AEA

Promoting low carbon vehicles: policy and practical action

Levers and mechanisms to stimulate and sustain a shift

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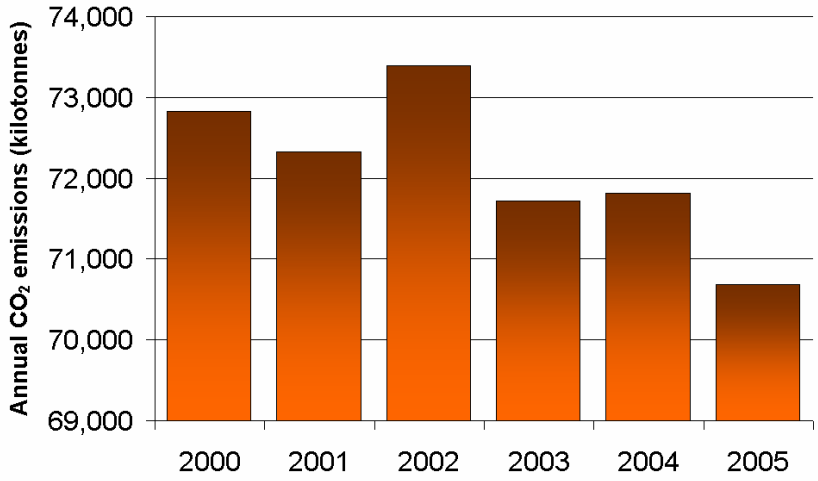
7th November 2007

Overview

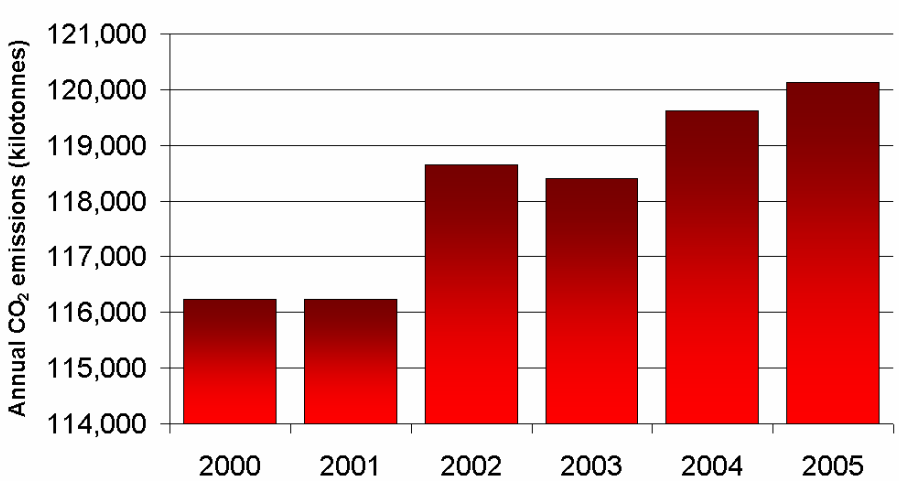
- Overview of road transport emissions
- How can we cut emissions?
- Development and uptake of low carbon technologies
- Encouraging behavioural change
- Mechanisms to promote low-carbon vehicles
- Summary

Road transport emissions

- **Overall road transport emissions in the UK are still increasing**
- **Passenger car emissions are decreasing**
- **UK has set a target for reducing CO_2 emissions by 60% against 1990 levels**



Passenger cars (-2.9%)



All road transport (+3.4%)

How can we cut vehicle emissions?

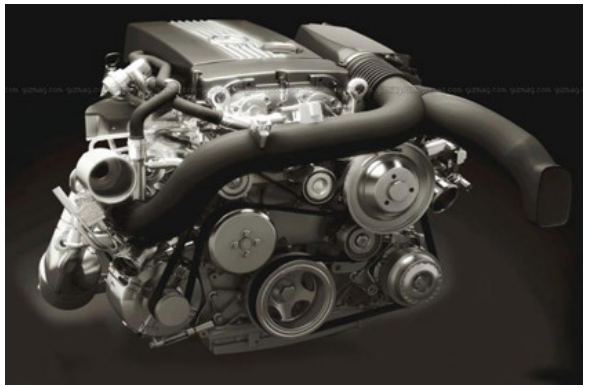
- **Two main areas to focus on**
  - **Development and uptake of low-carbon vehicle technologies**
  - **Behavioural change**

