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Rail Express, 1 April, 2009

Bringing sustainability into infrastructure: part one

By Paula Wallace

With Australia approaching the transition to a low-carbon economy it's timely to look at the role that rail transport could play in helping to lower greenhouse gas (ghg) emissions. And, how it may support other activities which

promote energy efficiency and sustainable outcomes such as the design of urban and residential areas.



Rail Express spoke to a number of researchers and experts in the field of infrastructure and sustainability. One such body is supporting a national infrastructure conference taking place in Sydney this week. The **Australian Green Infrastructure Council (AGIC)** hopes to see a new focus on rail and investment put into what it sees as a critical area of transport infrastructure.

AGIC has the backing of major players in the industry in the development of a ratings tool, similar to the one employed in the design, construction and operation of commercial buildings. Doug Harland, CEO of AGIC spoke to Rail Express about the benefits of rail transport and the AGIC's emerging "roadmap" to help those involved in the creation and maintenance of infrastructure to achieve sustainable outcomes.

RE: Do you believe that rail for passenger and freight transport can provide a real alternative to higher ghg emitting modes of transport? Do you think it could make a real contribution to Australia meeting its ghg reduction targets?

DH: There is no doubt trains are much more efficient energy wise than trucks. The fact that only a mere 6 per cent of the east coast freight load is transported by rail is an indication of the need for much greater investment in rail infrastructure.

In the event a nation building sized investment was made in rail infrastructure that increased the rail freight component on the east coast to say 80 per cent, I am certain the quantum of ghg savings would be extremely significant, and in addition a positive social and economic impact would result as major highway damage, traumatic accidents, hospital and rescue services costs would reduce markedly.

To be effective, it would need to have bipartisan support for a continuous manageable investment made over many election cycles to duplicate passenger and freight lines, realign 19th century rail alignments, and provide rapid turnaround nodal facilities and possibly a

cultural change in rail management. Such an investment in my view would allow trains to compete very favourably with trucks and a more sustainable infrastructure network would result.

In addition, multiple fuel options of diesel, electricity, biofuels, or natural gas could be provided over the long term for trains.

RE: How can rail systems be designed, maintained and improved in a holistic way beyond state borders? Do you think there needs to be a greater national co-ordination of rail?

DH: The Australian Rail Track Corporation Ltd (ARTC) is well positioned to do this work and is an ideal organisation to build and maintain our nation's track.

However it is currently heavily burdened by having to invest in very old lines with inefficient alignments greatly in need of maintenance.

Australia's small population combined with large geographic distances and widely variable weather extremes are huge challenges to for rail authorities.

Infrastructure above the rail line itself, that is trains and their maintenance and management certainly needs greater national coordination.

RE: Do you think the Federal body Infrastructure Australia will be successful in identifying the most crucial areas of infrastructure in need of funding? Do you think this is an effective approach to take in terms of developing a sustainable transport system?

DH: I feel it is a much needed initiative, and my understanding is that there is a rigorous set of criteria used by IA in assessing potential investments. AGIC is obviously keen to work with IA as it is now doing with IPA and I have the view that the methodology behind AGIC's sustainability rating tool could assist greatly in any future decision making assessment focused on sustainable outcomes.

To assist IA or any authority in future planning of transport infrastructure, I have the view a vision needs to be set by the Federal Government as to where they see our transport infrastructure in the next 50 years, and once the vision is set, work incrementally and continuously toward it each year and calibrate the investment accordingly. Bipartisan support for these large and long term investments is crucial.

RE: There is talk at the moment about infrastructure funding being an important part of Australia surviving the global crisis. Do you think the current economic status of rail has improved its sustainability potential, that is taking a 'triple bottom line' approach?

DH: I have the simple view that if one thinks sustainability one thinks rail, and any forward thinking must not only consider the economic, but now must also factor in the social and environmental benefits of rail.

When one considers localised regional environmental impacts, new rail alignments will be resisted due to their large footprint; however they still represent a more sustainable approach than new highway alignments.

RE: The rating scheme that you are currently devising for infrastructure - when will this become available to industry? If companies in the sector are already using systems such as ISO or Global Reporting Initiative, will it be complementary to the new framework, will they be able to adopt it easily?

DH: Subject to Federal and State Government funding, AGIC plans to release the tested sustainability rating tool in mid 2010. It is an ambitious schedule; however the AGIC team is confident of meeting it if funding is available. With the large investments being planned in infrastructure, it is essential those investments are made within a robust sustainability

framework, and the AGIC tool is designed for that purpose.

Design, construction, maintenance and operational issues are covered by the 28 sub-categories to assess sustainability performance on both greenfield and brownfield assets. In relation to ISO standards, they are an essential part of any business compliance - they do not necessarily drive leading sustainability practice whereas the rating tool is designed to transform the industry through leadership in innovation while providing continuously improving sustainability outcomes. GRI is entirely complementary to the scheme - the AGIC rating will feed directly into the GRI categories.