

Fact Sheet

Energy Efficient Touring Fact Sheet

This Fact Sheet has been developed to support the Tour Energy Audit Fact Sheet. It provides background information about tour travel, freight movement and accommodation to assist touring coordinators, production managers and production companies to make informed efficiency choices.

Greener Live Performances
through energy efficiency



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The Energy Efficient Touring Fact Sheet will help you to:

- Understand what efficient touring is; and
- How you achieve it.

If you have completed your Tour Energy Audit you will have baseline touring data and will already know that key touring impacts include:

- Cast travel and accommodation;
- Crew travel and accommodation;
- Show power; and
- Production freight.

Due to the complex nature of the touring industry, achieving successful outcomes will hinge upon engagement of all tour stakeholders. These include:

- Tour coordinator - responsible for venue bookings, scheduling and route;
- Production company - responsible for production requirements including lighting/sound, cast and crew, and freight requirements;
- Freight company - responsible for types and mode of transport used; and
- Travel booking company - responsible for cast and crew travel and accommodation choices.

Because this process is new to the industry, one of the biggest challenges faced by those keen to assimilate efficiency actions is the lack of reference information. At this time databases of suppliers listing their energy efficiency credentials aren't available, which makes sourcing alternative service providers more difficult.

Whilst this fact sheet isn't a supplier list, it includes background information to help you understand essential terms and technologies.

Important considerations for tour related energy efficiencies may include all or a combination of the following:

- Low emission transport choices;
- Carbon offsets; and
- Certification/recognition programs.



Efficient Touring

Steps 1 to 6 below outline the key components in an efficient tour planning process. This isn't a mandatory process but simply a suggested process for your consideration. You may decide to focus on only one step this season, but adding another as the year progresses.

- Step 1** Efficient route planning - taking the most direct route from venue A to venue B.
- Step 2** Deliberate production planning - light-weight sets, easy packed lighting and sound, taking the least amount of items possible.
- Step 3** Cast and crew travel - via the most efficient transport mode within the timeframes available.
- Step 4** Freight forwarding - via the most efficient delivery system available.
- Step 5** Energy conscious accommodation - classified by certification or recognition programs.
- Step 6** Offsetting the balance of the tour greenhouse gas impact.

Step 1: Planning from A to B

In the past efficient touring has been categorised by taking the most efficient route from one performance venue to another. This remains an important first step in the planning process but is not where the hunt for efficiencies should stop.

Calculate the distance between proposed performance dates then engage with regional presenters in geographical boundaries and negotiate with them to share the tour.

Step 2: Production Planning

Here are some pointers!

- Freight only essential production equipment by having a clear understanding of:
 - What equipment and resources are provided by the venue;
 - The size of stage and set requirements; and
 - Lighting, sound equipment, sets and props needs.
- Aim for lightweight, stackable equipment that easily packs into a fit-for-purpose freight vehicle.
- Is load consolidation an option? Rather than sending a separate vehicle for set and props, can both be combined into one (maybe slightly bigger) vehicle?

- Maximise the load capacity of a vehicle by sharing freight forwarding requirements by considering back loading or pooling resources with other travelling groups. For example: What about partnering with a band touring on the same or similar schedule as a theatre production, can freight be consolidated and pooled into a shared vehicle?

Remember...

Loading dock specifications are essential information when researching suitable freight vehicles. Some venues may include this information as part of venue information kits, or ask your Tour Coordinator to request it.

Not all freight vehicles are built to fit theatre or arena loading docks. When booking fit-for-purpose freight vehicles, be sure to cover off on this.

Step 3: Cast and Crew Travel

What are the efficient road transport options available to Cast and Crew?

- Low emission technologies use a range of methods to reduce GHG levels, air-borne pollutants and other environmental impacts. Unleaded fuel is a now familiar form of low emission technology. But innovative advancements are increasing and include:
 - Electric vehicles;
 - Hybrid vehicles;
 - Propane fueled vehicles;

- Gas fueled vehicles;
- Hydrogen fueled vehicles; and
- Air-powered vehicles.

The most popular low emission passenger vehicle technology in Australia is Hybrid.

What is hybrid technology?

Hybrid technology uses two or more power sources such as a conventional petrol engine supplemented by an electric motor and battery pack.

The operation of the two motors is controlled by a computer, which chooses the most economical combination for the driving task, reducing fuel consumption costs.

For instance: a medium sized petrol vehicle travelling 500 kms could expect to use 11.5 L/100km or approximately 60 litres of fuel costing \$91.20 (at 152c/litre).

A hybrid travelling the same distance uses 3.9 L/100 km or approximately 20 litres of fuel costing \$30.40 (at 152 c/litre). Representing a saving of over 60% in fuel costs.

What about efficient air travel options?

Achieving efficient air travel is difficult but increasingly possible. Australia's major airlines, Qantas and Virgin Australia have dedicated

resources and time to research projects for creating sustainable aviation fuels. Both have successfully completed test flights with aircraft using bio-fuel blends derived from used cooking oils. Trials are also continuing with feedstock such as algae and pongamia.

Unfortunately, passengers are not in a position to request travel on flights with aircraft using bio-fuel blends, but in time, it is expected that using low emission fuels will become standard process.

Step 4: Freight forwarding

Do freight companies incorporate hybrid vehicles in their fleets?

Yes! Freight companies are joining the movement with a number of companies incorporating diesel-electric hybrids and 100% electric trucks.

