



Department  
for Transport

# ***Low Carbon Freight***

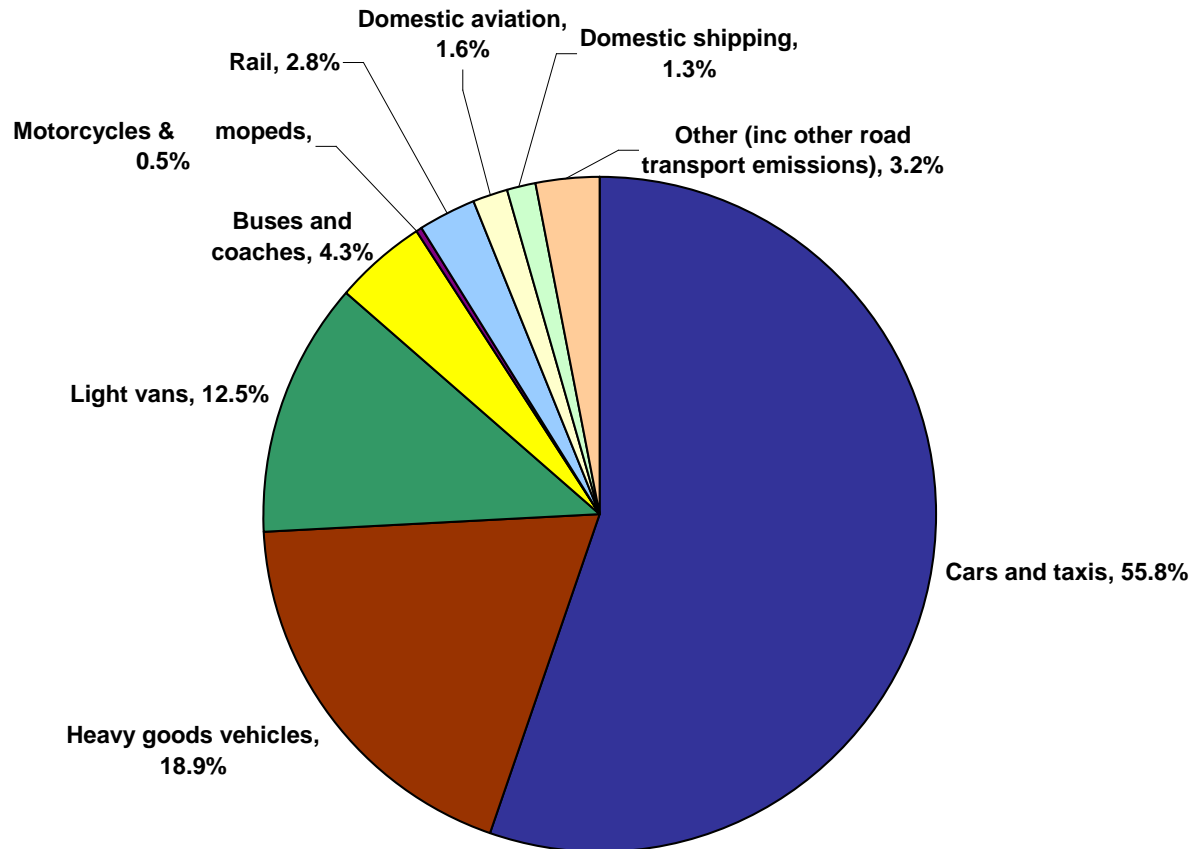
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# HGV carbon emissions

Transport = c21% of UK domestic greenhouse gas emissions  
HGVs = up to 20% of transport emissions  
UK domestic transport greenhouse gas emissions, 2010



# Lower carbon measures for HGVs

- Low carbon fuels
- Mode shift
- Aerodynamics
- Low rolling resistance tyres
- Reduced idling
- Eco-driving – training
- Driver performance monitoring – telematics
- Improved routing and scheduling
- Improved loading and reduced empty running





# Logistics Carbon Reduction Scheme

- Recording and reporting carbon reduction scheme, run by FTA, open to all
- 90 members with over 63,000 vehicles (HGVs and vans) in September 2013.
- Target to reduce carbon emissions by 8% between 2010 and 2015.
- 33 scheme members responded to an LCRS survey on their carbon reduction activities in 2012.



# Carbon reduction measures

		% of respondents Implementing measure since 2011
<b>Driver training</b>	<b>Regularly monitor drivers' fuel performance</b>	<b>73%</b>
	<b>Have an eco-driver training scheme in place</b>	<b>66%</b>
<b>Vehicle transmission</b>	<b>Automated manual transmission</b>	<b>73%</b>
	<b>Reduce engine idling</b>	<b>73%</b>
<b>Payload maximisation</b>	<b>Improving vehicle fill of existing equipment</b>	<b>72%</b>
	<b>Introduced additional double deck trailers</b>	<b>51%</b>
	<b>Consolidate loads on longer / heavier vehicles</b>	<b>36%</b>
	<b>Reduced empty running</b>	<b>64%</b>
	<b>On-board telematics to optimise vehicle scheduling</b>	<b>48%</b>



