



AUSTRALASIAN RAILWAY ASSOCIATION INC
Association Number A03958 ABN 64 217 302 489

20 May 2008

Strategic Review of Climate Change Programs
Department of Finance and Deregulation
John Gorton Building
King Edward Terrace
PARKES ACT 2600

Submission to the Strategic Review of Climate Change Programs

I refer to the request for submissions to the Strategic Review of Climate Change Programs. This submission is made by the Australasian Railway Association on behalf of its membership. The rail industry submits that climate change policy concepts and programs need to be carefully considered in order to achieve the best benefits for all Australians.

The rail industry accepts that it has a dual role to play in positively responding to climate change issues by improving its environmental performance and also by carrying a greater share of transport more environmentally efficiently. However, the rail industry submits that there are a range of general and specific issues which need to be addressed during the development and refinement of policy and legislation in response to climate change.

At present there is insufficient information available about climate change policy proposals and the transport systems to determine whether the desired objectives will be achieved. Depending on the energy and environment policies and implementation which are chosen, the consequences for land transport could either positively or negatively affect environmental outcomes.

The rail industry looks forward to continuing to work co-operatively with the Australian Government on issues relevant to the rail industry. It would be greatly appreciated if in future you could liaise with the ARA's Manager Policy, Brett Hughes on (02) 6270 4508 or bhughes@ara.net.au and our other rail industry members throughout Australia.

Yours sincerely

Bryan Nye
Chief Executive Officer



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Strategic Review of Climate Change Programs

Submission

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1. Introduction

Rail Industry Overview

Rail should be the preferred mode of transport for mass public transport and high volume, long distance freight. The Australasian Railway Association submits that greater use of both passenger and freight rail will benefit business, the environment and the Australian community in general. Increased rail transport in Australia can result in reduced environmental impacts, fewer deaths and injuries from crashes and health effects, cheaper transport and reduced negative community impacts.

Currently in Australia rail carries 183 billion tonne-km or 53% of the land freight task and 616 million public transport passengers per annum¹. Unfortunately, despite the benefits of rail transport, its mode share for most tasks is not increasing and is decreasing in some critical areas such as east coast intermodal freight and grain transport.

The rail industry does not argue that because it produces only a tiny proportion of transport emissions, which are themselves only a small proportion of Australia's emissions, that it should be excluded in an emissions trading scheme or other government climate change policies. The rail industry accepts that climate change will require many separate interventions jointly contributing to a total solution; there is no 'silver bullet'. The rail industry further accepts that climate change will not be improved by only addressing the large emitters, but also as many of the small emitters as possible.

The rail industry accepts that it has a dual role to play in positively responding to climate change issues. Firstly, the rail industry accepts its responsibility to improve the environmental performance of its activities. Secondly, the rail industry accepts that increased rail transport will positively improve environmental outcomes including reducing the pressure on climate change.

Climate Change Background

Australian transport emissions are increasing at a dramatic rate and at a rate greater in scale than national emissions. With national emissions increasing by Kyoto obligations of 8% between 1990 and 2012, transport emissions increases are significantly out of proportion and have instead increased at a rate of 29% between 1990 and 2005. In a world where there is an urgent requirement to reduce emissions by large amounts, the transport sector with its emissions growth rate will require significant focus and support to move to a negative emissions trajectory and assist Australia in achieving emissions reductions.

Transport emissions from cars, trucks, trains and aircraft are all increasing and the two key markets for these emissions are the transportation of passengers or freight. Growth in emissions from road transport is projected to be seven times higher than all other forms of transport, between 2010 and 2020, and it is this road transport

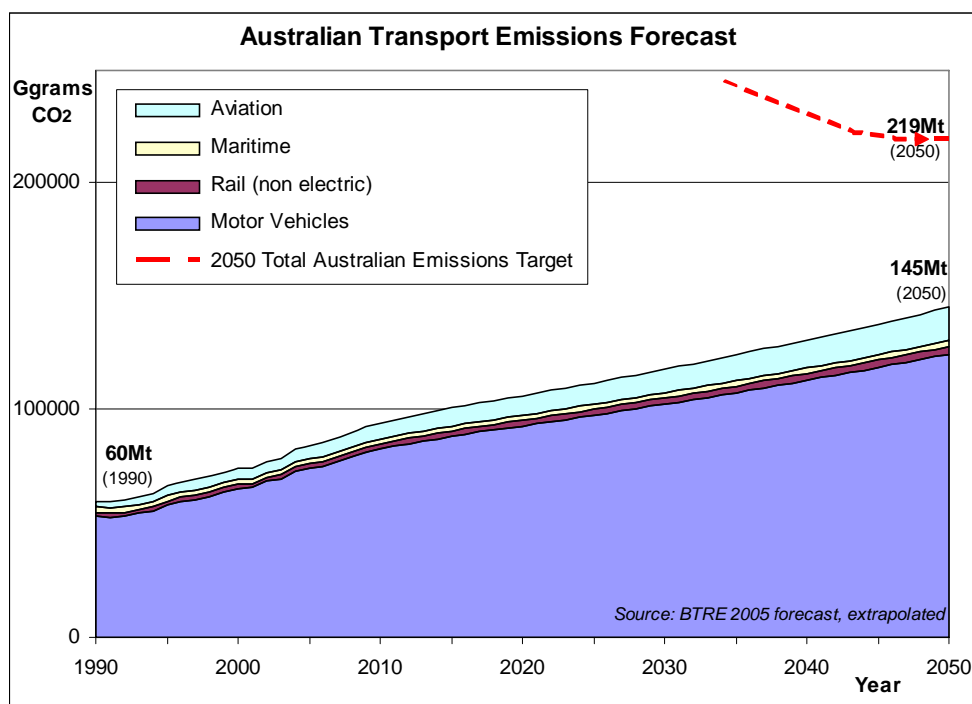
¹ *Australian Transport Statistics*, Bureau of Transport and Regional Economics (BTRE) 2007.



emissions growth that can be reduced through appropriate shift of passengers and freight to rail.

The benefits of rail in providing a low emissions rail solution are globally recognised. The United Nations Intergovernmental Panel on Climate Change in their AR4 report released in late 2007, support the use of rail as a transport policy for emissions reduction.

Interpretation of Australian Government data² indicates that if there is no significant new intervention emissions from the transport sector alone will comprise over 66% of the target for all Australian emissions in 2050 (ie 40% of 1990 emissions).



Clearly, incremental changes alone will not achieve the target required and fundamental structural changes to Australian transport systems are essential. Therefore, the rail industry accepts the policy agenda to address climate change issues and the general parameters of the policies outlined by the Australian Governments various activities.

Principles

The Australasian Railway Association proposes that the following principles should guide the development of climate change policies and programs:

- there should be positive environmental outcomes at all levels (not just overall);
- consequences should be equitable and fairly distributed;

² *Greenhouse Gas Emissions From Australian Transport: Base Case Projections to 2020*, Bureau of Transport and Regional Economics (BTRE), Report for the AGO, DEH, August 2005



- the regulatory burden should be as low as possible;
- any perverse regulatory, market or environmental outcomes should be minimised;
and
- compensatory mechanisms should be implemented where these principles are not achieved.

At present there is insufficient information available about the energy and emission policy proposals (including emissions trading), the legislation and the transport systems to determine whether these principles will be achieved.

