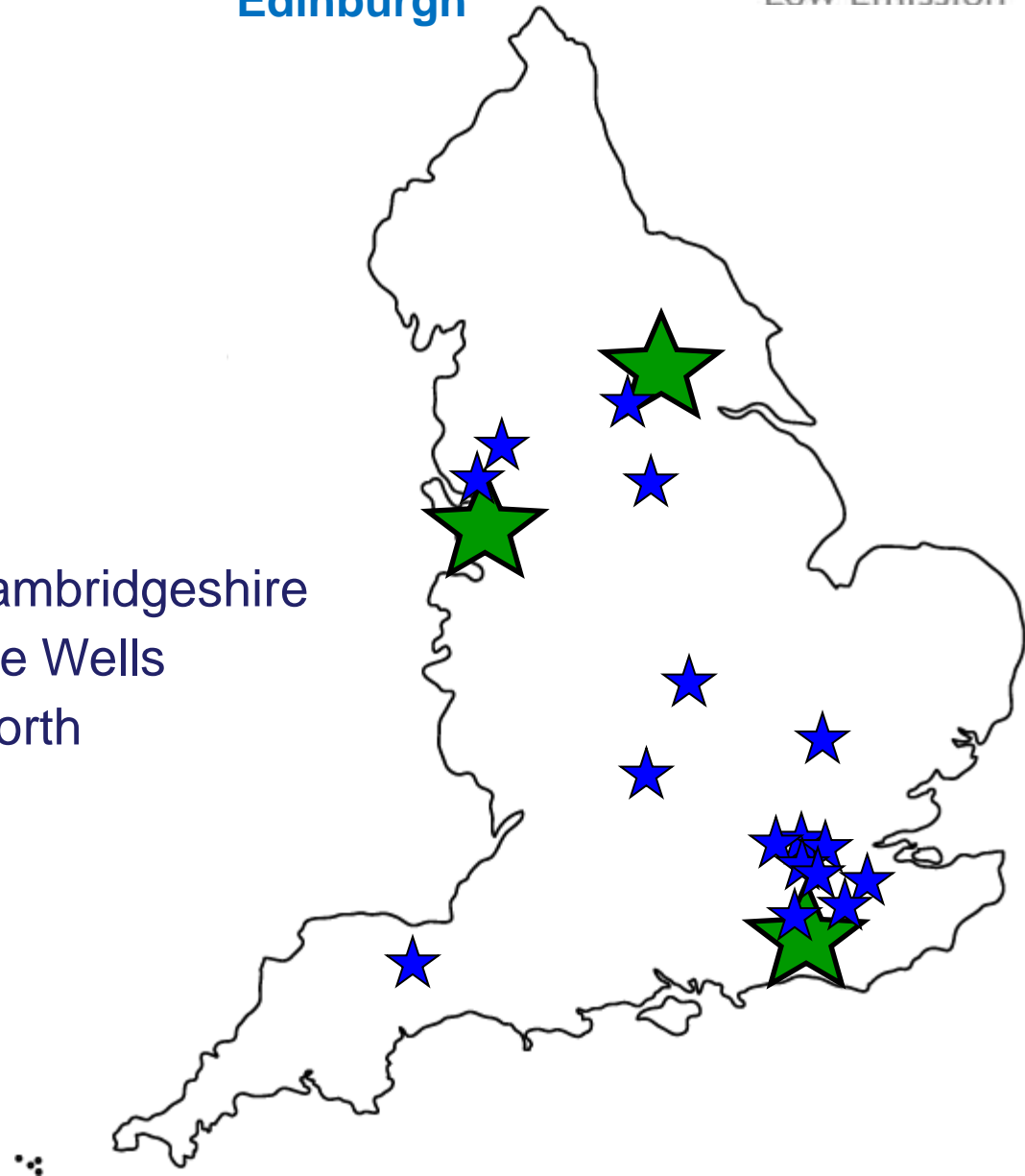
Sheffield

South Cambridgeshire

Tunbridge Wells

Wandsworth

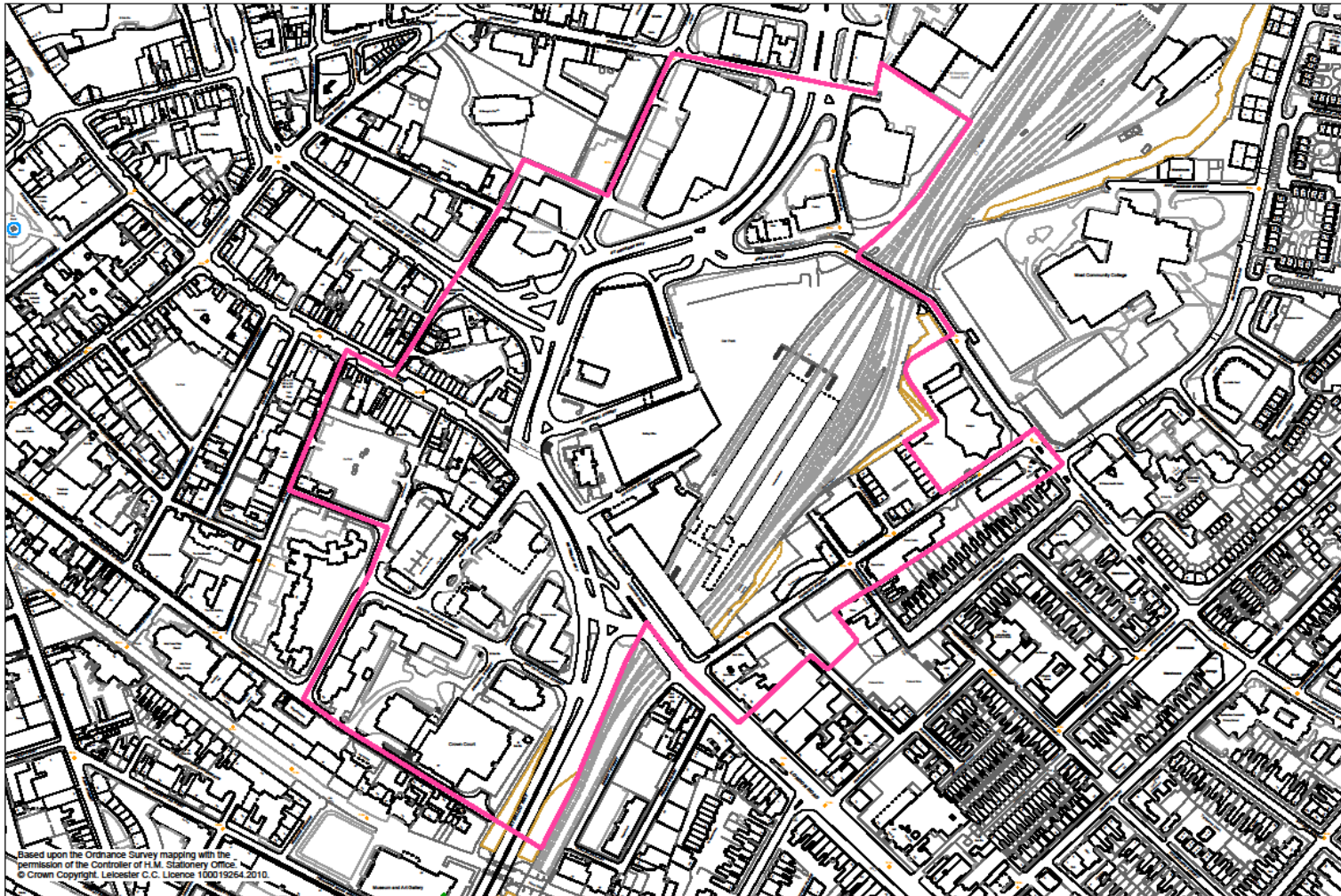
Wigan





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LEICESTER NBQ Low Emission Strategy



