



**BOSCH**

**Response from Robert Bosch (Australia) Pty Ltd**

Vehicle Emissions Working Group  
Department of Infrastructure and Regional Development  
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10 March 2017

**Re: Vehicle emissions standards for cleaner air – draft Regulation  
Impact Statement, December 2016**

To whom it may concern,

Robert Bosch (Australia) Pty Ltd (BOSCH) supports harmonisation of Australian Design Rules with leading United Nations (UN) international regulations for the reduction of noxious vehicle emissions and welcomes the opportunity to provide input to the Australian Government Ministerial Forum.

As a major supplier to automotive vehicle manufacturers worldwide, Bosch has experience and knowledge regarding systems for control of combustion and treatment of exhaust gas pollutants for gasoline, diesel and alternative fuelled engines.

**Key messages**

- Harmonisation with European Union (EU) regulations supported
- Adoption of Euro 6 supported
- Sulfur in petrol needs to be lower; 10ppm recommended
- Other than sulfur levels in petrol, no technical impediment to adoption of Euro 6 for light or heavy duty vehicles

Harmonisation with UN EU regulations and adoption of Euro 6 noxious emissions standards

**Bosch supports adoption of Euro 6 regulations for light duty and heavy duty vehicles in Australia**

Bosch supports the strategy of harmonisation of Australian regulations with leading international regulations for reduction of noxious exhaust emissions from light duty and heavy duty vehicles. We agree with the conclusion of the Department of Infrastructure and Regional Development Vehicle Emissions



Working Group's ('the Department') Cost Benefit Analyses that vehicle on-board technology-based solutions can be cost effective in reducing vehicle noxious emissions for improved air quality and health benefits. As final end-customer product specifications and pricing strategies are entirely at the discretion of vehicle manufacturers, we are not in a position to confirm specific cost impacts for the required technologies. We do however agree with the general estimates put forward by the Federal Chamber of Automotive Industries in the draft Regulation Impact Statement (RIS).

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#### Fuel quality for compliance with Euro 6 emissions standards

##### **Bosch recommends max. 10ppm sulfur fuels for Euro 6 compliant vehicles**

Bosch confirms the Department's finding that the level of sulfur in fuel is a key factor influencing the performance of technologies used to reduce vehicle noxious exhaust emissions, in particular the durability of three-way catalytic converters, particulate filters and filters for oxides of nitrogen (NO<sub>x</sub>). We agree that a maximum sulfur concentration of 10ppm in diesel is fully compatible with Euro 6 emissions systems and that concentrations of 50ppm or higher sulfur in petrol are not suitable for Euro 6 compliant systems. Bosch recommends harmonisation of fuel standards with those of other Euro 6 markets or the Worldwide Fuel Charter.

#### Euro 6 product technology readiness

##### **Apart from the current high sulfur levels in petrol, Bosch does not see any technical reason why Australia could not adopt Euro 6 for light duty and heavy duty vehicles**

As a manufacturer of high technology fuel injection, engine management and exhaust treatment systems for many of the world's vehicle manufacturers, we confirm the maturity and readiness of Euro 6 compliant solutions. Such solutions are already in mass production in European markets and variants of these solutions are in mass production for other leading markets with similarly stringent emissions regulations. Bosch therefore believes that aside from the current high levels of sulfur in petrol, there is no technical impediment to adoption of Euro 6 emissions regulations in Australia for either light duty or heavy duty vehicles in the time frame proposed by the draft RIS.



We would be happy to support the Working Group or the Ministerial Forum with additional information should any of the above require further clarification.

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Yours sincerely,

Matt Turner

Technical Specialist – Automotive Powertrain Systems

*Bosch has had a presence in Australia since 1907, opening its first wholly owned subsidiary, Robert Bosch (Australia) Pty Ltd in 1954. Bosch generates revenues of more than 750 million Australian dollars per annum in Oceania, and employs over 1,400 associates. Our regional activities are operated through six wholly owned subsidiary companies and cover a diverse range of businesses including household appliances, security technology, power tools and accessories, engineering services and contract manufacturing, parts and equipment for automotive workshops and motorsport enthusiasts, franchised car servicing, equipment, services and solutions for manufacturers, drives and control technology, software innovations, hot water and heating systems, packaging technologies and service support for Bosch equipped eBikes.*

*The Bosch Group is a leading global supplier of technology and services. It employs roughly 390,000 associates worldwide (as of December 31, 2016). According to preliminary figures, the company generated sales of 73.1 billion euros in 2016. Its operations are divided into four business sectors: Mobility Solutions, Industrial Technology, Consumer Goods, and Energy and Building Technology. As a leading IoT company, Bosch offers innovative solutions for smart homes, smart cities, connected mobility, and connected industry. It uses its expertise in sensor technology, software, and services, as well as its own IoT cloud, to offer its customers connected, cross-domain solutions from a single source. The Bosch Group's strategic objective is to create solutions for a connected life, and to improve quality of life worldwide with products and services that are innovative and spark enthusiasm. In short, Bosch creates technology that is "Invented for life." The Bosch Group comprises Robert Bosch GmbH and its roughly 450 subsidiaries and regional companies in some 60 countries. Including sales and service partners, Bosch's global manufacturing, engineering, and sales network covers nearly every country in the world. The basis for the company's future growth is its innovative strength. At 120 locations across the globe, Bosch employs 59,000 associates in research and development.*

*The company was set up in Stuttgart in 1886 by Robert Bosch (1861-1942) as "Workshop for Precision Mechanics and Electrical Engineering." The special ownership structure of Robert Bosch GmbH guarantees the entrepreneurial freedom of the Bosch Group, making it possible for the company to plan over the long term and to undertake significant up-front investments in the safeguarding of its future. Ninety-two percent of the share capital of Robert Bosch GmbH is held by Robert Bosch Stiftung GmbH, a charitable foundation. The majority of voting rights are held by Robert Bosch Industrietreuhand KG, an industrial trust. The entrepreneurial ownership functions are carried out by the trust. The remaining shares are held by the Bosch family and by Robert Bosch GmbH.*