Reducing CO2 emissions from light-duty vehicles

Commission proposal for a renewed Community strategy to reduce CO2 from light vehicles (cars and vans): A consultation

July 2007

Executive summary

- Integrated Approach: Equal treatment of supply and demand measures; real world $CO_{2:}$ reductions need all relevant stakeholders to be involved.
- Regulatory certainty: Regulatory environment has to maintain consumer choice and the diversity of the car industry.
- Longer lead-times for the regulation: 2012 is too soon.
- Greater credit for supplementary measures.

1.0 Introduction

The Society of Motor Manufacturers and Traders Ltd (SMMT) is the leading trade association for the UK automotive industry, representing more than 500 member companies ranging from vehicle manufacturers, component and material suppliers to powertrain providers and design engineers. The UK is home to the largest number of low volume specialist car manufacturers in the world. We welcome the opportunity to respond to the Commission's consultation on its communication on future CO_2 reduction strategy from cars.

We support the Community target of 120 g/km and recognise that vehicle and engine technology will make significant contributions to achieving this objective. The SMMT agrees that all modes of road transport must contribute to tackling climate change.

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Future strategies, and in particular mandatory targets for lighter vehicles, must recognise barriers to change and gain support from consumers and governments to ensure cost effectiveness. New frameworks must be developed on the basis of the Integrated Approach, such as fuels and infrastructure.

Vehicle and engine technology objectives require significant investment. Recognition of lead times, from the date of confirmation of policy are fundamental to the future plans of vehicle manufacturers.

The future legislative framework needs to establish a stable and robust mechanism, based on the principles of:

- Understanding and acknowledging past performance
- Cost effectiveness – to manufacturers and consumers
- Fairness – for manufacturers and society
- Clarity and long term – to ensure ongoing progress
- Environmental effectiveness – deliver total carbon reduction, not just tailpipe
- Maintaining choice for customers and diversity in the industry

The UK is home to a large number of major volume manufacturers and the largest collection of specialist car manufacturers in the world. Some 100 low volume specialist car producers are based in the UK, making a positive contribution to the UK and EU economy through high value-added products, employment, skills and innovation. More so than Continental Europe, the industry is highly reliant on export markets, including North America and Japan. Any future legislative framework has to be equitable to the diversity of European vehicle manufacturers and not put low volume specialist car manufacturers at a competitive disadvantage.

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2.0 Road transport emissions' perspective – UK

- **Increased numbers of vehicles on the road, increasing distances, increased vehicle efficiency - the whole picture.**

CO_2 emissions from transport are growing, however, in the UK this is not the case from cars. Growth in CO_2 emissions is from the commercial and aviation sectors. Significant increases in the number of vehicles, the distance driven and economic growth have all been the background to the growth in road transport since 1990.

The current voluntary agreement has contributed a relative and absolute reduction in CO_2 emissions from passenger cars in the UK. The bulk of delivery on CO_2 reduction has come from vehicle technology, supported in part in the UK by emissions-based taxation.

Investment strategies of vehicle manufacturers have significantly contributed to these reductions, direct injection diesel is a good example. Future objectives need to build on, and accelerate, progress. This requires recognition of long term investment strategies.

CO_2 is emitted from the entire vehicle parc. Road transport CO_2 emissions are a function of the fleet size, its overall efficiency, the fuel used, the driving style, traffic conditions and the distance driven. Unfortunately, the Commission's impact assessment does not explore these areas in any detail, with any economic cost-benefit analysis to making improvements.

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3.0 Development cycles and lead times

- **2012 is too soon to introduce a regulation that must give the industry regulatory certainty.**

Appropriate lead-times are crucial to ensure successful implementation of vehicle and engine technology targets. The Commission's proposal for a car technology target by 2012 does not allow for these lead times. Product plans and models are already in place for cars designed for the 2012 market. Advanced engineering, testing for emissions, safety and air quality, establishing production facilities, developing supply chains and the marketing of new cars will take in excess of seven years. The same development for powertrains takes even longer. The industry's development cycle on CO_2 reduction cannot compromise development in safety, air quality and noise reduction.