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New Business Quarter

Regional Group Initiative

- Sub-National Group Initiative?
- Strengthening Planning Guidance eg SPD
- Integrating LES Principles into LTP3
- Developing EV Re-Charging Networks and standards, eg Plugged in Places and South Coast EV Charging Network
- Pioneering an overarching Low Emission Strategy for a City eg York
- Develop Low Emission Vehicle Infrastructure and demonstrate Low Emission Vehicle Technology
- Exploring the use of Procurement to Reduce Road Transport Emissions



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A New Mobility Culture
for Merseyside

Preferred Strategy
Public Summary for Consultation

September 2010

LOCAL TRANSPORT PLAN
MERSEYSIDE



Regional Group Initiative



FREE Leeds Low Emission Vehicle Exhibition and Conference

Proven Technologies for Reducing Transport Emissions

Conference and Exhibition hosted by Leeds City Council at Leeds Millennium Square and The Carriageworks
7th October 2010, 08.30 to 16.45



CNG/Biomethane



Diesel-Electric Hybrid



Duel-Fuel Technology



Electric Vehicles

Menu of Exhibition and Conference activities:

- Expert presentations from low carbon vehicle operators and providers
 - Indoor exhibitions that support low carbon transport
- Outdoor exhibition of proven low carbon vehicle technologies, ranging from bicycles to buses
 - Selected vehicle demonstrations in central Leeds
- Light buffet and hot drinks provided for conference delegates only

Registration details overleaf...



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Procurement Guidance

- **Best Practice Guidance on the use of public sector procurement to reduce road transport emissions**
- **Working Group includes:
YPO, Leeds CC, Sheffield CC, Greenwich, Sefton, City, York, TfL & GLA**
- **Procurement Frameworks, Green Procurement Policies, Sustainable Tender Evaluation, Leasing Innovation, Forward Commitment, Full Life Cycle Costs etc**
- **Workshop 10th November, Wallbrook Wharf**
- **Draft Guidance end 2010**
- **Public Consultation 2011**

Supplementary Planning Guidance

- **Updates the LES Planning Guidance (Defra 2010)**
- **Reinforces the Principles of Low Emission Strategy approach**
- **Low Emission Assessment Methodology (LEAM)**
- **Potential to integrate with BREEAM**
- **Low Emission Strategy Mitigation Options**
- **Low Emission Technology Availability & Applicability**
- **Suggested approach to Compensation Formula & Tariffs**
- **Consultation suggests widespread support**
- **Publish on website end October**



Box 1: Low emission funding - 'The Greenwich Formula'

Contributions will be sought for all residential schemes of 10 dwellings and above, and mixed use and commercial schemes of 500 m² and above.

A standard contribution will be sought of £100 per dwelling for residential development and £10 per m² for town centre and commercial developments.

Low Emission Toolkit

- Defra AQ Grant and Greenwich s106 funds
- Contract with TTR, CERC and RPS
- Now finalising the 'Beta Version'

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**TECHNOLOGY
GUIDANCE**

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TECHNOLOGY
GUIDANCE

FLEET TOOL

Low Emission Toolkit

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TECHNOLOGY
GUIDANCE

FLEET TOOL

**DEVELOPMENT
TOOL**

TECHNOLOGY GUIDANCE



Vehicle select

Filter selection by:

Drive train:

Category:

Fuel:

Size:

Particle traq:

Registration year:

Euro class:

Select Vehicle

- Small car, <1.4 t, Full Hybrid, Petrol
- Small car, 1.4-2 t, Full Hybrid, Petrol
- Small car, >2.0 t, Full Hybrid, Petrol
- Large car, All, Full Hybrid, Petrol
- LGV <1.3 t, All, Full Hybrid, Petrol
- LGV 1.3-1.8 t, All, Full Hybrid, Petrol
- LGV >1.8 t, All, Full Hybrid, Petrol
- Small car, <1.4 t, Mild Hybrid, Petrol
- Small car, 1.4-2 t, Mild Hybrid, Petrol
- Small car, >2.0 t, Mild Hybrid, Petrol

Select Cancel

Comparison of new technology vehicles

Select data to view: Linear Log

Return to input

B30 HGV

Overview: 30% biodiesel in a conventional diesel engine vehicle.