- **There is also an overlap between these two aspects**

- **Low carbon technology developments for vehicles also depend on decarbonising electricity generation and/or fuel production processes**

Development and uptake of low-carbon vehicle technologies

- **Short term**
  - **Evolution of current gasoline and diesel technology**
  - **Renewable Transport Fuels Obligation**
  - **Application of hybrid technologies to current and near-future vehicle models**



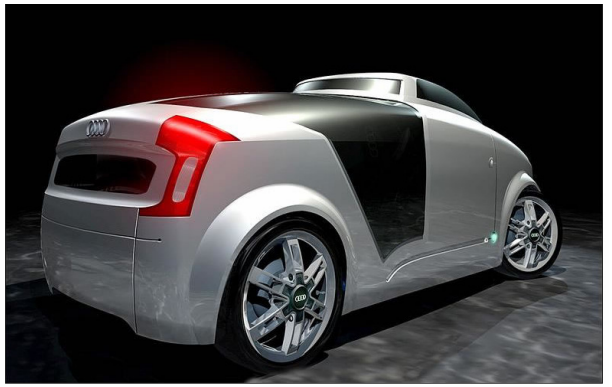
Renewable Fuels Agency

Development and uptake of low-carbon vehicle technologies

- **Medium term (2015-2030)**
  - **Increased uptake of hybrid and plug-in hybrid technologies**
  - **Second generation biofuels**
  - **Limited deployment of advanced low-carbon technologies (battery-electric and hydrogen)**

Development and uptake of low-carbon vehicle technologies

- **Long term (2030-2050)**
  - **Objective: almost complete decarbonisation of road transport sector**
  - **Battery electric power and/or hydrogen could be providing motive power for vehicles**
  - **However, technology not yet mature**
  - **Low carbon fuel production methods not yet cost competitive – and CO_2 benefits not yet guaranteed**



Encouraging behavioural change

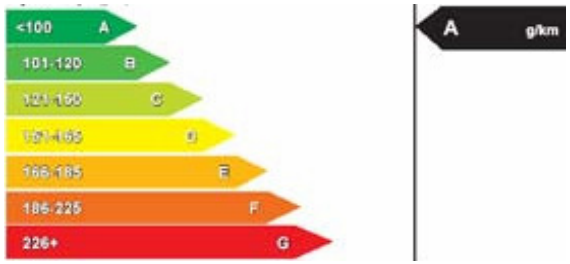
- **Behavioural change can also reduce CO_2 emissions from vehicles**
- **Influencing vehicle purchasing behaviour**
- **Driver behaviour has a very important influence on fuel consumption and CO_2 emissions**
- **Need to account for potential "rebound" effects**

Mechanisms to promote low carbon vehicles

- **Support for short term and longer term development/deployment required**
- **Cars are important, but emissions from other vehicle types are growing significantly**
- **Actions to raise consumer awareness of the CO_2 impacts of their transport choices**
- **For longer term low-carbon technology options, key issue is to take action <u>now</u> to encourage development**
- **Ensuring that options are sustainable will be key**

Mechanisms to promote low carbon vehicles

- **Options for the short term**
  - **Proposed European Commission passenger car CO_2 regulations**
  - **Increased use of local/national, awareness-raising measures**
  - **Additional fiscal measures could be used (further differentiation in VED and company car taxation according to CO_2 performance)**
  - **Public sector vehicle fleet procurement activities**



Mechanisms to promote low carbon vehicles

- **Options for the medium term**
  - **R&D funding to develop and demonstrate new technologies**
  - **International collaborations may be appropriate to demonstrate some technology options**
  - **National road user charging with supplementary environmental objectives**
  - **Inclusion of road transport in the EU ETS**

Mechanisms to promote low carbon vehicles

- **Options for the long term**

  - **Clear long-term strategies for developing particular technologies**

  - **Mechanisms required to further encourage R&D investment, demonstration, and deployment**

  - **Clear commitment through long-term policy signals may be required**

Summary

- **Greenhouse gas emissions from road transport are still rising**
- **But, there are technological options and behavioural measures that can help reduce emissions now and in the future**
- **Strong, co-ordinated action from Governments required to provide the right short and long-term policy signals**
- **Industry and consumers have a significant role to play**