



3 December 2020

**Submission to National Transport Commission  
Heavy Vehicle National Law Review**  
Tesla Motors Australia & New Zealand.

Thanks for the opportunity to have input into this review.  
Every State and Territory government has now set net zero by 2050 pollution reduction targets.

However, climate science is clear that net zero by 2050 may not be enough to stabilise global warming below 1.5 or even 2 degrees this century. Australia has already reached 1.5 degrees of warming above pre-industrial levels<sup>1</sup>. The Paris Agreement makes it clear that the world has a total 570 Gt “carbon budget” to 2100 to stabilise global warming at 1.5 degrees. In just three years since that Agreement was reached, globally we have emitted over 80% of that budget. With only 110 Gt of emissions remaining and global emissions currently at 43 Gt annually, we are on track exceed our 1.5-degree budget for the century in just 2.5 years hence<sup>2</sup>.

As the hottest, driest continent on earth, there’s a lot at stake for Australia as this year’s catastrophic bushfires made clear. The Bushfire Royal Commission made clear that these fires were driven by climate change, and for extreme weather the “unprecedented is now our future.”<sup>3</sup>

In that context, the rapid decarbonisation of Australia’s heavy vehicles is an urgent imperative. Because vehicles often have a lifespan well over a decade, we must cease putting new combustion engine vehicles on our roads within 10 years to reach net zero by 2040, or 20 years at the latest to enable decarbonisation by 2050. This will require deep changes to the heavy vehicle sector. California has now mandated that 5-9% of heavy vehicles on their roads must be zero emissions vehicles (ZEVs) by 2024, and 30-50% of medium and heavy vehicles must be ZEVs by 2030<sup>4</sup>. Australia and New Zealand should follow suit with clear targets for decarbonisation of heavy vehicles.

The Commission would also be aware of the deadly impact of vehicle particulate pollution to public health. Vehicle pollution kills more Australians each year than vehicle accidents. 1715<sup>5</sup> deaths are caused by toxic vehicle pollution across Australia each year, and the burden falls mainly on infants, the elderly, and those with respiratory illness worsened by constant exposure to deadly sulphur and other noxious pollutants.

Moving from diesel and petrol vehicles to vehicles with zero tailpipe emissions is an important lever to reduce deaths and illness caused our roads. These deaths occur in respiratory wards rather than roadside accidents, but they are every bit as tragic and avoidable as road accident fatalities and deserve every bit as much attention.

Tesla is among many companies rushing to manufacture zero emissions heavy vehicles. The Tesla Semi is an all-electric set for mass production in 2021 for North America with a range of ~400km or ~800km and energy consumption of less than 1.2 kWh/km.

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<sup>1</sup> Australian Bureau of Meteorology “Australian climate variability and change” Accessed December 2020

<sup>2</sup> IPCC SR1.5 Table 2.2; GCP 2019; Steffen et al. 2018

<sup>3</sup> Royal Commission into National Natural Disaster Arrangements Report, 30 October 2020

<sup>4</sup> California Air Resources Board, “Advanced Clean Trucks Fact Sheet”, June 25 2020

<sup>5</sup> Parliament of Victoria, ‘Inquiry into electric vehicles’ May 2018

Australia has lagged the world on electric vehicle uptake in the passenger and light commercial sectors. To avoid replicating that mistake for heavy vehicles, this review has an important role in identifying and clearing barriers to electrification.

**The clearest immediate barrier from Tesla's perspective is Australia's 2500mm width limit in ADR 43/04.**

The Tesla Semi, for example, is 2534mm wide. The US allows 2600mm heavy vehicles and the EU 2550mm. The Commission will be aware that given Australia's small size in comparison to global markets, inconsistencies like this between Australian regulations and larger markets will delay or preclude vehicles coming to local markets. Currently, Australia will likely miss out on the first generation of electric heavy vehicles such as the Tesla Semi because of this.

Beyond the direct carbon emissions impact this in the short term, this outcome would delay and stunt Australia's broader uptake of electric heavy vehicles. Early electric models have the important role of proving market readiness, emboldening others to bring models to market. They also help the market adapt and learn to new technologies and business practices. In the case of heavy vehicle electrification, these are myriad and include large investments in megawatt vehicle charging; new technologies to aid safety and driver fatigue; and changes to freight routes and logistics to accommodate recharging.

In short, Tesla thanks the National Transport Commission for conducting this review and urges the Commission and governments of all levels to prepare for rapid decarbonisation, starting with urgent changes to ADRs to bring early electric vehicles to market.

Sincerely

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Tesla Australia & New Zealand.