

# GOOD TECHNOLOGIES



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## RESPOND TO DISCUSSION PAPER ON VEHICLE EMISSIONS

The Discussion Paper canvasses options for reducing Australia’s vehicle emissions. COPERT estimates of GHG emissions from vehicles in 2010 stood at 74.8 million CO<sub>2</sub>-eq tonnes (see *Australian Motor Vehicle Emission Inventory for the National Pollutant Inventory (NPI) by Robin Smit, 2014*). These are produced by 17.2 million vehicles (in 2015), 69% of which are at least 5 years old and 21% are at least 15 years old.

	Total*	➤ 5 years old <sup>†</sup>	➤ 15 years old <sup>†</sup>
Passenger Vehicles	13,549,449	70%	20%
Campervans	58,288	83%	48%
Light Commercial Vehicles	2,907,006	69%	23%
Light Rigid Trucks	140,625	72%	25%
Heavy Rigid Trucks	331,699	82%	43%
Articulated Trucks	94,975	71%	28%
Non-Freight Carrying Vehicles	23,361	80%	39%
Buses	95,149	73%	30%
TOTAL	17,200,552	69%	21%

\*ABS, Motor Vehicle Census – Australia, 31 January 2015

<sup>†</sup> Calculated using ABS data.

By focusing on “older vehicles” (ie 5 years and older), there is around 52 million CO<sub>2</sub>-eq tonnes that can be targeted for emissions reductions. Of this, the oldest vehicles (15 years old and over) are likely to deliver the greatest benefit-cost returns, making them prime targets for an emissions reduction scheme.

For the owners of in-service vehicles, new technologies like electric vehicles and hydrogen fuel are not realistic options until they become affordable following significant economies in the scale of their production. Eco-driving can be an option. But once the fuel savings, reduced emissions and reduced safety risks are balanced against the costs of longer transit times (in terms of driver/labour cost, inventory costs and opportunity costs due to reduced business capacity), as well as the upfront (systems) and on-going (training, including staff time) costs involved, it may prove to be a non-option. As for biofuel, there is the trade-off between fuel efficiency, price and the resulting emissions to consider.

The paper has failed to mention another option available to reduce vehicle emissions: emissions reduction devices. This oversight was expected, given there didn't seem to be representatives from the automotive aftermarket during the initial stakeholder meeting conducted in December 2015. Furthermore, emissions reduction devices (more commonly marketed as fuel saving devices) have had a checkered past, culminating in the Firepower scandal ([https://en.wikipedia.org/wiki/Firepower\\_International](https://en.wikipedia.org/wiki/Firepower_International)).

Nevertheless, emissions reduction devices can form a flank to achieve Australia's GHG targets. It is unique in that it is an affordable way for every (vehicle-owning) citizen, as well as (vehicle-owning) small and medium business operators, to get directly involved in reducing their own carbon footprint – and participate in meeting the country's emissions reduction targets. Currently, the only other way to do this is via alternative energy – and this involves significant upfront investment in solar panels and batteries. Emissions reduction devices for vehicles, on the other hand, can involve a one-off cost of a few hundred dollars *for the life of a vehicle (ie for many years)*. Real-time fuel economy savings up to 14% have been reported, and tests show significant reductions in NO<sub>x</sub>, CO, HC due to more efficient combustion.

South Korea took this (emissions reduction devices) path to address the high pollution in key metropolitan areas (Seoul, Incheon and the Gyeonggi-do region), making it compulsory for specific types of vehicles to install emissions reduction devices or be penalised. The Ministry of Environment drew up the list of certified emissions reduction devices for vehicle owners and businesses to choose from and up to A\$400 - A\$500 was made available to subsidise the purchase of each of these devices.

Fuel savings devices continue to proliferate in Australia, some of which work and some don't. Every device that proves to be a sham tarnishes many more legitimate devices, present and future. Devices that boost combustion efficiency and that apply plasma technology to control air pollutants are either already in the market or in the horizon. The reputational damage inflicted by sham products will hinder innovation in this segment of the automotive aftermarket industry, which is now transitioning following the scheduled departure of the vehicle manufacturers (Toyota, GM and Ford) in 2017.

The following are options to enable legitimate emissions reduction devices to play a role in reducing Australia's vehicle emissions:

- *Formal certification process for emissions reduction devices.* This will provide clarity to both device manufacturers and users (vehicle owners/operators) of what their options are. The process can be free or fee-paying (affordable). Testing standards like AS 4430.2 – 2004 *Evaluation of devices, additives and processes which claim to improve vehicle performance*, or newly formulated ones, may form part of this certification process.
- *Tax deductibility of the device's purchase price, up to a certain amount, for personal use (as business use is already tax deductible).* This will apply only to certified devices.

Sincerely,

GRACE CHU TE  
*Director*