It is important for an industry with such long lead-times to have certainty as to what detailed form regulation will take and how it will be implemented. These policies have yet to be decided and will not be finalised until 2010, leaving little time for serious technological gains to be made in tailpipe CO_2 reduction.

Development cycles will vary from model to model, both in terms of time and at any one point in time. This will vary the impact of mandatory standards on manufacturers.

A longer-term target of 2015 is a way of ensuring greater regulatory certainty for a far larger proportion of the new car fleet.

Environmental certainty during the intervening period can be addressed by the concept of continual progress supported by removing barriers to change, fiscal direction, fuel policy and others.

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4.0 Target levels

- **SMMT supports the target of 120g/km. The integrated approach can deliver not just 10g/km, but up to 15g/km.**

The cost effectiveness and practical strategy to achieving the target should address a wide and encompassing strategy. Eco-driving, infrastructure and biofuels all need to be developed to reduce road transport CO_2. Biofuels contribution to reducing road transport CO_2 is underestimated (five per cent sustainable biofuels by 2010), and contributions can achieve a higher amount than indicated.

Emission reductions through eco-driving are cost effective and have shown to lead to a seven percent long term improvement in fuel efficiency (DfT).

Infrastructure improvement can generate significant carbon reduction, smooth flowing managed roads can achieve savings of up to 38 per cent over congested roads (SINTEF). The development of intelligent roads and real time traffic information will contribute to the effectiveness of well-designed roads.

All of the measures described above are more cost effective than vehicle and engine technology alone.

Vehicle technology will contribute to the bulk of future CO_2 reduction. However, additional technical measures are cost-effective as a way to achieve future targets. Complementary measures such as GSI, LVL, and LRRT are all cost effective technology measures toward CO_2 reduction and should be recognised, accounted for, and monitored as such.

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The Commission should develop a robust and quantifiable procedure for assessing supplemental measures. Any supplementary measures should be included in full consultation with industry (and if necessary, an independent third party to verify) – a precedence for this type of work will be implementation of Article 31 of Recast Framework Directive on European Whole Vehicle Type Approval.

Industry therefore suggests that a conservative combined figure to account for these measures is 15 g/km. This is a significant element of the CO_2 reduction strategy for new cars.

5.0 An effective mechanism for market transformation

- **The automotive industry needs certainty to ensure continued competitiveness and technological neutrality.**

Certainty is imperative to secure effective technology. In addition, adequate timing and the opportunity to develop and market new technologies is also significant. This does not only apply to mandatory standards, but to supporting issues as well, which is previously unknown on a European-wide basis.

The research, design, production and marketing timescales of the industry need to be recognised as part of the process towards market transformation. There is currently a lack of equal recognition of the role of supply-push and demand-pull that will ensure market transformation is achieved.

The detail of the proposed regulation is not established in the communication or the impact assessment. Robust and quantifiable detail will be fundamental to the success of the regulation, its costs and impact on society.

A serious issue for the Commission going forwards will be the increasing inter-dependence of member states' energy and transport policies. Some member states already favour one technology in preference to another. Fragmentation of the

European vehicle market may start to erode many of the benefits of the union. Examples of this are the flex-fuel policy in Sweden and a CNG (Compressed Natural Gas) policy in Italy. Neither of these strategies is "incorrect", but the difference between them highlights the need for a technology-neutral approach. A technology neutral approach is the only effective approach and it must be reinforced by the Commission in any mandatory standards.

6.0 Cost effectiveness

- **Social and technology costs need to be carefully considered and any impacts taken into account properly.**

The cost of developing transport CO_2 abatement is higher than in any other sector. The Stern Review on the Economics of Climate Change highlights this[1]. This is an important starting point in what is a very complex debate on costs, both in terms of costs to the manufacturer and societal cost.