- Technological Maturity:** This technology is widespread, and has reached mass scale exploitation.
- Co-Benefits:** lower polluting if spilled, reduced shelf-life
- Practicability:** There are few, but plural manufacturers for this vehicle type. Few or no specific / additional safety implications compared to standard vehicles. There are few public refuelling stations, operators will require their own depot to refuel vehicles. Fuel is available for depot delivery.

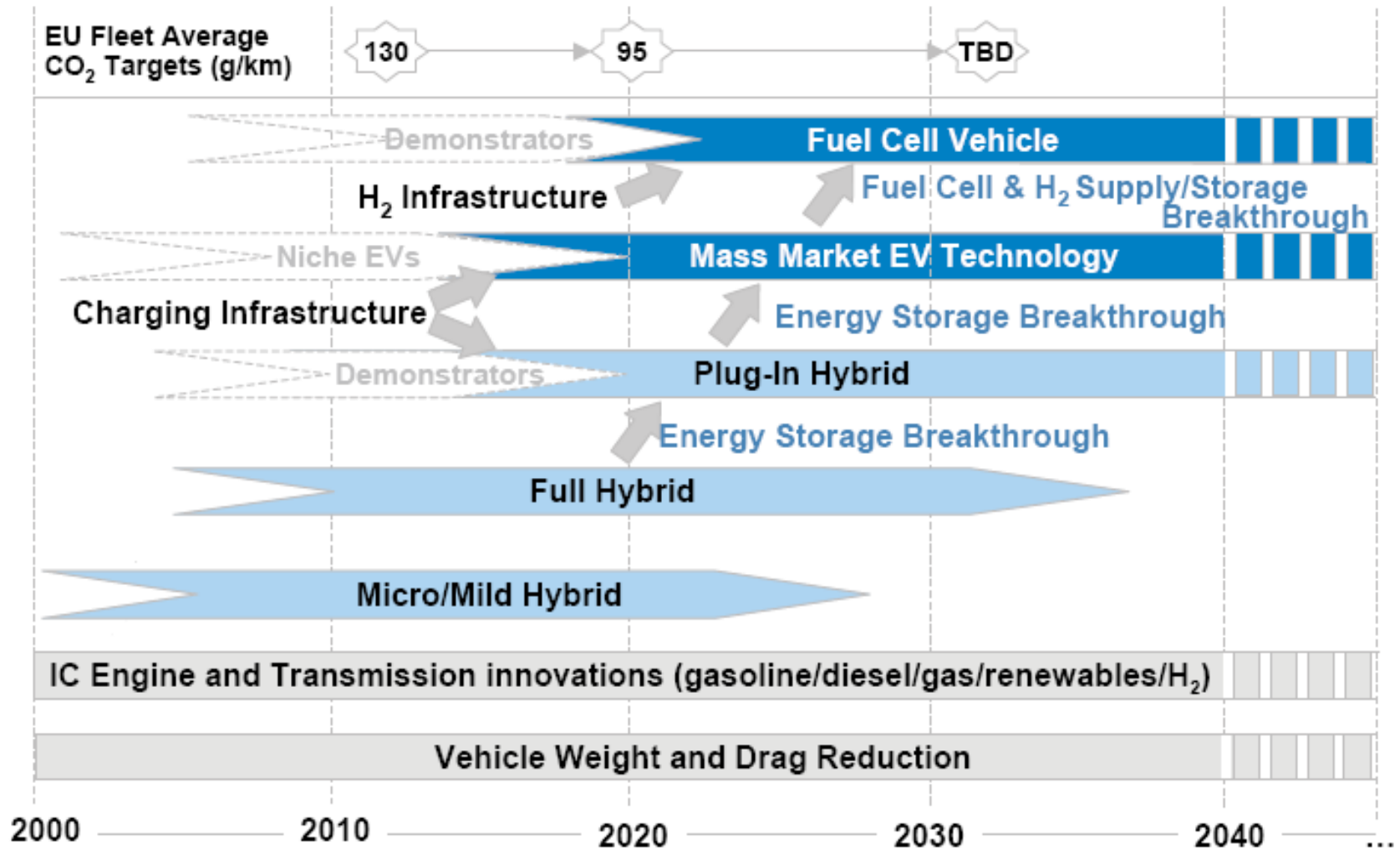
	Per km	Annual
GHG (g) (WTW)	818.58	40928943
NO _x (g)	3.0075	150376
PM (g)	0.0257	1285
Capex (£ per veh)	-	48000
Maintenance (£)	0.1288-0.2515	2572-4630
Refuelling Infrastructure (Total Cost in £)/(Cost per veh in £)	£10,000 / £12,000 (total £0.0001 per km) / £198-£200 per vehicle	

