

TOYOTA

Submission by
Toyota Australia
to
**Ministerial Forum on
Vehicle Emissions
*Vehicle Emissions Standards
for Cleaner Air
Draft Regulation Impact Statement***
March 2017

1. Introduction

Toyota Australia welcomes the opportunity to provide further input into the federal government's ministerial forum on vehicle emissions. In addition to the carbon emission reduction strategies that are currently being put in place to mitigate the effect of global warming, it is evident that there are also many challenges involved in tackling air pollution and its health impact on the Australian population. Toyota Australia recognises that all participants within industries that contribute to air pollution have a prominent role to play in combating its impact, and we reaffirm our commitment to assist the government in developing a vehicle emission regime and associated supporting measures that contribute to the reduction of harmful pollutants such as NO_x, CO and NMHC.

Toyota Australia is also pleased to note that Regulation Impact Statements and a Discussion Paper were released in conjunction in December 2016 covering the establishment of vehicle emissions standards for vehicle efficiency; noxious and particulate emissions from new light vehicles; and fuel quality standards. Toyota Australia, in addition to other automotive brands and the Federal Chamber of Automotive Industries (FCAI), have been consistent in our message that any changes to the future regulatory regime, as well as amendments to associated measures such as the mandated quality of fuel and government measures to support the take-up of more environmentally friendly vehicles, must be simultaneously introduced in order to be truly effective. In light of the remaining milestones still to occur as part of the vehicle emissions review, Toyota Australia reiterates this request for a holistic approach to the introduction timing of all measures included under the review.

In addition to the coordinated introduction timing of all measures confirmed in the vehicle emissions review, Toyota Australia strongly advocates that any mandated emissions regime incorporating standards to limit CO₂ emissions and vehicle pollutants (such as NO_x, CO & NMHC) must be accompanied by associated changes to fuel quality standards and measures to encourage the further supply and demand of low emission vehicle technology. Toyota Australia also believes that the regulatory system introduced needs to take into consideration the unique conditions of the Australian market, and therefore it is not appropriate to apply the same parameters as used in overseas markets. In addition, Toyota Australia proposes that any regulatory regime for light vehicles is complemented by other measures that aim to reduce emissions from the overall transport sector, including from the in-service fleet of light vehicles and from other modes of transport.

In Toyota Australia's April 2016 response to the Ministerial Forum on Vehicle Emissions Discussion paper, we highlighted Toyota's global 2050 environmental challenge, of which the first measure includes the objective of reducing global Toyota new vehicle CO₂ emissions by 90 per cent by 2050 (in comparison with 2010 levels). In conjunction with this global approach, Toyota Australia has undertaken a number of significant measures throughout 2016 on this journey. This includes the launch to the Australian market of low emission models such as the 4th generation Prius, the introduction of hybrid variant of the Corolla and continued promotion of other Hybrid models such as Camry, Prius C and Prius V. With hybrid models (which can achieve approximately 40% less emissions over their lifecycle compared to standard internal combustion engine¹) having now been on sale in Australia for almost twenty years, Toyota Australia is also continuing to proactively work towards the introduction of the zero emission fuel cell vehicle to the Australian market, and have reinforced this commitment by acquiring three vehicles and a mobile refueller to assist with this strategy. Underpinned by continued emission reduction strategies across all of our vehicles, these developments demonstrate that Toyota, both globally and in Australia, are strongly invested and are striving to achieve a lower emission future.

¹ Toyota Motor Corporation 'Environmental Report – Toward the Toyota Environmental Challenge 2050' (pg.18)

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This submission provides Toyota Australia's response to the overarching direction included in the 'Regulation Impact Statement (RIS) Vehicle Emissions Standards for Cleaner Air', released in December 2016. Toyota Australia also broadly endorses the response provided by the FCAI on behalf of the automotive industry to this review. Toyota Australia look forward to participating fully in the RIS submission process and working closely with the inter-governmental working group throughout this period.

2. Key facts

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| Facts and Statistics | <ul style="list-style-type: none"> ▪ Presence in Australia since 1959 ▪ 14 consecutive years as Australia’s best-selling automotive brand with 17.8% market share in 2016 ▪ 3,900 employees ▪ 2016 production and sales: <ul style="list-style-type: none"> - Toyota domestic sales: 209,610 <ul style="list-style-type: none"> ○ Passenger: 87,572 (42%) <i>Hybrid: (8% of passenger vehicle sales)</i> ○ SUV: 63,099 (30%) ○ Light commercial: 58,939 (28%) - Lexus domestic sales: 9,028 <ul style="list-style-type: none"> ○ Passenger: 3,523 (39%) <i>Hybrid: 1,430 (41% of passenger sales)</i> ○ SUV: 5,505 (61%) <i>Hybrid: 1,612 (29% of SUV sales)</i> - Australian vehicle production: 92,766 - Vehicles exported: 60,805 - Australian engine production: 92,766 - Engines exported: 7,343 - Export countries: 13 |
| Product Information | <ul style="list-style-type: none"> ▪ Market leader in hybrid technology <ul style="list-style-type: none"> - Introduced the first mass produced hybrid vehicle to the Australian market (Toyota Prius) - Manufactures the only Australian built hybrid vehicle (Camry Hybrid) ▪ Global pioneer in hydrogen fuel cell vehicle (FCV) technology <ul style="list-style-type: none"> - Commenced fuel cell development in 1992 - Launched the Toyota Mirai hydrogen FCV in Japan in 2014 followed by the US and EU in 2015 - Currently utilising three Mirai vehicles and a mobile refueller to promote this technology in the Australian marketplace ▪ Toyota Australia green vehicle product range: <ul style="list-style-type: none"> - Current <ul style="list-style-type: none"> ▪ Toyota (hybrids) <ul style="list-style-type: none"> • Prius • Prius C • Prius V • Camry Hybrid • Toyota Corolla Hybrid (launched in mid-2016) ▪ Lexus (hybrids) <ul style="list-style-type: none"> • CT200h • ES300h • GS300h • GS450h • IS300h • LS600h • NX300h • RX450h |