# Carbon reduction measures

<b>Vehicle body</b>	<b>Install cab roof air deflectors</b>	<b>67%</b>
	<b>Install aerodynamic body/trailer side panels</b>	<b>47%</b>
	<b>Use trailers with sloping front roof (double deck/high cube vehicles)</b>	<b>35%</b>
	<b>Reduce drag by lowering vehicle height</b>	<b>20%</b>
	<b>Use teardrop trailers</b>	<b>13%</b>
<b>Vehicle maintenance</b>	<b>Periodic maintenance and inspection of items that affect fuel efficiency</b>	<b>61%</b>
	<b>More frequent tyre inflation</b>	<b>52%</b>
	<b>Low viscosity lubricants</b>	<b>37%</b>
	<b>Automatic tyre pressure adjustment</b>	<b>4%</b>
<b>Vehicle speed</b>	<b>Speed limiters set at lower speeds</b>	<b>45%</b>
<b>Vehicle and tyre selection</b>	<b>Fuel efficient tyre designs</b>	<b>28%</b>
	<b>Regular use of engine mapping to match vehicle specification to application</b>	<b>10%</b>



# ECOstars Fleet Recognition Scheme

- A free, voluntary scheme providing recognition, guidance and advice to operators
- Focus on air quality, but fuel reduction measures reduce carbon too
- ECOstars rates individual vehicles and overall fleet operation, to recognise levels of operational and environmental performance.
- There is no formal audit process.
- Members receive tailor made support to ensure that their fleet is running as efficiently and economically as possible
- Toolkit to help operators reduce fuel use and emissions
- Open to operators of all types of commercial vehicles across all sectors of activity and all sizes.



- The ECO Stars scheme was the first of its kind in the UK, launched in 2009 in South Yorkshire

<ul style="list-style-type: none"><li>•South Yorkshire</li><li>•Mid Devon</li><li>•Edinburgh</li><li>•Nottingham</li><li>•Thurrock</li><li>•Falkirk</li></ul>	<ul style="list-style-type: none"><li>•City of York</li><li>•Warrington</li><li>•Dundee</li><li>•Sefton (Port of Liverpool)</li><li>•North Lanarkshire</li></ul>
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# FORS (Fleet Operators Recognition Scheme)

- FORS is TfL's accreditation scheme to improve fleet activity in London
- Subsidised, voluntary and open to any fleet
- FORS provides a quality and performance benchmark for fleet operators.
- Provides tools to help fleets become safer, greener and more efficient.
- Information and tools to follow best practice, rather than just keeping within the law.



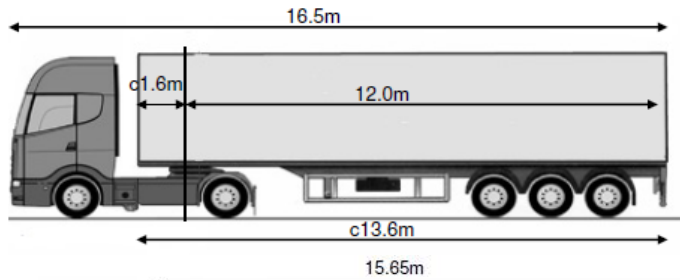


# Low Carbon Truck & Infrastructure Trial

- Competition for funding for low carbon trucks and supporting infrastructure (e.g. gas refuelling hubs).
- Run by Technology Strategy Board, supported by DfT and OLEV
- 13 projects awarded August 2012, due to start live running by end 2013
- Government providing up to 50% funding (£11.3m)
- Around 300 low carbon trucks (mostly gas/diesel dual fuel) and several public access refuelling stations
- Trials will be conducted over two years.
- Data gathered from the trials will help to promote benefits of low carbon vehicles and encourage their wider uptake.



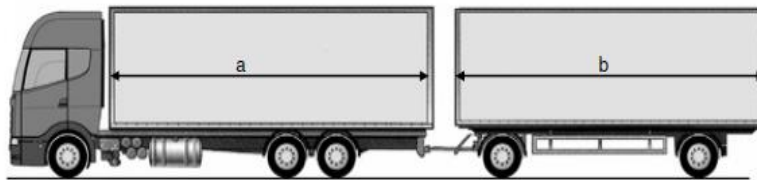
# Longer semi-trailers



Standard articulated lorry



**Longer semi-trailer**



Standard rigid truck /  
drawbar combination lorry

$a + b \leq 15.65m$



# Longer semi-trailers

- Around 550 now running, up to 1800 in total
- Reductions in lorry miles
- Reductions in CO<sub>2</sub> emissions
- Economic benefits
  - CO<sub>2</sub> reductions around 3235 tonnes over trial period
  - Estimated benefit of £33 million over ten years
  - Potential for 100,000 tonnes reduction in CO<sub>2</sub>
  - Potential annual benefit to industry of c £300 million





# Low carbon HGV technology task force

- Joint Industry / Government Task Force
- Report published Dec 2012 identified top priorities
- Long Haul and Regional Delivery duty cycles produce 70% of HGV carbon emissions – biggest lorries on longest trips
- Biomethane for HGVs gives biggest carbon reduction benefits
- Electric power for Urban Delivery and Municipal duty cycles gives big benefits too, but only account for 14% of HGV carbon emissions
- Aerodynamics and low rolling resistance also beneficial.



# Mode Shift

- DfT provides incentives to encourage transfer of freight from road to rail and water where the cost is higher than road and where there are environmental benefits to be gained.
  - Mode Shift Revenue Support
  - Waterborne Freight Grant
- DfT has also endorsed FTA's Mode Shift Centre, providing information to companies considering the use of rail or water transport.