All figures are derived from a per km basis. Annual figures are based on 50,000km p.a.

DFT Low Carbon Transport : A Greener Future



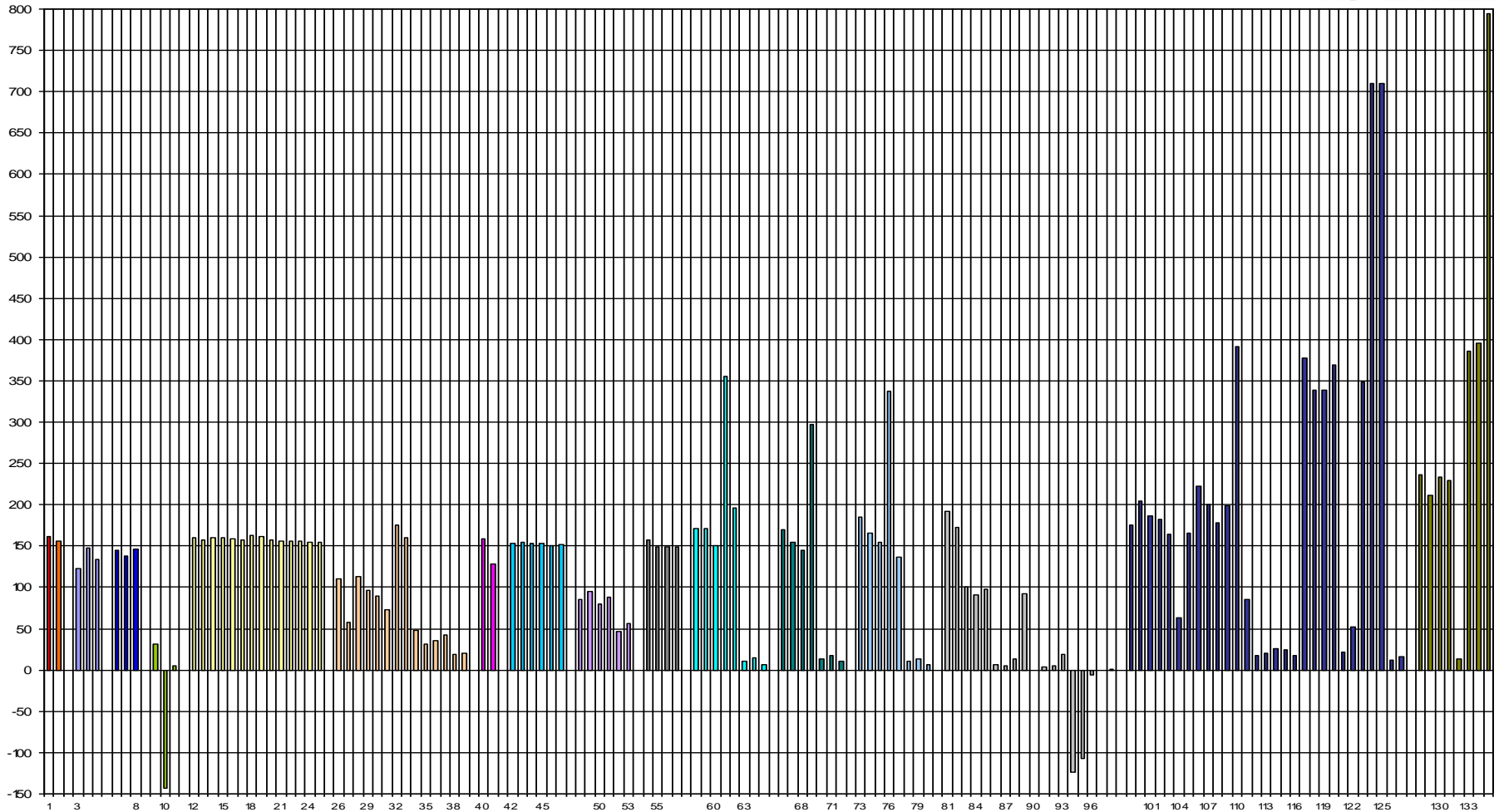
Low Emission Strategies



10/08



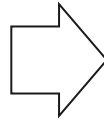
Aggregated Well to Wheels Analysis



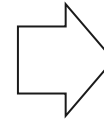
Concawe 2007

FLEET TOOL

Describe current fleet



Review baseline



Compare alternatives

Modelling selection: Current situation With replacements