2. Climate Change Policies

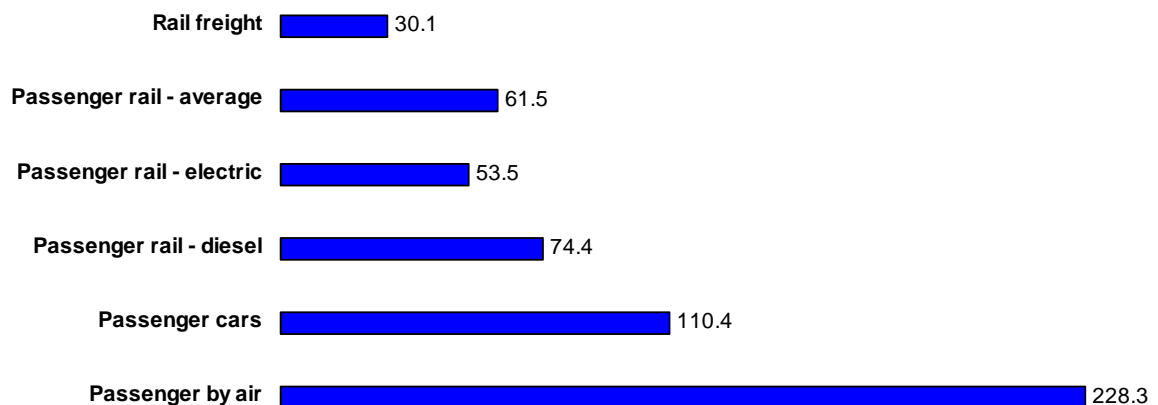
Australia has a challenging task to reduce the forecast dramatic increase in transport emissions, while at the same time not constraining economic activity as a result of prohibitive transport costs. Modal shift to lower emissions transport such as rail can assist in achieving the necessary emissions reduction.

In addition, the transport industry (including the government sector providers) will respond to the changing physical, community and business environment. Climate change will have a range of effects, including different physical conditions for infrastructure and operations, and changing transport demand due to user choices and commodity production (especially agriculture).

Modal Shift Benefits

The lower emissions of rail transport compared with trucks and cars are significant, with rail emissions one third to a half of the emissions from road. While the information below is from the United Kingdom, which has different emissions factors for electricity generation, it highlights the immediate emissions reduction benefits available from modal shift.

Average CO2 emissions by transport mode (grams per passenger/freight tonne kilometre) - United Kingdom

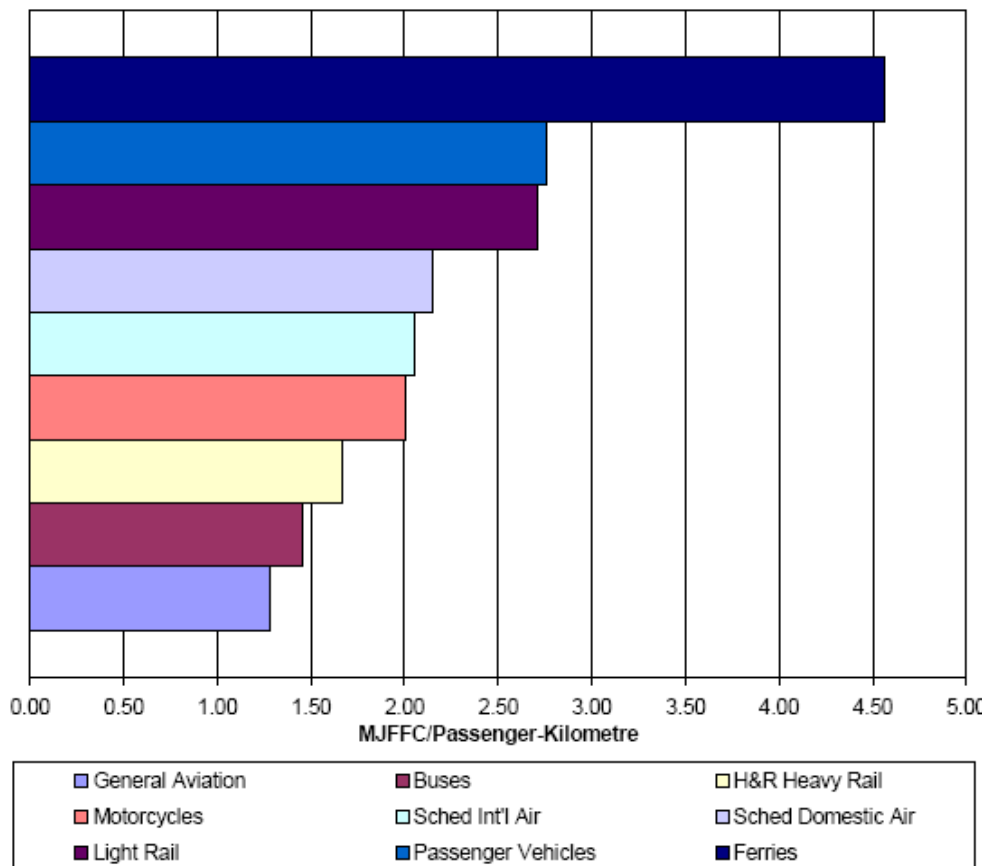


Source: UK Case for Rail 2007

The passenger road versus rail comparisons for Australia as shown in the diagram below show the benefits of rail transport.



Energy Intensity in Undertaking Passenger Task 2004/05



Source: Australian Rail Transport Facts 2007, Apelbaum Consulting Group

Passenger Rail

Barriers for the adoption of low emissions rail transport unless addressed, will prevent the use of low emissions rail solutions. The key barriers for increased passenger rail use are the lack of infrastructure and availability of services to widen the catchment area of public transport.

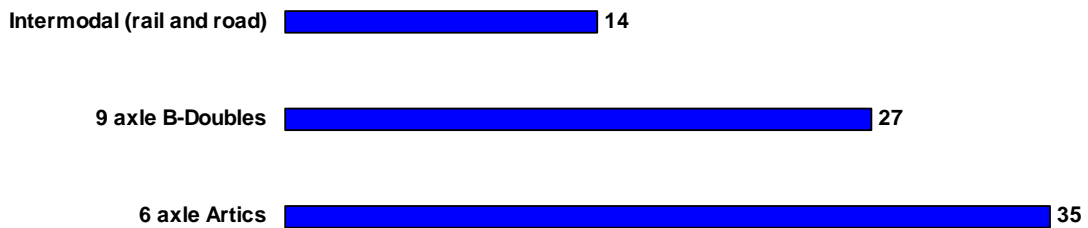
If sufficient infrastructure were in place rail would have the ability to command a greater percentage of the national transport market and therefore lessen the demand for Australia's energy resources and reduce transport's greenhouse, environmental and social impacts.

Land use planning and the built environment can be managed more effectively through Transport Orientated Development (TOD) with appropriate design of modal points to allow transport interchange with higher reliance on public transport. Built environments that support the creation of 'Sustainability Hubs', where people can both live and work in close proximity to public transport would see patterns of transport behaviour change over time.

