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Impacts of Heavy Vehicle Reform
Productivity Commission
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Interim Report Feedback – DUKA Tec

Executive Summary

DUKA Tec (with our assembly partners) are bringing scale light/medium duty electric truck assembly and deployment to Australia. Our collective feedback on the Impacts of Heavy Vehicle Reform Interim Report is primarily focused on (5) Heavy Vehicle Curfews and (6) The National Heavy Vehicle Driver Competency Framework.

Feedback

Information Request 5.2: What are the practical options for implementing exemptions for zero emissions vehicles from curfews?

In case of light and medium duty zero emission delivery vehicles, they would typically be performing approved afterhours home deliveries for shift workers etc. Community-would be the first means for ensuring only zero emission vehicles were operating outside of normal hours. A noise complaint (non-compliant) hotline should be established and stickered to all approved zero emission vehicles, to enable ease of reporting of non-electric delivery vehicles operating outside of the curfew.

The London Police, through Transport for London (TfL), uses fixed and mobile CCTV with number plate recognition to identify non-compliant vehicles. This has proven high effective.

The Santa Monica zero emission delivery zone in California relies on self-regulation. As further incentive for delivery vehicle operators to comply and utilise zero emission vehicles, many designated parking zones have established for zero emission vehicles only, which are monitored by the Santa Monica Council and its parking authorities.

Information Request 6.1: Weight concessions in Australian licence classes to create parity between payloads for electric and diesel heavy vehicles and any safety implications of such a concession.

Australia has a unique regulatory requirement that limits a C Class Driver Licensed driver to a maximum 4.5t GVM vehicle. In some circumstances that same driver can tow a trailer in addition to the 4.5t GVM. This regulatory restriction dates back to a time when braking systems were not as effective, ABS and AEBS were not standard features, driver's weren't as well trained and roads not as good.

Most 4.5t restricted vehicles in Australia are designed by the OEM for 6t+ GVM, so there are no design limitations to allowing these vehicles to be operated at their design GVM, rather than the 4.5t restriction to the C Class Driver License. In order to drive productivity in this segment, it makes sense to allow new generation electric vehicles ONLY to operate up to 6t GVM, without any towing allowance.

A battery electric 4.5t truck retains approx. 300kg of additional tare weight due to the battery, so a 6t GVM allowance would provide a 1,200kg productivity benefit per unit per trip. Assuming 1 trip per day, for 260 working days per year, that equates to a 312t productivity gain per annum per vehicle. In 2025 there were 13,712 off 4.5t commercial delivery vehicles sold. If all were electric, that would equate to a 4.3 million tonnes of annual payload available per annum, equating to increased productivity and reduction of fleet requirements.

If the medium duty segment was included for a 1,200 payload benefit with 6,672 annual sales in 2025, the annual payload increase would increase to more than 6 million tonnes per annum (or 60 million tonnes after 10 years).

A reduction of annual Australian diesel consumption for the same 20,000 units, would equate to approx. 2% per annum, or 20% over a 10 year period of time.

OTHER BENEFITS AND OPPORTUNITIES:

1. **Positive Health Benefits of Reducing Diesel Particulate Matter in Metropolitan Areas**

The California Air Resources Board (CARB) has conducted extensive research on the impacts of Diesel Particulate Matter (DPM) in metropolitan areas.

CARB have reported the estimated health effects of DPM in California as follows:

"DPM has a significant impact on California's population. It is estimated that about 70% of total known cancer risk related to air toxics in California is attributable to DPM. Based on 2012 estimates of statewide exposure, DPM is estimated to increase statewide cancer risk by 520 cancers per million residents exposed over a lifetime. Non-cancer health effects associated with exposure to DPM (based on 2014 - 2016 air quality data) are shown in the table below."

Health Effect	Estimated Annual Number of Cases*
Cardiopulmonary Death	730 (570 – 890)
Hospitalizations (Cardiovascular and Respiratory)	160 (20 – 290)
Emergency Room Visits for Asthma	370 (240 – 510)

**Values in parenthesis indicate 95% confidence interval.*

2. Introduce Zero Emission Delivery Zones

As a means to drive fleet uptake and allow smaller trial areas, the US has introduce a number of zero emission delivery zones. These are typically, small, high density areas (such as the few square mile area in Santa Monica, CA). These areas mandate that any deliveries performed in that small area, MUST be via zero emission delivery vehicle.

This has proven a successful way to enforce early uptake of electric delivery vehicles and ensure controlled trial areas for their use.

3. Incentivise Electric Vehicle Uptake for Tier 2 and Tier 3 Operators

Smaller fleets are typically more conservative when it comes to a change of technology, in particular when it may incur an upfront premium. As much as the sale of volume electric commercial vehicles in the future will be justified on purely a TCO (Total Cost of Ownership

basis) initial deployments are needed to prove that annual operating cost saving of tradition ICE vehicles.

The most successful incentive program in the US is known as HVIP (the Heavy Vehicle Incentive Program) and is administered by CARB (the Californian Air Resources Board). Although created by California, it's framework has been adopted in more than 20 US states now. I would recommend any incentive program in Australia be singular and Federal. This program provides for up to 90% of the upfront cost of an electric commercial vehicle (typically capped at 5 units per fleet) to be subsidised. The program allocates fund across fleet sizes, to ensure equal opportunity. Some states have adopted a high attractive leasing program (instead of upfront subsidy), whereby the state government own the vehicle and lease to the fleets at very low lease costs, with option to buy after certain periods of operation.

4. **Local Content Benefits within Incentive Programs to Promote Local Battery Assembly and Electric Vehicle Component Industry Development**

Many of the US incentive programs have different levels of incentives for the fleets depending on whether the electric commercial vehicle model they chose had ANY local content. They are typically focussed on recognising the locally produced/assembled batteries, power-electronics and upfit component supply. This may be seen in the form of a 50% incentive for full imported CBU (completely built up) vehicles and 100% for a vehicle that has any local component installed in Australia (in particular batteries).

The reality is that the power-system installation can be very efficient when performed in scale, and a 40,000 unit per annum Australian TAM provides a foundation to provide this scale. The objective should be for everyone of those 40,000 new units to arrive in Australia as a rolling chassis (i.e. no engine or transmission installed by the OEM) or as a PKD (partially knocked down kit) for local finishing/assembly, with Australian batteries, motors, controllers, wiring harnesses, power electronics, inverters, chargers, brackets, mounts etc used.

The flow on benefits to Australia's battery storage industry (both resident and commercial) are evident with this incentive strategy.

5. **Establish Mandatory Electric Vehicle Sales Milestones for Truck OEM's**

Existing and new OEM suppliers to Australia, MUST be provided with future annual zero emission sales targets, scaling each year. These don't need to be excessive. They should simply enforce the start of zero emission development and supplier by the major OEM's.

It's interesting to note that the vast majority of sales of the 40,000 units per annum of commercial vehicle market in Australia are from 3 Japanese suppliers (Hino, Isuzu and Fuso) yet the vast majority of electric commercial vehicles operating in Australia are from China. Until they are mandated, the Japanese will move very slowly. It's also interesting to note that all 3 of these Japanese suppliers have accepted zero emission sales mandates in the US for a number of years now, so can have no issue when Australia applies its own sales mandates.