Start year: 2010 Final year: 2020

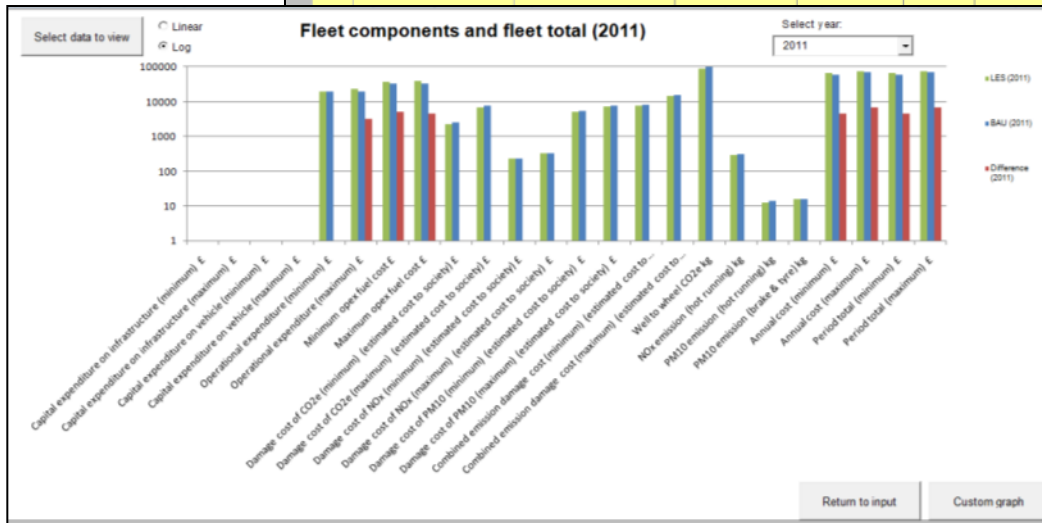
Year dependent replacement Constant replacement rate Replace at age: 10 years

Region of the country: London / central Type of town/city:
 Predominant journey type: Urban

Electric charging points: None Biomethane infrastructure: None

Buttons: Add / modify / delete vehicle, Add custom vehicle, Clear all, Add infrastructure, Operational aspects data, View defaults, Output graph by vehicle, Custom graph