Freight Rail

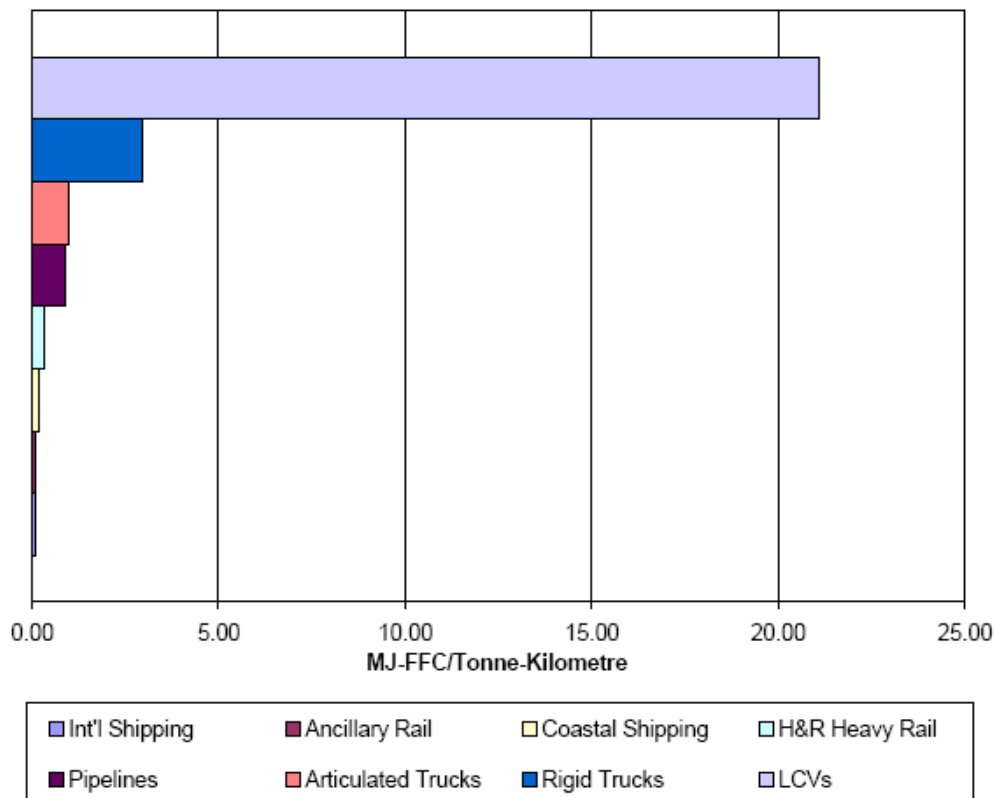
In comparing rail freight emissions with road freight, and including additional emissions for rail with road pick up and delivery of goods at the origin and destination, rail provides a marked emissions reduction benefit for the same quantity of goods moved.

Average Australian CO₂-e emissions Road and Intermodal Rail Freight (grams per net tonne kilometre)



Source: QRNA Oct 2002 Report – Comparison of Greenhouse Gas Emissions by Australian Intermodal Rail and Road Transport

Energy Intensity in Undertaking the Freight Task 2004/05

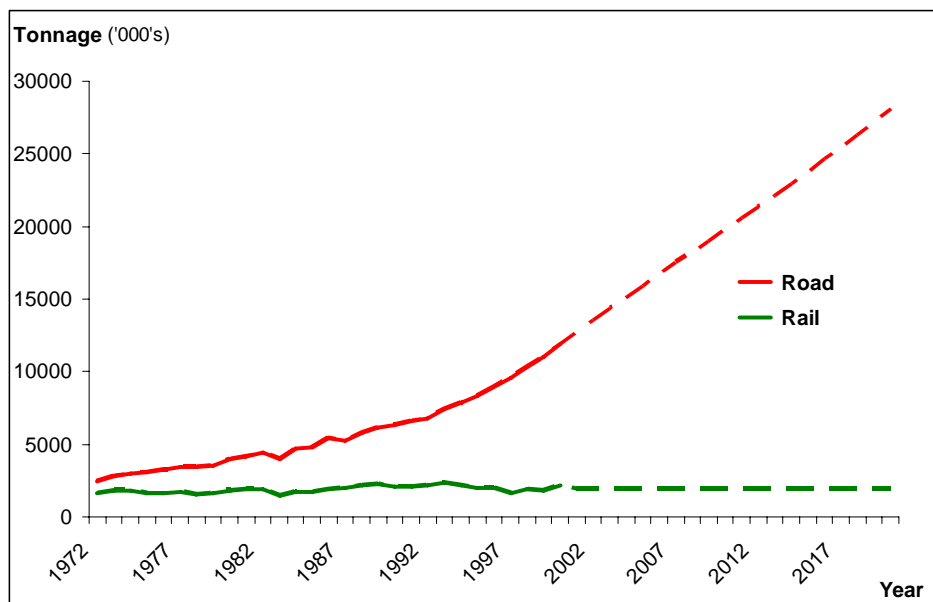


Source: Australian Rail Transport Facts 2007, Apelbaum Consulting Group



Interstate rail freight for many demands has been declining, especially on the East Coast of Australia and for lower tonnages in regional areas. Even for long distance intermodal transport, rail demand between Melbourne, Sydney and Brisbane has only marginally increased, while road transport has dramatically increased³. Without significant government intervention, this unsustainable trend is expected to continue, as shown in the following diagram. In 1972 the proportion of land freight carried by rail between Eastern States capital cities was 39%, which is expected to decline to 6.5% by 2020 if current directions and initiatives continue. Over the period 1972 to 2020, rail freight is anticipated to increase by 21%, while road freight is anticipated to increase by 1038%.

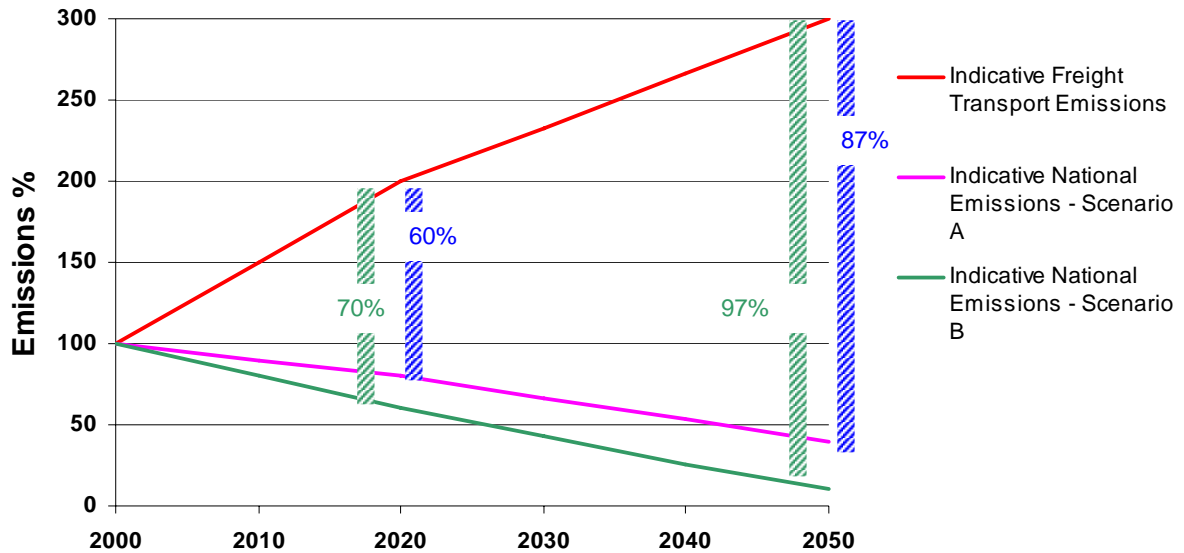
Eastern Corridor Land Freight Task



The modal transport shift from road to rail cannot be under valued. With the freight transport task to double between 2000 and 2020, this increases the quantum of emissions cuts required in the freight transport sector to meet national emissions reduction targets. It will not be possible for road transport to provide the reductions required. The diagram below shows the extent of emissions cuts needed for freight transport in 2020 and 2050 to meet low and high national emissions reduction targets.