We disagree with the assumptions made by the Commission on costs in relation to the synergy of low carbon technologies. Some, but far from all, future carbon technologies offer synergy. The ability of manufacturers to achieve synergy should not be assumed. In addition, the Commission is not correct in assuming that overall cost will be towards the lower end of a range of costs.

In terms of social cost, we recognise the principle that lower carbon cars have lower fuel costs and are therefore, all other things being equal, cost less to run. However, it is unlikely that the consumer will factor the lifetime savings in fuel purchasing cost into their purchasing decision. If buyers do seek to factor in fuel saving cost, this will be done over a time period of approximately three or four years, not the lifetime of the vehicle.

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Therefore social costs are not considered to be real cost in this context. Historically, a limited number of early adopters will pay a premium to make savings on fuel. In the context of market transformation this is an important leading element, but will not transform the market. Faced with the potential higher cost of new cars customers may delay their purchase decision and retain onto older cars. Such a delay in fleet renewal has serious implications for the safety and air quality of the vehicle parc.

Cost needs to be considered in the context of all member states. Cars provide social mobility and, particularly in the case of new member states, an increase in the capital cost of vehicles will impact the processes of enhancing social mobility.

Many automotive companies already have experience of the trading of carbon for their manufacturing processes. The extension of trading to surface transport (Surface Transport Emissions Trading – STET) is a strategy we are aware of. At this point in the discussion, it is not relevant to comment on the potential of this strategy; however it recognises the cost of abatement across all sectors and as such, should not be excluded as a policy tool.

7.0 Vans

- **Vans should be considered separately to cars and subject to a separate Impact Assessment.**

The issue of carbon emissions and N1 vehicles (vans) should not be included as part of the strategy for mandatory limits for cars. Vans are purchased by a different group of consumers. They are business-to-business purchases. An appropriate metric for vans needs to be designed, which may not be g/km. Recognition of payload to reduce

[1] http://www.hm-

CO_2, as formulated through the Commission's Tremove model, needs to be acknowledged. Finally, the level of knowledge on vans is limited. It is imperative therefore, that a separate impact assessment is carried out on vans.

8.0 Car Advertising

- **It is important for the Commission to be clear in its aims for a sustainable code of advertising.**

It is unclear from the communication and the impact assessment what the precise aim of a sustainable code of marketing and advertising for cars should be. More detailed views from the Commission as to whether it considers a focus on cars, brands, or energy efficiency to be most appropriate, would be welcome. In addition, it is unclear how a sustainable code fits in with reducing new car CO_2 emissions.

The UK automotive industry is considering how such work may be taken forward. In the UK, the Government has been proactive in raising consumer awareness of CO2, with its "Act on CO_2" campaign[2]. The campaign gives tips for better driving and car maintenance and now allows consumers to calculate their household carbon footprint. This, in addition to a Low Carbon Transport Innovation Strategy, a new Planning White Paper, Energy White Paper, Draft Local Transport Bill and Draft Climate Change Bill demonstrates the UK Government's attempt to take a holistic approach to tackling climate change – an Integrated Approach.

The Commission should consider the impact of a sustainable code of advertising and whether it can have a significant role in introducing this in conjunction with the automotive industry, possibly following the UK's example detailed above.

treasury.gov.uk/independent_reviews/stern_review_economics_climate_change/sternreview_index.cfm

9.0 Conclusion

The potential for regulation to be complex and restrictive with regards to reducing CO2 from tailpipe emissions is high. The Commission in proposing draft legislation must remember the importance of:

- The Integrated Approach: to reduce real world CO_2, all relevant stakeholders must be involved.
- Regulatory certainty: in order to foster the "right" regulatory environment and maintain consumer choice.
- Longer lead-times for the regulation: 2012 is too soon.
- Greater credit for supplementary measures: 10g/km is not enough, and does not factor in increasing the importance of biofuels, low rolling resistance tyres, and other technologies on the market today.

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[2] http://actonco2.direct.gov.uk/index.html