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Submission Cover Sheet

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Comment to Light Vehicle CO₂ Emission Standard Key Issues Paper

Background

Mitsubishi Motors Australia Ltd (MMAL) is a wholly owned subsidiary of Mitsubishi Motors Corporation (MMC), Japan. MMAL is an importer and distributor of motor vehicles built by Mitsubishi Motors group companies in Japan and Thailand.

MMAL is a member of the Federal Chamber of Automotive Industries (FCAI), the peak industry body representing vehicle manufacturers and importers of passenger cars and light commercial vehicles, and motorcycles in Australia. Mitsubishi Motors Corporation is a member of the Japanese Auto Manufacturers Association (JAMA), the equivalent representative body in Japan.

Australia is one of the most open and competitive automotive markets in the world with more than 50 brands, 350 models from 20 source countries.

Whilst new vehicle sales were approximately 1 million units in 2010 and are expected to remain similar in 2011, these volumes represent less than 1% of the global market. Less than 20% of new vehicles sold in Australia are manufactured locally with the remainder being fully imported. MMAL sales volume is approximately 6% of the total Australian market.

MMAL has actively participated in the discussion relating to Vehicle Fuel Efficiency and Carbon Dioxide (CO₂) emissions since the Australian Transport Council (ATC) and Environment Protection and Heritage Council (EPHC) prepared a discussion paper entitled ‘Vehicle Fuel Efficiency: Potential measures to encourage the uptake of more fuel efficiency, low carbon emission vehicles’. MMAL made submission to that paper and much of the content remains relevant to the CO₂ emissions discussion.

In response to the call for public comment on the current ‘Light Vehicle CO₂ Emission Standards For Australia’ paper, the FCAI has prepared a submission which MMAL fully supports and endorses. This MMAL paper represents MMAL’s additional and supplementary comment to the FCAI submission.
General comments on CO$_2$ abatement from Australian transport

MMAL believes that any reduction in CO$_2$ from the transport sector is a multi-faceted problem and, in order to be most effective, solutions should consider all facets and be constructed using a systems approach including better drivers, better vehicles, better fuels and better infrastructure.

The adoption of regulation of CO$_2$ emissions from motor vehicles ignores many significant inter-related issues including, but not limited to, taxation treatment of vehicles and transport fuels, urban congestion and traffic flow control and their effect on total air quality, public transport systems, driver behaviour and specifically economical driving and the age of the Australian vehicle fleet. A number of these issues are discussed in further detail in the appendices.

The benefit of implementing some or all of these potential solutions in addition to the proposed CO$_2$ regulation is that they apply across the entire vehicle population base and real world CO$_2$ abatement benefits accrue at a much more rapid pace.

MMAL recommends that all such factors be taken into account because they have broadly-based, significant effect on CO$_2$ emissions and, as a result, on the ultimate success of any policy implemented to reduce transport based CO$_2$ emissions.
Mitsubishi Motors Australia Ltd’s Comment

- The automotive industry has been pro-actively involved in fuel efficiency improvement and CO₂ emissions abatement activities since 1978. These activities have been successful resulting in a 15% reduction of CO₂ emission since 2000. CO₂ emission reduction at accelerated rates are not feasible without significant changes in consumer preference.

- Australian vehicle design rules are largely harmonised with UN ECE standards. Emissions of CO₂ are measured under UN ECE Regulations 83 and 101. These regulations are also used in European CO₂ regulation, MMAL strongly encourages Government to harmonise CO₂ measurement and reporting methodology with the European model which adopts mass as its parameter for determining specific corporate targets within an industry based scheme.

- In the absence of any other policy option being implemented to promote the uptake of Electric Vehicles in the Australian motor vehicle market, Electric and Plug-in Hybrid electric vehicles should be incentivized in the CO₂ regulation in order to provide strong incentive for brands to introduce these advanced technologies into the Australian market sooner than commercial forces would demand.

- Government should establish its own database within the Road Vehicle Certification system to administer the CO₂ regulation data. MMAL does not believe that it is appropriate for government to rely on Vfacts or any other non-government sources of data, particularly sales related data.

- Automotive development and sales cycles do not operate in the short term, refer appendix IV. This must be considered when setting mandatory CO₂ regulation targets, especially the 2015 target point because industry’s trajectory towards the 2015 point has already been set in forward product and development plans.
Mitsubishi Motors Australia Ltd’s Additional Comments

- Vehicle fuel efficiency is only one of a number of factors contributing to CO₂ emissions from the transport sector.

- International experience shows that systems based solutions including all contributors are likely to be most effective in CO₂ emission abatement.

- Government’s focus should be expanded to include other non-vehicle based factors which contribute to CO₂ emissions including driver behaviour, roads and infrastructure and vehicle fuels.

- Government should invest in improved infrastructure and Intelligent Transport Systems to improve traffic flow and reduce traffic congestion.

- Government should invest in driver training and information initiatives to promote the wide spread adoption of economical driving practices.

- Government should actively promote strategies for reducing the Australian vehicle population age concentrating on retiring the oldest and least fuel efficient vehicles from the fleet.

END OF COMMENT
APPENDIX 1 - Traffic Congestion and Traffic Flow

Studies in Japan concluded that improved road traffic flow increases vehicle travelling speed which in turn leads to improvements in fuel efficiency and consequently decreases CO$_2$ emissions$^1$ per kilometre travelled.