³ Extracted from *Freight Measurement and Modelling in Australia*. Report 112, Bureau of Transport and Regional Economics (BTRE) 2006.

Emissions Gap - Freight Transport BAU vs National Emissions Reduction Scenarios



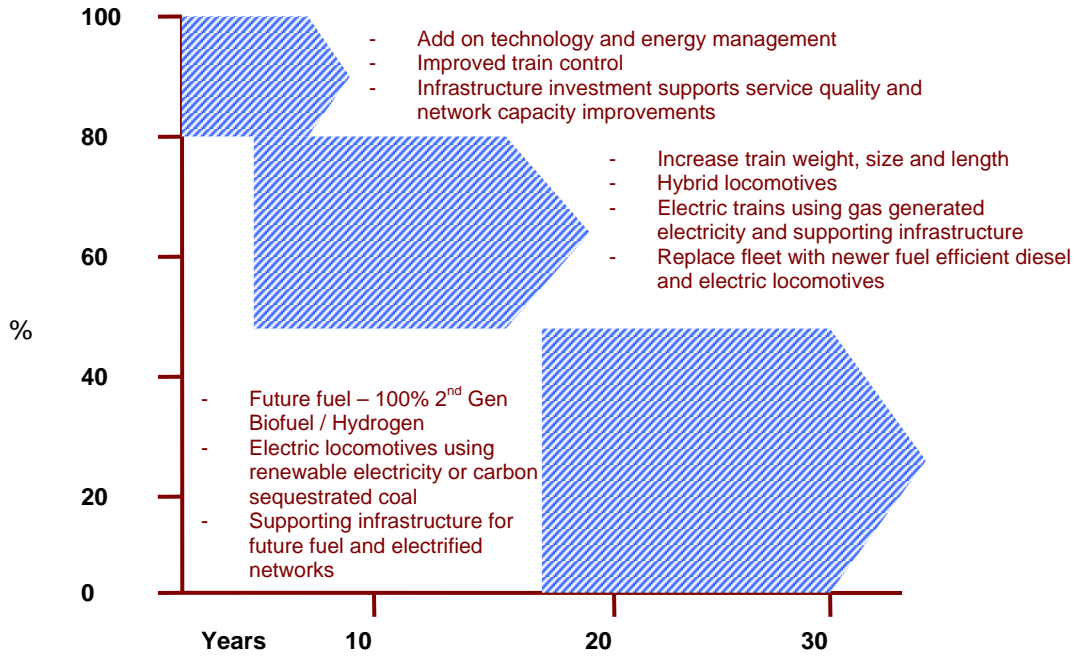
With rail emissions 66% to 50% lower than road, rail can provide the scale of cuts required and meet 2020 targets for the transport sector, if supported with appropriate infrastructure and policies.

Future Emissions Pathway

To meet 2050 emissions reduction targets, rail is in a position to provide further emissions reductions.

There are a number of existing technological options for rail to reduce emissions from their current levels per unit of goods transported. The options involve investment in above rail operations in the operation of trains and below rail investment in the supply of rail network. The following diagram shows options that will reduce rail emissions and allow these to provide a freight transport solution for Australia that meets 2050 national emissions reduction targets.

Indicative Rail Emissions Reduction Options showing Percentage Emissions Reduction and Implementation



3. Policies for low cost freight transport emissions

Policies to support early change to low emissions solutions are needed in the transport industry. The rail market experience is that unless it has the infrastructure to meet market service quality requirements, the price differential between road and rail will need to be quite high, before significant modal shift occurs. Conversely, it is the rail experience that when rail costs increase and the gap between road and rail pricing closes, the rail market volumes quickly transfer to road and are extremely difficult to bring back.

An emissions trading scheme cost will increase the price differential between road and rail transport over time. Delays in waiting for the price point at which significant modal shift occurs, will only serve to delay the early emissions cuts required to reduce transport sector emissions and allow the achievement of national targets. Therefore, policies to support modal shift prior to any emissions price signal are required. The diagram below shows the freight transport emissions at its current business as usual (BAU) trajectory, and the national emissions targets with a low and high reduction path trajectory.

In waiting for emissions price signals only, the freight transport emissions trajectory risks being delayed. Without clear policies on planning, or to support investment and infrastructure, the downward curve of the emissions trajectory will be uncertain. With suitable supporting policies, early action in reducing emissions will occur and allow a greater contribution in meeting reduction targets.

The current example of the coal ship queues in Australia indicates the result when supply chains are not supported by policy, planning or investment certainty and instead rely on price signals. The lag effects in investing in supply chain infrastructure and changing processes and the lack of integrated planning have resulted in lost economic opportunity and additional cost.

Allocation of Emissions Permits Revenue

It is likely that the Australian ETS in isolation will not achieve the full potential to reduce emissions from transport. There are a range of impediments to overcome and initiatives for adaptation which can be implemented which require Government support to accelerate reductions in emissions. The Australasian Railway Association supports the Prime Minister's Taskforce on Emissions Trading suggestion:

"there is merit in the broad principle that revenues raised are best directed to meeting the abatement challenge that has prompted Australia to consider adopting emissions trading."



The commercial environment which rail operates in results in different investment and operating decisions compared to its competitors, which may not always produce optimal economic or environmental results⁴:

The Inquiry recognised that road and rail transport occurs in quite different regulatory, operating and commercial environments. This results in different outcomes for infrastructure investments. In general, governments provide road infrastructure, while a considerable amount of rail infrastructure is provided commercially and privately.

One mechanism is for governments to take some of the risk for new rail investment in the form of rail subsidies, provided there are protections from other pricing distortions, such as profit above a commercial rate.

In general, investment in private railways:

- accepts the risk for investment and charges a commercial premium;
- requires returns over a shorter time period;
- targets a rate of return commensurate with risk;
- are often based on single customers who must therefore pay a risk premium;
- considers internal company returns and ignores external effects such as the environment, unless regulated to do so;
- require a commercial return upon commencement of first use; and
- generally depends on private company capital capacity.

These arrangements are in stark contrast to government funded road investment.

The rail industry operates within sound commercial frameworks and stringent safety and access regulation which result in considerable financial pressure. Business analysis recognises that the lowest volume railway lines may be uneconomic from a commercial rail perspective and more appropriate for road transport. However, environmental and community benefits can accrue if rail is used for transport. Therefore, the challenge is to identify what is financially viable and what in addition, is justified to achieve valuable community and environmental outcomes facilitated by government assistance, which may not necessarily be financial contributions. Given that assistance is required in some circumstances, the challenge is to identify the most appropriate mechanisms for optimising the transport of freight on rail and where they should be applied.