3. Key points

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| Overarching response | |
| Toyota Australia supports a Euro 6 standard for both light vehicles and heavy vehicles, on the provision that a higher mandated quality of fuel is simultaneously introduced. The ability for manufacturers to meet the conditions of Euro 6 standards is contingent upon the introduction of higher quality fuel, as Euro 6 vehicle technology can only achieve the emission requirements when run on 95 RON fuel with 10ppm sulphur content. Toyota also supports the introduction of Euro 6 standards as legislated under UN regulations (UN-R) at a minimum two years after the legislation is enacted (i.e. Euro 6b or 6c). | |
| A. RIS scenarios | <ul style="list-style-type: none"> ▪ Toyota Australia supports Option 6 outlined in the RIS that mandates Euro 6 standards for both light vehicles and heavy vehicles. Toyota stipulates however that only if an improved mandated quality of fuel (i.e. 95 RON with 10ppm sulphur) is also implemented can the in-service requirements under Euro 6 standards be met. As a result, only once fuel quality is improved would Toyota Australia be willing to introduce Euro 6 compliant vehicles. |
| B. Which Euro 6/VI standards are to be adopted in Australia? | <ul style="list-style-type: none"> ▪ Toyota Australia is of the position that Australia should only adopt a standard once it has been legislated under a UN-R by Working Party (WP) 29. While the EU is preparing to implement Euro 6d in September 2017, Australia should not consider Euro 6d until it is legislated under a UN-R. ▪ Based on this stance, Toyota Australia would recommend that the emission standards most appropriate in the Australian market would be those under UN-R 83/07 for light vehicles and those under UN-R 49/06 for heavy vehicles. ▪ Regarding heavy vehicles, Toyota Australia would also request an equivalent Japanese standard (i.e. Post New Long Term) or US standard for petrol engines, as these are currently not covered in the relevant UN regulations. |
| C. Worldwide Harmonized Light-duty Test Procedure (WLTP) | <ul style="list-style-type: none"> ▪ Toyota Australia's view is that only once WLTP is legislated under UN-R within WP29 should it be implemented in Australia. ▪ Until WLTP testing is legislated under a UN-R, Australia should continue to use the New European Drive Cycle (NEDC), which is the current test cycle under UN regulations. |
| D. Real Driving Emissions (RDE) Testing | <ul style="list-style-type: none"> ▪ Similarly to WLTP, Toyota Australia is of the position that only once RDE is legislated under a UN-R by WP29 should it be implemented in Australia. This is to ensure the RDE test parameters are applicable to country specific conditions and not only to the EU region. ▪ Since the current RDE testing method with PEMS (Portable Emissions Measurement System) utilised overseas produces results that show large variations in emission readings and therefore are yet to demonstrate reliable reproducibility, Toyota Australia advocates for |

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| | <p>RDE testing to be utilised as a supplementary means for monitoring emissions from in-use vehicles rather than the definitive test method for the purpose of official exhaust emission certifications.</p> <ul style="list-style-type: none"> ▪ As current UN regulations (UN-R83) stipulate that in-service testing be undertaken in order to comply with Euro 5 standards, Toyota Australia recommends this measure is adopted to ensure vehicles comply with standards while in use, in addition to compliance at the point-of-sale. |
| <p>E. Timing for implementation of Euro 6.</p> | <ul style="list-style-type: none"> ▪ Toyota Australia advocates for a minimum two year period from the time of the ADR's legislation being enacted to the implementation of Euro 6 standards for 'New Models'. ▪ Implementation will be fully dependent however on the availability of higher quality fuel (i.e. 95 RON fuel with 10ppm sulphur), which is necessary for Euro 6 vehicles to achieve emission requirements while in service. ▪ In regards to Euro 6d standards in particular (i.e. those to be introduced in Europe in September 2017), these are yet to be legislated into a UN-R under WP29. The earliest introduction timing to the Australian market is likely to be 2022 for new models once the applicable ADR has been legislated following the development of a UN-R. |
| <p>F. Importance of Fuel Quality</p> | <ul style="list-style-type: none"> ▪ Toyota Australia supports the breadth of research that demonstrates vehicles require fuel with 10ppm sulphur in order to meet emission standards under Euro 6. ▪ Toyota would only support Euro 6 standards if implemented alongside mandatory higher quality fuel (i.e. 95 RON with 10ppm sulphur). ▪ During the transition away from the current fuels on the market, Toyota Australia requests that there is price parity between 91 RON and 95 RON so that there is no incentive to use lower quality fuel in Euro 6 vehicles. |