Title: Green stars for trucks – the missing piece in the freight decarbonisation puzzle?

This presentation discusses a trial of a green star rating for trucks operating in Australia, and the breakthrough such a scheme could provide to accelerate decarbonisation in road freight.

Road transport is one of the slowest sectors to decarbonise, and achieving global emissions targets will be difficult or impossible without accelerated action in road transport. Road freight emissions in particular continue to rise with a growing freight task, despite significant gains in productivity, safety, and tailpipe pollution.

There are many reasons for this. In Australia, the most critical factors are long asset life, lack of effective carbon policies, and information failures. As a relatively small market without fuel efficiency/CO_2 standards, manufacturers tend to prioritise other markets, resulting in very low uptake of fuel efficient technologies and alternative fuels. Coupled with a small population concentrated in a handful of cities separated by long distances, it is likely that diesel engines will continue to be sold for many more years in this market.

Recognising these constraints, a green star rating was developed to compare and communicate the environmental credentials of different trucks. Star ratings have been highly effective at changing consumer and business behaviour in other sectors and for other energy consuming equipment, so the concept was adapted to influence the purchasing behaviour of fleets. The truck rating uses a robust scoring process rewarding fuel economy and low emissions in the design features and specification of the truck, tailored to its intended usage. This establishes a technology-agnostic measure and a common language for decision-making across the logistics industry to improve efficiency, support innovation, and reduce costs. For instance, OEMs can use it to differentiate their products, freight customers can externally validate supplier practices, and governments can use it for incentive eligibility. Being applicable to both new and used trucks, such a rating can simultaneously educate, influence, and normalise better decisions across the entire fleet, not just for new truck sales.

A small-scale pilot covering key Australian truck applications was conducted in 2020-21, funded by governments and with the participation of OEMs and their dealers. The pilot proved the concept was workable, the delivery model was practical and (most importantly) acceptable to industry. This case study discusses the star rating, the scope and relevance of the pilot, the results and lessons from the trial, and insights for future implementation of such a tool to support broadscale decarbonisation of logistics.

Acknowledging the fast pace of technology development and regulations in other markets, the paper also explores the rating's relevance to, and recognition of, low and zero emission truck and fuel technologies. It shows that these technologies do not make such a scheme redundant, but are in fact enhanced by it. The presentation concludes with scenarios showing the significant emissions benefit such a rating could enable, whether adopted as a voluntary or regulated scheme. It therefore serves as an example of a simple 'no regrets' measure that could be implemented now to improve decision making and organisational learning throughout the freight supply chain.

Key words: net zero logistics, decarbonisation, transition, 'no-regrets', technology-agnostic, rating, efficiency, fuel economy, emissions.

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