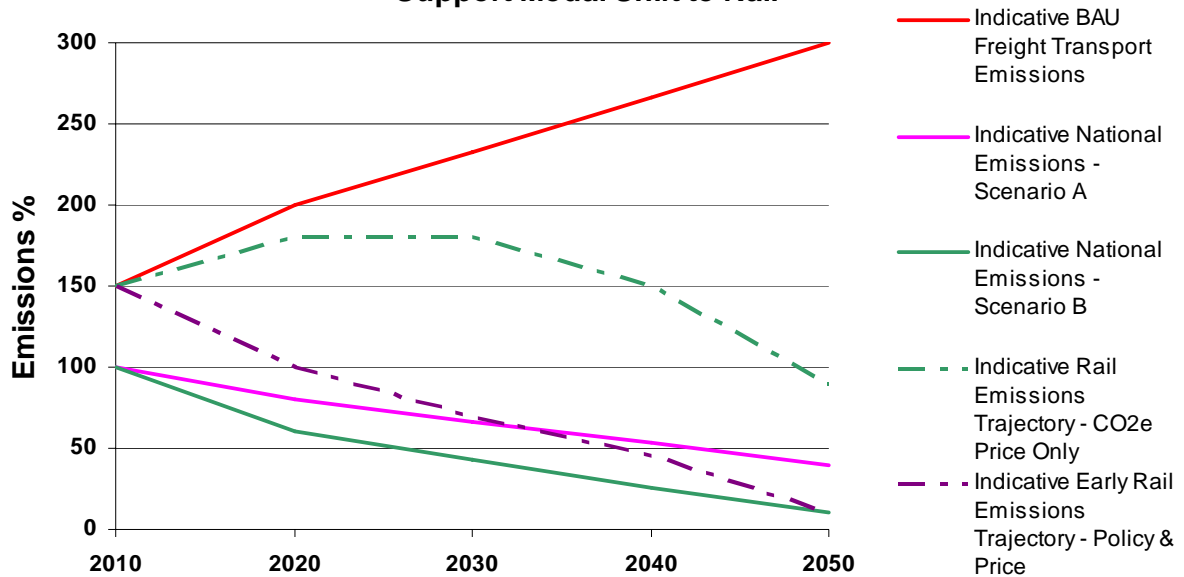
Therefore the rail industry submits that government funds received from permits be allocated to enhance the benefits of the Australian ETS and environmental outcomes generally. Some opportunities for such allocation include:

⁴ WA Government Submission to the Productivity Commission Inquiry on Review of Economic Costs of Freight Infrastructure and Efficient Approaches to Transport Pricing, Submission 122, 2006.



1. An **Interim Track Access Discount** to ensure that above-rail capacity on the Eastern States north-south corridor routes is retained and developed ahead of the AusLink/ARTC investment in the track achieved by offsetting some of the rail track access costs incurred by rail operators on the east coast route. This scheme will retain up to 1.7 million tonnes of freight per annum by rail instead of road increasing the market mode share by up to 1.2 % between Melbourne and Brisbane at a cost to Government of \$35.6M. The scheme will ensure freight on rail instead of over 80,000 B-double truck movements each year on north -south routes on the east coast.
2. A **Rail Advantage Scheme** to encourage transfer of road freight to rail based on environmental, social and economic benefits external to the rail industry, targeted to rail customers and service providers. This scheme will shift over 300,000 tonnes of freight per annum by road instead of rail increasing the market mode share by up to 3.7 % between Melbourne and Brisbane at a cost to Government of under \$4M. The scheme will remove over 8,200 B-double truck movement each year from north -south routes on the east coast.
3. A **Freight Facilities Grant** to encourage transfer of road freight to rail by overcoming initial cost impediments by investment in off-track infrastructure, for the purpose of developing new facilities, or buying additional rolling stock (locomotives and wagons) to be available to rail customers, terminal and train operators. If there was investment of \$20M per annum for each of 5 years, it is estimated that greenhouse gas emissions would be reduced by 38,500 tonnes each year through the saving of 67.3megalitres of fuel by taking 63,500 trucks off the roads each year .
4. An **Environmental Incentive Scheme** to encourage investment in new, environmentally friendly intermodal locomotives, wagons and of intermodal locomotives, wagons and handling equipment, to be available for a limited period for existing assets, and for an extended period for new assets, designed equipment. It is estimated this scheme will reduce locomotive greenhouse gas emissions by 56,500 tonnes and fuel use by 45 megalitres per annum at a cost of \$34M.

Emissions Trajectories - Freight Transport and Rail Policy to Support Modal Shift to Rail



Infrastructure Investment

The key attributes of service quality for rail are service transit time and service reliability. Service transit time is the ability of the particular service to meet its planned transit time and for these transit times to meet market capacity requirements. Service reliability of on-time departures and arrivals through the whole supply chain are important in ensuring complex supply chains function well, and that trains are able to meet follow on transit departure windows.

Currently rail has difficulty in providing the service quality it requires to gain market share from modal shift. Transit times for the carriage of freight between capital cities in Australia are generally not competitive with road. Market requirements for freight delivery at certain times and or on certain days can condense rail traffic into peak periods, placing a strain on infrastructure capacity that can negatively affect transit times and reliability. With limited alternative route options in the event of disruption to the rail network, reliability and transit times also suffer. These issues also significantly impact on passenger’s decision to use or avoid the use of rail.

The reliability in being able to provide on time freight departure and arrival in the supply chain is also critical. Rail’s ability to provide reliable services that can deal with track maintenance, incidents affecting track access, weather effects and changes to the planned operation is critical.

With significant investment earmarked for road construction and improvement versus the investment commitment for rail, the service quality competitiveness of rail is currently at a disadvantage.



The National Transport Commission's (NTC) February 2008 paper, *A New Beginning*, is an admission of the previous failings of an integrated transport planning framework in Australia. This NTC report is welcomed as it recognises the need for integrated planning on a national scale. The lack of integration between transport modes, and ineffective planning for freight corridors and whole of supply chain planning has led to a network of separate transport plans lacking the benefits of integration.

Significant immediate increases in investment in rail infrastructure to improve service quality and to provide capacity for the large modal shift from road to rail is required to achieve national emissions reduction targets. Similarly, investment in rail to provide new passenger catchment areas and integrate passenger transport planning in urban development and supporting transport hubs is required.

Governments have used direct interventions, substantial investment and the National Transport Commission (NTC) to develop and implement operational reform for the road transport industry to improve productivity. The same types of improvements have potential to provide substantial benefits to the rail industry. Governments and the NTC have argued that the rail industry is in a position to make such changes, whereas the road industry has not. For a variety of reasons, it is evident that such productivity improvements have not occurred in railways, so government intervention is required in co-operation with the rail industry.

In simple terms, there would be economic, environmental and social benefits if trains were bigger, faster and heavier. However, it is not yet clear how this can be achieved in practice. Therefore, initial exploratory work is required to identify where the existing impediments are and which would be beneficial to improve.

Subsequently, the most promising initiatives would be developed and implemented. Some suggested areas for investigation could include:

- heavier axle loads;
- new styles of wagons;
- engineering requirements to enable longer trains (eg more powerful locomotives);
- a national rail network plan (including the future required coverage of double stacking and standard passing loops);
- removal of clearance limitations (eg widening through tunnels);
- more extensive use of double stacking containers;
- ability to purchase 'off the shelf' overseas equipment without modification to meet Australian train outline and track strength limitations;
- deployment of new ITS technology to improve reliability, increase speed and reduce times between trains; and
- reallocation of staff to improve productivity.

These issues need to be developed in the light of, or as part of a comprehensive strategy for land transport, as discussed under the need for strategic direction.

Land Availability

To grow the capacity of freight rail and meet market growth, there is an urgent need to increase the availability of land for terminals. Identifying and zoning land for transport use would be a powerful supporting policy.

Government land releases should set aside and rezone portions of land available for transport corridors and supporting terminals. Such action would be low cost with the only cost to government being the lower revenue they may receive from leasing/selling this land for transport use than for other development use.

This single policy would contribute greatly in supporting the capacity growth and service quality of rail.