Improvements in road traffic flow can be achieved by investment in road infrastructure and Intelligent Transport Systems which:

a) Interactively control traffic signals in real time  
b) Provide navigation systems with real time information on road traffic congestion  
c) Advise alternative route information.  
d) Collect data for future urban planning

Recommendation:
Government should invest in improved infrastructure and Intelligent Transport Systems to improve traffic flow and reduce traffic congestion.

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APPENDIX II - Driver behaviour

Driver behaviour has a significant influence on vehicle fuel efficiency and CO₂ emissions. The International Energy Agency studies concluded that economical driving patterns could decrease CO₂ emissions by up to 25% in the short term and by up to 15% in the longer, medium term.

Impacts on On-Road Fuel Efficiency of International Ecodriving Initiatives

<table>
<thead>
<tr>
<th>Country</th>
<th>Scope of Initiative</th>
<th>Impact (Short Term)</th>
<th>Impact (Mid Term)</th>
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<tbody>
<tr>
<td>Netherlands</td>
<td>National</td>
<td>Up 10~20%</td>
<td>Up 5~10%</td>
</tr>
<tr>
<td>Austria</td>
<td>National</td>
<td>Up 10~15%</td>
<td>Up 5~10%</td>
</tr>
<tr>
<td>Japan</td>
<td>Driver Training courses Ecodriving contests</td>
<td>Up 10~25%</td>
<td></td>
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<tr>
<td>Germany</td>
<td>National (new drivers) Professional fleet drivers Passenger-car driver training courses</td>
<td>Up 6<del>10% Up 10</del>25%</td>
<td>Up 6<del>10% Up 6</del>8%</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>Fleet operators/drivers</td>
<td>Up 10%</td>
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Many manufacturers are already providing driver aids such as fuel efficiency gauges in their new products to assist the driver in achieving more economical driving. Figure 1 shows an example of such a gauge which is included in most new Mitsubishi vehicles sold into the Australian market.

Tips to promote Fuel-Conserving Eco-driving include
1) Accelerating Gently 6) Not warming up the vehicle’s engine before starting off
2) Keeping vehicle speed constant 7) Planning the itinerary
3) Slowing down by decelerating rather than by braking 8) Checking the vehicle’s tyre pressures regularly
4) Using vehicle air conditioning only when necessary 9) Reducing the vehicle’s load
5) Not idling the vehicle engine unnecessarily 10) Respecting parking regulations

Recommendation:
Government should invest in driver training and information initiatives to promote the wide spread adoption of economical driving practices.
APPENDIX III - Fleet age and CO₂ Emissions Performance

The average age of the Australian vehicle population is 10.0 years and, as such, is one of the oldest fleets in the developed nations.

As such, approximately 50% of the vehicles in the vehicle population were designed to meet ‘Australian Design Rule (ADR) 37/01 EMISSION CONTROL FOR LIGHT VEHICLES’, which was based on United States Environmental Protection Agency (US-EPA) regulations mandated in 1990.

ADR 37/01 has successively been superseded by increasingly more stringent emissions regulations, with the currently mandated ‘Australian Design Rule (ADR) 79/02 - Emission Control for Light Vehicles’ being equivalent to the European Stage 4 regulation which is still in force in Europe. ADR 79/03 which is basically equivalent to European Stage 5 regulation is to become effective in 2013.

The high age of the Australian vehicle fleet directly affects the rate at which successively more stringent emission requirements and the consequential improvement in CO₂ emissions performance contribute to improvements in overall air quality and CO₂ abatement. If a higher the percentage of the vehicle fleet can be moved towards lower CO₂ emissions, an overall benefit in air quality can be achieved.

Trends in In-Use Passenger Car Age in Japan

Recommendation

Government should actively promote strategies for reducing the Australian vehicle population age concentrating on retiring the oldest and least fuel efficient vehicles from the fleet.
APPENDIX IV - Product Development Cycles

Release of an all new model provides the highest potential for major advancements achieved by the introduction of new technologies including those specifically related to CO$_2$ emission reduction.

With the complexity of modern motor vehicles, development of an all new vehicle model is an extensive and expensive undertaking. Whilst the time to actually develop such a model has fallen in recent times assisted by the use modern Computer Aided Engineering (CAE) techniques, the minimum development time from the end of the initial concept phase, which itself can take up to 18 months, is unlikely to be less than 18 months and is more likely to be 24~30 months.

![Product Development Cycle Diagram](image)

Typical automotive product sales cycles range between 5 and 10 years. This means that a completely new model that was introduced into the Australian market in 2011 is not likely to be replaced by another all new model of the same size and target customer group until at least 2016. Conversely, a new model which is first conceived at the end of 2011 and takes into account known regulatory requirements at that time could not be ready for introduction to the market until at least the end of 2015. Automotive manufacturer’s advanced product plans take such development and sales cycles into account and are therefore already in place for the initial timeframe of the proposed regulation.

The implication of this is that any mandatory CO$_2$ emission standards which has an industry wide target of 190 gCO$_2$/km in 2015 i.e. the current government and independent projection for NACE value in 2015, will be extremely difficult to achieve without a large change in consumer demand for significantly more fuel efficient models.