USER INPUT	ORIGINAL VEHICLE						R
	Particle trap	Registration year	Euro class	Operational aspects	BAU replacement	Replace by vehicle	
	No	2000	Euro 2/II		EURO class replacement	LGV 1.3-1.8 LAI Comb. PF	



DEVELOPMENT TOOL

No.	Component name	Predominant journey type	Development type
1	Shopping Centre	Urban	Non-residential

Return to input View planning measures View travel plans

Measure type	Sub-category	Use
Vehicle substitution / deployment	Fleet/Pool cars	<input type="checkbox"/>
	Service fleet	<input checked="" type="checkbox"/>
	Public transport fleet	<input checked="" type="checkbox"/>
Specify impact		
Fleet transformation incentives	Site based-low emission zone	<input type="checkbox"/>
	Emission based parking allocation	<input checked="" type="checkbox"/>
Specify impact		
Provision of low emission infrastructure	Electric charging points	<input checked="" type="checkbox"/>
	Biomethane infrastructure	<input type="checkbox"/>
Car clubs	Standard car club	<input type="checkbox"/>
	Low emission car club	<input type="checkbox"/>
User-based charging	Congestion charging	<input type="checkbox"/>
	Emission based parking charges	<input type="checkbox"/>
	Emission based user charging	<input type="checkbox"/>
Travel plans	Parking restraint	<input checked="" type="checkbox"/>
	Parking charges	<input type="checkbox"/>
	Cash-out for not using parking space	<input type="checkbox"/>
	Car sharing	<input type="checkbox"/>
	Public transport	<input type="checkbox"/>
	Walking	<input type="checkbox"/>
	Cycling	<input type="checkbox"/>
	Local recruitment and/or relocation package	<input type="checkbox"/>
	Personalised travel planning	<input type="checkbox"/>
	Home working	<input type="checkbox"/>