Security of Land Tenure

The security of land tenure for transport infrastructure and supporting freight terminals must be increased. Longer leases are needed to encourage the significant investment required to develop these terminals to provide capacity and improve efficiency. Security from third parties seeking access also needs to be resolved as such issues create investment uncertainty.

Companies will be reticent to invest in infrastructure if this only then supports competitor claims to its use. Clear policy to provide longer term lease options, security of tenure and access to infrastructure assets, is needed to support a national transport plan.

Asset Depreciation

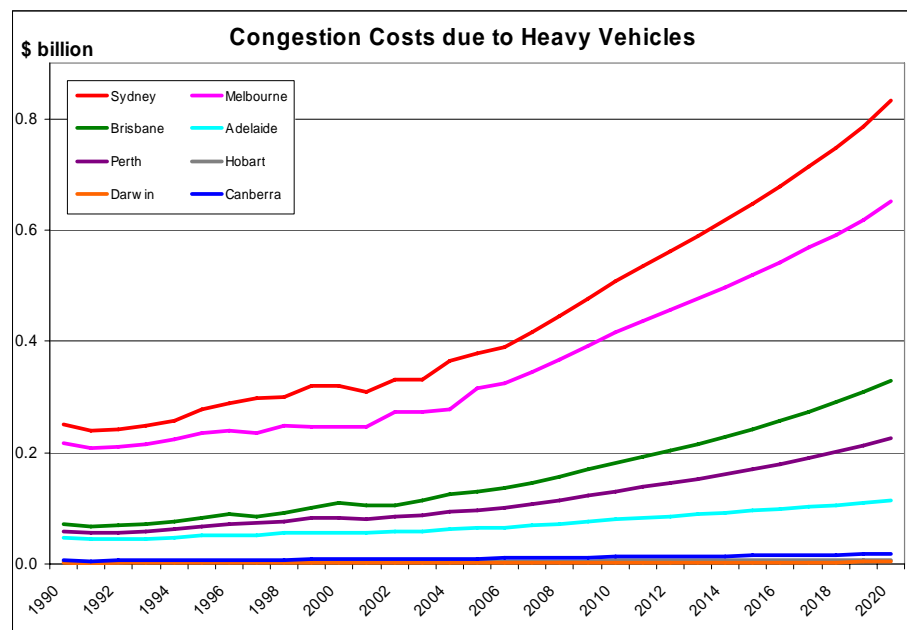
The rail industry operates under very long investment periods for high cost rollingstock. Encouragement for early investment in more efficient and low emissions rollingstock prior to any pricing signal is required. Changes to reduce current depreciation times of 20 to 30 years to much shorter periods, would improve the financial justification for earlier technology change.

To encourage early retirement of a large locomotive fleet and its replacement with newer lower emissions locomotives, financial incentives through taxation policy are required.

Accelerated depreciation may also be applied to rail network infrastructure to encourage earlier upgrade to infrastructure that provides emissions reduction opportunities.

Congestion Charges

There are several forms of pricing of road capacity which can be employed, including congestion charges (including cordon pricing) and road user charges (see below). Key road transport corridors experience congestion which will increase with time. It is estimated⁵ that heavy vehicle congestion costs (including environmental effects) in Australian capital cities increased by 53% between 1990 and 2005, whereas these costs are expected to increase by an additional 234% between 2005 and 2030. This represents congestion costs of \$2.19 billion per year.



Several cities around the world have introduced or are intending to introduce cordon schemes to reduce congestion in city centres, including London and Singapore. The London congestion charge has resulted in significant reductions in congestion costs, partly due to a modal shift from cars to public transport. Applying a similar congestion charge either for key road transportation routes or for large truck entry within metropolitan limits, would encourage modal shift to rail.

Appropriate Truck Sizes

It can be argued that the introduction of B-triple trucks in Australia has benefits in moving large quantities of goods with lower emissions. Nevertheless, the carriage of the type of goods most likely carried by B-triples between capital cities is such that these could equally be transported by rail with even lower emissions.

⁵ Extracted from data provided by BTRE and Working Paper 117, Bureau of Transport and Regional Economics (BTRE) 2006.

The United States has banned B-triple truck movements on federal interstate highways due to safety concerns and on the grounds that these goods can equally be carried by rail. Indeed the carriage of large quantities of goods long distances is the core strength of rail.

In seeking low emissions modal choices, and addressing other externalities such as road congestion, air quality and safety, the most appropriate modal choice must be used for each market. In some cases larger road vehicles will provide justifiable advantages in relieving congestion in port areas or a low emissions solution in the carriage of goods in areas not supported by rail. Further investigation on a policy regarding road vehicle sizes to encourage larger vehicles in the most appropriate circumstances is required.

Mandatory Rail Use Target (MRUT)

The Federal government has introduced a key instrument to drive behaviour outside of the emissions trading scheme. The MRET (Mandatory Renewable Energy Target) as imposed on the energy generation sector with a 20% MRET by 2020, has given a clear signal to this industry well before any emissions trading price signal is available.

An MRUT is an equally viable instrument to drive road transport to rail. Currently, Victoria and New South Wales state governments have MRUT's for rail to and from ports. The NSW government has set a target of 40% of freight on rail to and from Port Botany by 2010. The Victorian government has set a MRUT of 30% freight on rail to and from Victoria's ports by 2010.

These State targets are unlikely to be achieved through lack of appropriate rail infrastructure investment, terminal access and capacity, road charging mechanisms, and other policies to drive freight from road to rail. This reinforces that supporting policies on rail infrastructure transport planning, terminal land availability and security of tenure are needed.

Restrictions in road vehicle movements or costs to access ports would also assist in driving modal shift to meet the MRUT.

Extension of such a scheme to key interstate freight corridors would require similar supporting transport planning policies. Consideration is also needed on whether financial penalties or incentives would be appropriate tools to encourage accurate compliance and reporting and increase the price differential between road and rail to drive this modal shift to achieve the MRUT.

Membership inclusion to the scheme would also need to be carefully designed but could include any company that has a distribution task over a certain threshold between the capital cities.

Mass Distance Charging

Currently rail access charges for freight are based on the amount being carried (mass) and the distance travelled; a mass-distance charge. Road infrastructure charges are based on a combined registration (access to network) charge plus a fuel levy which is proportional to the distance travelled. For a variety of reasons this is an imperfect proxy for a mass-distance charge, but particularly because it averages vehicle use over different classes. So vehicles which travel much greater than average are undercharged, being subsidised by vehicles travelling less than average distances. In addition, there is no reflection in the road charges for local effects, such as noise and urban amenity impacts.

A significant proportion of railways are either in private ownership, privately managed or corporatised, whereas road infrastructure is almost universally owned by governments, which introduces two additional commercial disparities, with respect to pricing rail infrastructure usage:

- the risk of investment; and
- a commercial profit to shareholders return on investment.

Charges for road infrastructure usage do not reflect either of these commercial requirements which results in a discount of road freight pricing.

There have been discussions amongst government about moving towards mass-distance-location charging for road freight user charging. The Australasian Railway Association favours moving towards mass distance charging as soon as possible and is frustrated at the slowness of the progression towards it (New Zealand introduced a form of it in the late 1970s). The NTC and governments consistently agree with mass distance charging in principle. However, they appear transfixed on achieving this through a 'perfect' solution based wholly on modern electronic, information and communication technology. The evidence is that:

- such modern technology is available for implementation for the distance component immediately;
- the technology is not yet sufficiently advanced for mass measurement;
- there may be outstanding charging issues with respect to mass distance charging which remain to be resolved;
- there are alternative mass measurement and monitoring techniques suitable for application which have not yet been considered (eg self reporting, weighbridge reporting, permit approvals based on project outputs, independent assessment, etc.);
- staged introduction of mass distance charging to the competitive element of the heavy vehicle fleet is desirable for all stakeholders and to minimise risks during the roll out of new technology.

