

# tackling climate change by design

AirRoad is leading the pack when it comes to environmentally-smart solutions and transport technology.

The AirRoad Group is a privately Australian-owned company specialising the transport of high-technology products and associated 3PL services. The company began operations in 1989 with the vision to provide a superior delivery service supported by cutting-edge technology and security systems to the prestige market. Founder Tim Paine opened the first AirRoad depot in Sydney in 1989, which was followed by Melbourne 1994, Brisbane in 1997 and Perth in 1999. The latest addition to the AirRoad family was Adelaide, which was established in 2005.

AirRoad was the first domestic transport carrier to introduce barcode scanning at an item level to track clients' freight in 1990, in which each item carries a barcode address label

that is scanned at all major transit points throughout the AirRoad network, producing an audit trail of every item. This innovative way of doing business is also evident in the company's proactive approach to 'doing their bit' for the environment and its customer base.

Climate change has presented the Australian community, industry and government with a need for a revolutionary policy approach in the establishment of commodity and financial markets aimed at facilitating the reduction of greenhouse gas emissions. The Australian Government has expressed its commitment to the introduction of emissions trading and greenhouse gas reporting, which will become mandatory for some companies in 2008/09.

Net greenhouse gas emissions from trucks totalled 14.4 megatonnes of

carbon dioxide equivalent (Co2-E), which means that the trucking industry contributes roughly 2.5% of gas emissions to the Australian greenhouse.

According to AirRoad's chief engineer Mick Egan, there is a lot that can be done within transport to reduce carbon emissions and implement sustainable technologies. Mick Egan is taking an engineering approach to the challenge of reducing greenhouse gas emissions, including the benefits of best management practices, operational improvements and further advanced technologies in future trailer designs.

Mick has been designing trailers for AirRoad for over eight years. Long before awareness about carbon trading and carbon management was evident, Mick was at his drawing board with a focus on designing trailers that would be

According to AirRoad's chief engineer Mick Egan, there is a lot that can be done within transport to reduce carbon emissions and implement sustainable technologies.



“We are absolutely proactive in our efforts to improve fuel efficiencies that result in positive benefits to environmental considerations.”

Tim Paine



larger cubic capacity and all the while remaining within the B-double and B-triple parameters.

Safety and stability are also key considerations, an example being the independent suspension of AirRoad's own design, which provides a lower centre of gravity and the ability to split the (pantech) trailer into two decks. The two-deck split into 1.8 metres and 2.2 metres significantly reduces freight compaction during long-distance journeys and over less-desirable roads. This has a positive impact in relation to freight and carton damage, resulting in significantly less damaged freight, which is visible in AirRoad's externally audited DIFOT, which is claimed to be the highest in the industry.

An additional advantage of this trailer design is that drivers experience better stability on the roads coupled with more freight capacity, allowing AirRoad to carry more freight than any other trailer. This leads to better fuel economy per tonne of freight – a plus for the environment, as well as safety for the drivers.

Originally, the pantech trailers were designed and built purely to reduce running costs and provide clients with cost effective savings. For example, one AirRoad prime mover tows in cubic capacity between 35%-50% more freight, using the same amount of fuel. More freight and the same amount of fuel is another positive when considering carbon management.

While initially AirRoad trailer designs were not motivated by climate change or carbon trading schemes, they certainly contribute solutions to this new and increasingly-important management consideration. Additionally, more and more companies are intentionally

choosing suppliers who assist them in reducing their overall carbon footprint. AirRoad is in line to be one of the preferred transport companies in the supply chain service industry.

AirRoad's special trailers have travelled a total distance of approximately 18 million kilometres without any complications in terms of design, and its stability has proven itself with no roll-overs.

#### FUEL EFFICIENCY

Mick Egan has explored energy loss in trucking for many years and believes that improved aerodynamics can radically enhance truck-fuel efficiency at highway speeds.

Examining the coefficient of drag (Cd), the measure of aerodynamics resistance, is an area where Mick has spent his energy along with others in the industry to obtain small efficiencies. “Something as simple as standard roof deflectors, which have been used on prime movers since the 70s, when added to a cab with no aerodynamic devices, will improve fuel economy by up to 6%” says Mick. “In the 80s, truck manufacturers began offering integrated cab-roof fairings with closed sides. This design resulted in improved efficiencies of up to 15% compared to a cab with no roof devices.”

AirRoad has also put the concept of close-coupled trailers in use with their B-doubles and B-triples, which adds to the efficiencies compared to the road train concept, where trailers are two-three metres apart, causing air turbulence and resulting in reduced fuel economy.

“We are absolutely proactive in our efforts to improve fuel efficiencies that result in positive benefits to

environmental considerations,” Tim Paine, Chairman of the AirRoad Group adds. “Cost savings may be a driver, however, the ‘being green’ is also a motivating factor. We know we are an integral component of our customers’ supply chains, and with a growing focus across all sectors about the environment, companies do want to choose someone who is doing their bit.”

“Cost savings can be significant with truck design issues, impacting fuel economies that are measurable and significant, delivering several thousand dollars per annum in fuel costs”, says Malcolm Thorpe, AirRoad Group's Managing Director. “Some of the basic changes that can produce dramatic results are wide-based tyres and inflation pressure.

“Simply replacing dual tyres on trucks with wide-based tyres can improve truck fuel efficiency, as it reduces rolling resistance and tare weight. Some recent tests, based on the Michelin wide-base tyres, demonstrated fuel economy improvements of 3.7% to 4.9% compared to the nearest equivalent dual Michelin tyre,” he said.

“And simply maintaining the correct tyre pressure reduces rolling resistance and fuel consumption, caused by tyre under-inflation. We educate our drivers and owner-operators on these simple considerations, which do impact on fuel efficiencies which do result in positive environmental impacts.”

To receive more information, visit [www.airroad.com.au](http://www.airroad.com.au) or contact the marketing department by email at [marketing@airroad.com.au](mailto:marketing@airroad.com.au).