Modify overall travel plan

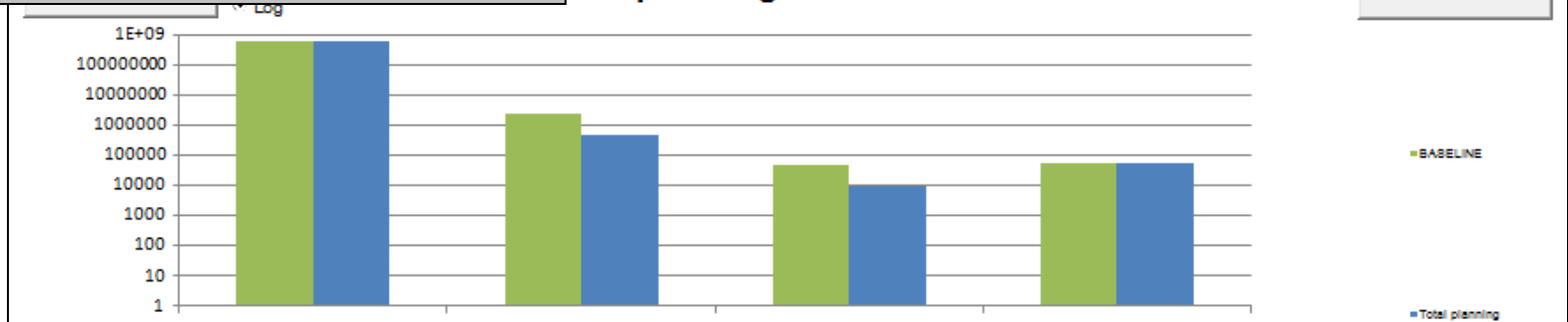
Define development

Review baseline emissions

Select planning measures

Compare scenarios

Number of planning measures

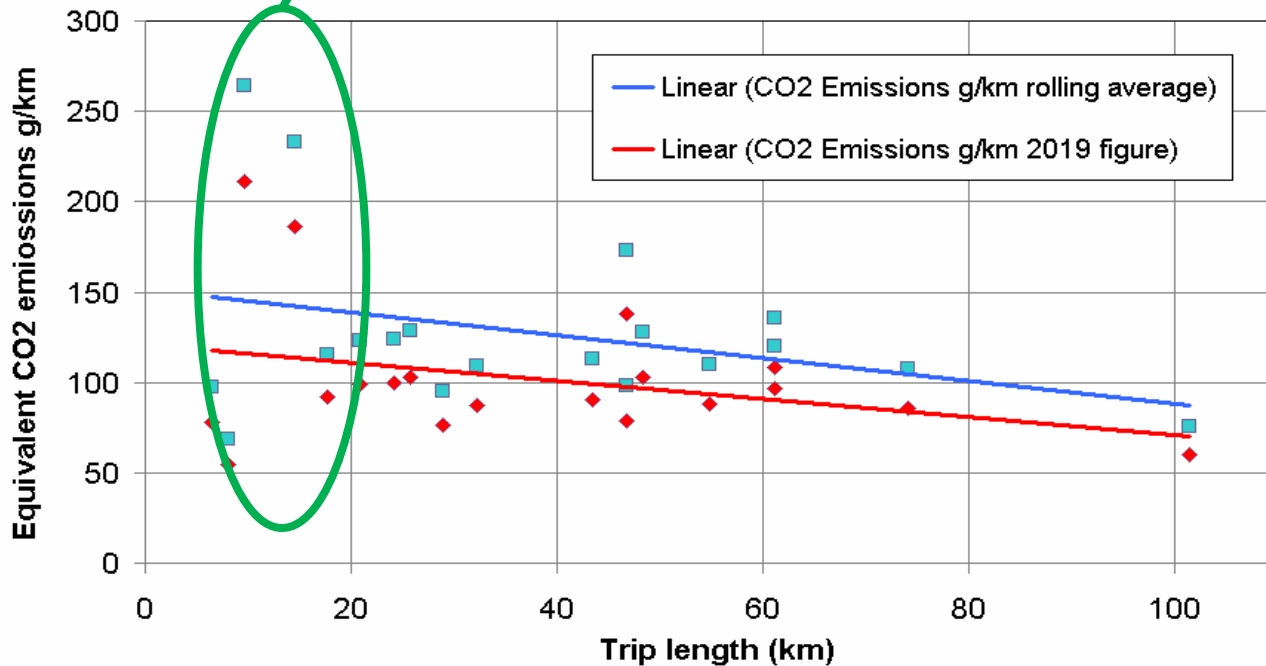




MIEV trial equivalent CO2 and cost					
	kwh/km	Rolling average Emissions (g/km)	2019 Emissions (g/km)	Charging time (hours)	Cost per km (£)
Min	0.13	68.57	55.29	1.72	0.015
Max	0.49	264.17	213.00	124.88	0.056

Lack of measurement resolution on short trips. False gradient?

MIEV Equivalent CO2 emissions



Averages
 115gCO₂e/km (2009)
 92gCO₂e/km (2019)

Cost effective
 i MiEV 1.5 – 5.6p/km
 Std ICE 7 – 8 p/km

Underlying principles

- Transparent
 - Base data and assumptions
 - Calculations
- Flexible
 - Custom vehicles and planning measures
 - Access to and modification of default data
 - Architecture – updates in data and functionality
- Promote action
 - Not the silver bullet, but a ‘conversation starter’

Low Emission Strategies Programme

- Accelerate the Uptake of Cleaner Fuels & Technologies
- National Policy level
- Programme Board
- Communications Strategy www.lowemissionstrategies.org
- Peer Group
- Regional Groups:
 - Leeds City Region (York)
 - Liverpool City Region
 - Sussex
- Local Transport Plans (LTP3), Planning & Procurement Strategies, Low Emission Vehicle Demonstration & Electric Vehicle Charging Networks
- **Champions!**