The Australasian Railway Association proposes that mass-distance-location charging for road freight usage as a matter of urgency and priority.

Consolidate and Reduce Overlapping Government Policy

The Strategic Review of Climate Change Programs recognises, and now needs to address programs which are overlapping in either their scope and objectives, or their practice in terms of information management, business practices or other government administration.

In addition, rail is one of the most regulated industries in Australia. A national rail operator may potentially have to deal with: seven rail safety regulators with nine different pieces of legislation; three transport accident investigators; fifteen pieces of legislation covering occupational health and safety of rail operations; six access regulators; and seventy-five pieces of legislation with powers over environmental management.

Excessive regulation clearly places an extra cost and resource burden on rail operators which can only detract from competitiveness. Rail requires a streamlined approach under which operators can move quickly to single national regimes.

Improvements in administrative efficiency with respect to government programs or regulation reduces costs and can therefore be translated to improvements in competitiveness of the rail industry resulting in more freight on rail and therefore reduced environmental impact.

Rail Access Pricing

Rail access prices add significant costs to rail operations and can make up to approximately a third of operating costs for rail freight companies. Rail network providers in Australia have a legislated responsibility or market requirement to seek a commercial return on their investment, which can lead to pressure to increase rail access charges and or underinvestment in the rail network.

The road industry is in an enviable position where it does not have to pay to access roads at a rate that covers the full cost and also provide a positive return to the road owner. This pricing disparity between the two transport modes has reduced the price differential between road and rail and protected the road industry, despite government investments in rail also.

An immediate price incentive to encourage modal shift and a low freight transport emissions trajectory is needed. Two possible mechanisms are government support to relieve the burden from access providers in seeking revenue from access fees to recover costs and provide a return on investment, or increased road user charges for road freight transport.

Intermodal Transport Improvement

Efficient transport is generally contingent on the efficiency of integrated movement across more than one mode of transport. A 'supply chain' approach yields efficiencies which cannot be achieved by improving individual transport modes in isolation. Improvements to intermodal transport have been identified⁶ as:

- Develop the rail network that is needed to serve a rapidly growing resources sector.
- Improve the service standards on the main North - South rail corridor to permit it to operate at a level at which rail will become the predominant mode for Melbourne – Brisbane traffic.
- Expand the capacity of the East – West rail network to ensure that future growth can be accommodated without a deterioration of service standards.
- Clearly define the role of rail in the future carriage of grain exports and upgrade the grain network to ensure that this role can be performed efficiently.
- Identify the sites for strategic IMT development in all major cities and ensure that these sites are protected for future development.
- Define and protect the road and rail access corridors to all significant ports and strategic intermodal terminals.
- Develop short haul rail routes linking urban intermodal terminals and container ports to allow efficient rail operation, including where possible freight only tracks and provision for double-stacking.
- Build on and integrate the AusLink corridor strategies to provide a clear and comprehensive plan for transport infrastructure of national importance, including port access links.
- Develop comprehensive freight and logistics strategies covering both rural and urban freight movements in all states.
- Effectively implement in each State fast-track planning processes for transport infrastructure of strategic economic significance.
- Undertake a comprehensive national assessment of the effect of climate change on transport infrastructure and develop strategies for managing this effect to minimise the impact on infrastructure cost and reliability.
- Ensure that, wherever practical, all significant new transport infrastructure is subject to an open access regime, and develop improved regulatory processes to reduce the delays and costs to both access seekers and access providers.
- Develop streamlined PPP approval processes to facilitate private investment in transport infrastructure.

⁶ *Infrastructure Programs for Addressing Supply Chain Blockages* (Draft), Meyrick & Assoc. February 2008 for the Australian Logistics Council

- Implement nationally uniform technical, safety and communications standards for rail operations.
- Reform road pricing to facilitate the efficient use of road vehicles and appropriate allocation of the freight task between road and rail.

Research and Development

Significant improvements to the transport system to reduce climate change and its impacts can occur by applying existing knowledge. However, it is certain that research and development (R&D) can provide new inventions which can be deployed and new information which can be applied. Therefore, R&D should be aligned to the challenge of climate change and further investment in R&D be made, facilitated through incentives and other initiatives.

Infrastructure Susceptibility to Climate Change

There have been substantial amounts of work investigating the effects of climate change and expectation of the future consequences. However, there is very little understanding about the effects of climate change on rail transport systems, particularly the infrastructure.

The following examples identify some possible consequences of climate change:

- higher temperatures may cause more rail track buckling,
- greater rainfall in tropical areas may cause more track flooding,
- more frequent extreme weather events may cause catastrophic track failures, closing tracks for extended periods of time.

All of these consequences would result in reduced speeds and lower service reliability. If current levels of performance and service are to be maintained, there will need to be higher levels of investment, and maintenance leading to higher transport prices. Unfortunately, more definitive information is not available on this issue.

Therefore, the following actions are likely to be required:

- identify consequences of climate change on the transport system;
- develop managed responses, such as additional investment, mitigation measures, maintenance regimes, etc; and
- implement required measures, monitor and review results.

4. Emissions Trading Scheme Design

The Australian Emissions Trading Scheme and its related reporting mechanism, the National Greenhouse and Energy Reporting (NGER) Act 2007 will introduce new costs and compliance reporting on Australian business.

As a large energy user, the rail industry is concerned that an Australian ETS:

- fulfils the best outcome for national interests;
- addresses climate change by reducing national and international emissions; and
- provides a framework that is manageable for railways and all sectors of Australian society.

The Australasian Railway Association has the following comments in relation to the design of an Australian Emissions Trading Scheme.

Greenhouse Gas Coverage

The six major greenhouse gases as defined by the Kyoto protocol must be included in the scheme. Diluting the scope of greenhouse gases measured and accounted for as greenhouse gas emissions does not serve to achieve the goal of emissions reduction to address climate change.

The use of default values provided by the Department of Climate Change, in reporting these major gases is acceptable from an administrative and equity perspective. Technical guidelines that allow measurement and reporting of actual emissions from equipment used, instead of default values based on fuel usage, should be an optional choice for organisations with permit liabilities. This would allow the benefits from lower emissions equipment to be realised, when compared to emissions reductions that may result from using the default values.

Sector Coverage

Given that transport emissions make up a significant portion of Australia's emissions and are set to dramatically increase in the future, it is essential that the whole transport sector is included in the Australian ETS on the Scheme's commencement.

It is right in principle, and consistent with proper economic and environmental practice, for transport to be included in the Australian ETS in order to meet national emissions reductions requirements. While transport could be excluded by focussing emissions reductions wholly on other sectors, such as position is unreasonable and inequitable. The transport industry must accept its responsibility in contributing to meeting environmental outcomes.



Any delay in including the transport sector in emissions trading will only serve to create difficulties in lowering transport emissions at a later date and would unfairly pass this task on to other sectors. Transport emissions would quickly increase from being 14% of our national emissions to a much higher level. Without appropriate price signals and supporting policy, increases in transport emissions would offset the reductions gained by other sectoral emissions reductions, making their reductions a wasted exercise.