If you are thinking about hiring or using a low emission technology heavy vehicle, be sure to discuss the freight movement requirements, as 100% electric trucks only have 200km daily range and need 5-6 hours for charging.

Whilst hybrid trucks don't have the same distance restrictions, tour requirements will need to be clearly outlined.

For further information contact freight companies such as: Tollgroup, StarTrack Express or TNT Express.

Additional information about the environmental performance of vehicles in Australia can be found in the Green Vehicle Guide: www.greenvehicleguide.gov.au.

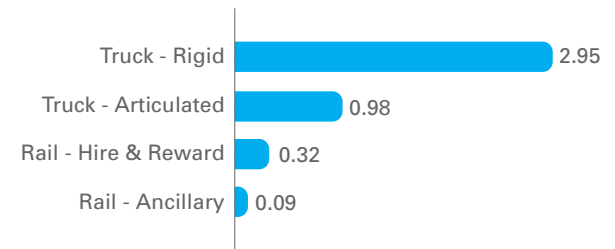
Energy efficient rail systems – worth considering or not?

We say Yes! When considering freight forwarding options, take the time to include rail freight as an option. Possibly even consider a freight movement plan that uses a combination of rail and road transport.

The statistics....

A study undertaken by the Australasian Railway Association determined that rail is significantly more efficient than road transport. The energy intensity (MJ-FFC/tonne-km) of articulated trucks is over three times more intensive than hire and reward rail and 10 times more intensive than ancillary rail.

Figure 2 – Energy intensity of Rail and Road (MJ-FFC/tonne-km)



Source: ARA Transport Facts 2007

Definitions:

MJ: Megajoules is a measure of energy consumption

FFC: Full Fuel Cycle refers to the complete fuel production change

Rigid Truck: a truck that does not pull a trailer

Articulated Truck: a truck with a pivoting point usually with a trailer attached

Rail - Hire and Reward: is 3rd party freight movements under a fee for service arrangement

Rail – Ancillary: an entity's freight movement (such as BHP) by in-house operators

Freight services provided to the touring acts would be considered Rail – Hire and Reward using an energy intensity of 0.32 MJ-FFC/tonne-km.



What's happening in Australia?

Australia is witnessing a steady conversion of diesel locomotives with high-efficiency electric alternatives that have new capabilities such as battery recharging through regenerative braking. The braking system retains the lost heat energy and feeds it back into the braking system, to help stop the train.

Using rail and road freight combinations may give tours the energy efficiency gains they are seeking.

Rock band Pearl Jam entered into an agreement with UPS (US Postal service) to use combined freight methods - rail instead of semi-trailers and light trucks for short haul inter-city drops. See the YouTube story here: <http://youtu.be/E8CARA210p8>

Using International Sea Freight

When touring internationally shipping production freight via sea is a more energy efficient mode of transportation when compared to air-freight, though distinctly slower. If considering sea freight it is important that the tour planning process is completed with ample time allocated to cover shipping timeframes.

Step 5: Accommodation choices

Whilst transport and logistics related fuel consumption is easily the most energy intensive aspects of a tour, accommodation choices require thoughtful consideration.

The biggest question - how do you determine if an accommodation choice is energy efficient or not?

One of the easiest answers to this is to ask the question at time of booking - is your hotel a sustainably certified accommodation house?

The Tourism and Hospitality industry have a number of certification or recognition programs that might apply. Look for:

- Eco Tourism Australia's - ECO Certification and EcoGuide Certification;
- Wotif.com - eco-friendly accommodation section;
- Tourism Eco-Tourism award winners;
- Green Star accreditation;
- Green Globe; and
- EarthCheck Hotels

All certification programs and awards criteria will ask for details about energy reduction actions carried-out and the efficiencies achieved. Some things to look for include:

- Room air-conditioners set to optimal temperatures for climatic conditions i.e. between 23 and 25oC in the tropical northern regions;
- Rooms that have windows that open to encourage natural breezes;
- Rooms that have ceiling fans;
- Reuse of towels and extending linen change-out days to decrease energy used during laundering;
- Energy efficient light bulbs;
- Room lighting on separate switches; and
- Ability to turn off (at the wall) unnecessary electrical appliances - such as digital clocks.

Step 6: The Business of Offsets

Firstly. What is a carbon offset? It is a credit given to a company or project that have made reductions in the emissions of greenhouse gases. The credit is then sold to a buyer with the sole purpose of offsetting an amount of greenhouse gas emissions that have been released into the atmosphere. The good activity of one - is offset by the not-so-good activity of another.

The most common carbon offset platform within the live performance industry is that of offsetting flights. With one-click domestic and international flight miles are calculated, converted into a greenhouse gas impact and an offer made to purchase the equivalent in offsets. It is easy and used often.

As easy as the process is, there is much confusion around:

- How is an offset created?
- Who receives the money I've paid for it?
- What is the process behind the production of the credit?
- Is it Australian?
- Is it International?
- Do I get to choose?

The first step to demystifying the process is contacting the airlines directly, requesting more information about the carbon credit program they support. This will tell you where the credits are produced and who benefits from your financial contribution? See:

<http://www.virginaustralia.com/au/en/about-us/sustainability/carbon-offset-program/>

<http://www.qantas.com.au/travel/airlines/fly-carbon-neutral/global/en>

If tours are looking to offset their emissions there are a number of online resources available to assist in a purchase decision. Have a look at:

www.climatefriendly.com.au/projects

www.carbonnetural.com.au

The LPA IG Tool can support your efforts by calculating your tour impact before purchasing offsets. <https://lpa.ig-tools.com>

