

Key statistics

Average age of the heavy rigid truck fleet (years) ¹	15.4
Average age of the articulated truck fleet (years) ¹	10.7
LPG/dual fuel trucks in service ¹	3,696
Share of Australia's GHG emissions (per cent) ²	2.6

Modern trucks are subject to tight emissions standards and are considerably more fuel efficient than vehicles from only 30 years ago. The trucking industry could achieve even greater gains in fuel efficiency and reduce its greenhouse gas emissions through the use of longer, safer trucks on some routes.

Reducing non-greenhouse gas emissions from diesel vehicles

Australia first introduced emissions standards for heavy diesel vehicles in 1995 (for new model trucks) and 1996 (for all new trucks), with the introduction of the Euro 1 standard.

This standard restricted the emission of carbon monoxide, unburnt hydrocarbons, nitrous oxides and particulates from engines.

The standards have been tightened progressively since then. All new model trucks sold in Australia must now meet the Euro 5 standard; it will be extended to cover all new trucks from 1 January 2011.

As a result of the adoption of tighter emission standards, a new model truck manufactured today emits:

- ♦ 67 per cent less carbon monoxide than a pre-1996 truck, based on the ESC test;
- ♦ 58 per cent less unburnt hydrocarbons;
- ♦ 75 per cent less nitrous oxide; and
- ♦ 94 per cent fewer particulate emissions.

These standards apply to new trucks, so their environmental benefits are spreading as trucking operators renew their fleets.

The average age of Australia's articulated truck fleet is now 10.7 years, compared to 11.6 years in 2004.

Trucking companies have particularly taken advantage of the statutory cap on the effective life of trucks for depreciation purposes that was introduced in 2005.

Meanwhile, the fuel tax credits system provides operators with a compelling incentive to maintain their pre-1996 vehicles to minimise emissions.

To be eligible for fuel tax credits, pre-1996 trucks must be maintained in accordance with standards approved by the Australian Government or pass in-service emissions tests.

Fuel efficiency

Compared to the late 1980s, the trucking industry now uses less fuel to haul the same amount of freight the same distance.

Between 1989-90 and 2006-07, the energy intensity of all road freight declined at an average rate of between 1 per cent (for light commercial vehicles and rigid trucks) and 2 per cent (for articulated trucks) per year.

The improving fuel efficiency is due to the greater use of semi-trailers and B-doubles rather than smaller rigid trucks.



¹ ABS, *Motor Vehicle Census*, 31 March 2009 (ABS cat 9309.0)

² Department of Climate Change, *National Greenhouse Gas Inventory*.

Operators have also reduced their fuel consumption through improved driver training, aerodynamic improvements and rigorous engine maintenance.

Modern trucks are also considerably more efficient than older vehicles due to advances in engine technology.

For example, a Volvo truck manufactured today is 30 per cent more efficient than the same class of truck from the early 1980s.

The trucking industry could achieve even greater gains in fuel efficiency by using longer, safer vehicles such as B-doubles and B-triples on some routes, as the fact box shows.

Alternative fuels and hybrids

A growing number of trucking companies now use vehicles powered by alternative or dual fuels, with almost 3,700 of these trucks in service.

PACCAR Australia, the manufacturer of Kenworth trucks, now produces LNG trucks for the Australian market in its Bayswater factory.

Its LNG trucks can deliver a 20-25 per cent reduction in greenhouse gas emissions without sacrificing power and torque output.

A number of companies, including TNT, Toll and Simon National Carriers, are also trialling Hino diesel/electric hybrid trucks in major cities.

Environmental Best Practice Guide

In conjunction with the Department of Environment, Water, Heritage and the Arts, the ATA has published an environmental best practice guide for the trucking industry, with case studies covering 11 of the industry's leading companies.

More than 3,000 copies of the guide have now been distributed to trucking operators.

Fact box: Greenhouse benefits of increasing trucking industry productivity

In 2007 the NTC published a case study about the productivity benefits of using B-triples on intercapital routes. A B-triple is a truck with three trailers linked by turntables, rather than one (a semi-trailer) or two (a B-double). Two B-triples can do the work of five semi-trailers.

The study pointed out that a national linehaul trucking operator with 60 B-doubles and semi-trailers could use B-triples to reduce the number of trips by one in four, reduce operating costs by 22 per cent and save 3.7 million kilometres of truck travel per year.

By saving 3.7 million kilometres of B-double and semi-trailer truck travel, the linehaul operator could save more than 2 million litres of fuel per year and reduce its direct greenhouse gas emissions by more than 5,900 tonnes of CO₂ equivalent per year.