Excluding certain sections of the transport sector from an AETS, for example by including energy users that cross NGER Act 2007 reporting thresholds in the AETS and excluding those who do not cross this threshold, will only create distorted market behaviour to avoid emissions costs and undermine the objectives of the Scheme. This is particularly true when many small users (such as trucks and cars) do not exceed the thresholds for inclusion individually, but together make a significant contribution to emissions.

Point of Liability of Emitters

As a large diesel energy user, the rail industry prefers a scheme that provides the most transparency regarding emissions costs as part of energy costs, and therefore give it greater control in managing these emissions. The principle of liability and obligation for emissions at the point of emissions supports transparency in emissions costs for fuel.

A point of emissions obligation at fuel refineries or suppliers, with these parties to hold the liability for emissions permits, provides greater simplicity in the management of permits, and covers the whole transport sector.

To provide greater transparency and control of emissions costs, emitters that cross the NGER Act 2007 reporting threshold, should then have the option to purchase their own permits and have control of managing this liability. This approach would not be inconsistent with reporting requirements under the NGER Act 2007 where emission levels must be reported irrespective of any holding of a permit liability.

This approach would also allow large fuel users who opt to manage their own permit liability, to accurately report and cover emissions with permits for actual emissions, versus the use of default values in measuring emissions.

Permit Purchase

The Australasian Railway Association has the following comments regarding permits.

Time Frames

The proposal to auction permits and to release permits for auction at short regular periods is supported. Given the costs associated with purchasing permits for large energy users, the ability to purchase these at weekly or monthly periods would assist organisations in being able to cover their immediate emissions liability instead of

purchases in advance of requirements. This would provide subsequent cash flow benefits in managing this cost throughout the year.

Free Allocations

The free allocation of permits is not supported. All parties in the transport sector (and indeed other sectors) should be treated equally. All parties in competition must have consistent regulation or undesirable market outcomes will occur resulting in suboptimal environmental consequences.

Trade Exposed Energy Intensive Industries

The Australasian Railway Association believes it is essential that trade exposed emissions intensive industries (TEEIs), who are unable to pass the costs of emissions through to customers, receive financial assistance for the period that major trading competitors do not have the same emissions trading price impacts.

International Linkages

Linkage to international schemes is supported with Australia adopting a separate unit of trade permit for the Australian ETS.

There should be caps on the use of international units, for both Kyoto units and or non-Kyoto units. The use of Kyoto and non-Kyoto international permits would allow low cost permits to be internationally purchased thereby providing other low cost emissions permit options and encourage actions in activities not yet recognised under Kyoto, such as avoided deforestation. A cap on the use of international permits would ensure that large scale emissions reduction initiatives were still achieved within Australia.

International Maritime Transport Competition Equity

Under the Australian Emissions Trading Scheme arrangements being currently being considered a market inequality will be introduced in competitiveness between Australian based transport and internationally based shipping which carries cargo between Australian ports on Single Voyage Permits (SVP's) and Continuous Voyage Permits (CVP's). This occurs because international shipping will not be subject to the Australian Emissions Trading Scheme, due to boundary issues and international agreements. It is hoped that emissions from international shipping will eventually be covered, but that point is some time away.

Two situations are most evident:

- rail transport will be disadvantaged compared with international shipping carrying freight within Australia, and
- Australian shipping will be disadvantaged compared with international shipping.



With respect to the first of these, BTRE information⁷ suggests that this is most significant for east-west transport (Perth to Eastern States). In 2005 BTRE estimated mode shares to be 59% by rail, 24% by road and 17% by sea. Forecasts are for road transport to hold its share and for sea freight to increase its proportion at the expense of rail transport (56% by rail, 23% by road and 21% by sea). The exclusion of international shipping from the Australian Emissions Trading Scheme will exacerbate this adverse trend for rail. Apparently there is almost no freight carried by sea between east coast capitals at present, and this is not forecast to change.

Vessels carrying cargo in competition to land transport must be included in the Australian ETS if possible. One mechanism may be to include an emissions cost as part of the issuance of SVP's and CVP's.

⁷ *Freight Measurement and Modelling in Australia*. Report 112, Bureau of Transport and Regional Economics, 2006.

5. Conclusion

The Australasian Rail Association supports Government interventions to address Climate Change issues including the Australian Emissions Trading Scheme and the inclusion of the whole transport sector in this Scheme at its commencement. The success of the Australian ETS is dependant on full coverage of all sectors in Australia.

However it is expected that success in achieving national emissions reduction targets is dependant not just on the success of the Australian ETS, but the introduction of complimentary policies to drive national adaptation and mitigation strategies.

Such policies should include:

Infrastructure Investment – to improve rail service quality and competitiveness with road that meets market requirements and rail market growth. This must be part of an integrated national transport plan.

Land Availability – the release and zoning of land for transport to provide terminals and corridors in metropolitan areas to grow capacity and provide service quality.

Security of Land Tenure – by increasing lease periods of terminals and infrastructure and provide security from third parties seeking access. These will increase investment certainty and encourage increased investment in transport infrastructure.

Asset Depreciation – to encourage early investment in newer low emissions locomotives and the retirement of less emissions efficient equipment.

Congestion Charges – on key corridors or metropolitan areas to assist modal shift to rail.

Appropriate Truck Sizes – to ensure the benefits of large trucks in the most appropriate situations and not at the expense of the mode best suited for the task.

Mandatory Rail Use Target (MRUT) – to set targets for mandatory rail use as already done by the Victorian and NSW state governments, but with supporting policies to ensure success.

Mass Distance Charging – to increase the transparency of road rail pricing through the introduction of mass distance charging, for road freight transport.

Consolidate and Reduce Regulation – to reduce compliance costs for the rail industry in line with other transport modes.

Rail Access Pricing – to provide further rail access price relief to rail to encourage modal shift to rail.

Intermodal Transport Improvement - to improve the efficiency of both road and rail transport by managing freight movement as a supply chain or integrated transport system.

Research and Development – to provide for R&D activities in emissions reduction innovation and information.

Infrastructure Susceptibility to Climate Change – to identify the consequences of climate change on rail operations and to make the required investment to protect its operations in the future.

Modal shift has a significant ability to provide immediate and large emissions cuts for the transport sector. The rail industry has the ability to further reduce its emissions using a number of existing technologies and current and future fuels to meet longer term national emissions targets.

Early action is required not only to address the pressing threats from climate change, but to allow the structural adaptation required to provide a low emissions pathway for the transport sector and Australia.

It is submitted to this review that:

- 1. There is a need for urgent early action in reducing transport emissions.**
Delays in waiting for price signals to drive market behaviour and drive the large structural changes required, will delay these transport emissions reductions and impose unnecessary increased emissions costs on society. As climate change and its threat to the human species is an example of market failure, the excessive delays in price signals driving change in a transport sector with increasing emissions levels, will be a failure of the emissions trading scheme in achieving the required outcomes.
- 2. An integrated national transport plan is essential for halting the increase in transport emissions.** This will provide the capacity required to reduce emissions and improve the service quality of supply chains to provide efficient modal change. This includes a need to evaluate the future transport fuel options and provide the respective supporting infrastructure.
- 3. The policy instruments submitted are needed to support modal shift and the required investment.**
Such policies should:
 - allow early structural adaptation of infrastructure, assets and fleet changes;
 - change societal behaviour;



- provide additional financial frameworks to respond to the rapid technological and structural changes faced by transport companies are matters of utmost urgency.
- 4. Investment in rail infrastructure be increased to allow it to provide a viable low emissions solution for Australia to meet market service quality and capacity requirements.**

For further information, please contact the Australasian Railway Association

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