

Case Study

Achieving Energy Efficient Outdoor Events

Greener Live Performances
through energy efficiency



Background

Achieving an energy efficient outdoor event means tackling power planning from the design of the event through to the delivery. This case study provides some real life examples of event operators who have accessed knowledge to achieve reduced demand.

They have been helped along the way by equipment and power providers who are growing their capabilities around supply solutions, and communicating with power users.

In each case, systems have been devised and protocols laid down and then followed through by on-ground teams.

One of the greatest fears in outdoor events is that power supply will drop-out. It doesn't matter what time in the event that happens - it spells 'disaster'! An energy efficient focus for the event ensures that purpose-driven power planning is done and disasters are averted.

Opportunities

Sydney Festival is a month-long music and arts festival occurring in private indoor and public outdoor spaces across the city. 'The Village' takes over Hyde Park and is predominately on mobile power supply through temporary power generators. Concerts in The Domain in the Royal Botanic Garden are on mains power supply, provided by the venue, and is 100% GreenPower.

Caloundra Music Festival is held in a public park reserve next to Kings Beach on the Sunshine Coast in Queensland. Held over three days it brings world-class music, food, arts and culture together in a beautiful natural setting. The event is run primarily on temporary power supply.

Woodford Folk Festival is a six day music and arts event held on a permanent festival site, in South East Queensland. Power is provided to the site through electrical mains and powers event stages, bars & catering, and a purpose built camp-site. At *Woodford Folk Festival*, energy efficiency is an integral part of event operations. Power planning is critical to managing the risk of 'down the line' power disruption through extreme weather events.

Falls Festival is held on private land in Marion Bay, Tasmania. The three day music festival includes camping on-site, and runs on mobile power generation.

The primary opportunity available to all festivals profiled is the ability to achieve energy consumption reductions through purpose-driven planning, engaging with on-site service providers and working with mobile generation companies. The outcome has been lower electricity and fuel generation costs.

Actions Implemented

1. Commit to Energy Efficiency

The first step towards running an energy efficient event is to formally commit to and communicate your intention. A great example by *Sydney Festival*:

Sydney Festival Policy Commitment:

The potential impacts of power use by *Sydney Festival* include the consumption of fossil fuels in energy production, greenhouse gases emitted, and creation of localised pollution from mobile generators. Power is required for stage sound, lighting and visuals, site offices and equipment, food stallholders, bars and site lighting in outdoor events, for venue operation of indoor events, and for year-round office activities. Power for *Sydney Festival* is supplied through mains electricity and by mobile generators. Goals are to:

1. Reduce total energy used.
2. Maximise use of renewable energy.
3. Reduce greenhouse gas emissions as a result of amount of energy used and sustainable energy supply.

2. Estimate Energy Demand

Understanding likely power demand; from what, by whom, from where and for how long, is the most critical aspect when trying to design-in energy efficiency. When on temporary power supply having this detailed information may help to inform the most energy efficient site plans, generator placement and power distribution plans.

Woodford Folk Festival requires food traders to complete a detailed equipment inventory of every item requiring power supply, which is entered online. The trick to this being useful is ensuring that traders only have on-site what they have pledged they will bring – and this must be monitored through an audit upon set up and spot-checks throughout the event. At *Woodford Folk Festival* electricians conduct continual audit compliance, measuring the on-site vendors three times a day and monitoring against overuse.

3. Reconfigure Distribution

The location of site components and clustering power demand by running time is a technique that *Sydney Festival* has taken in order to ensure efficient distribution of temporary power generators.

By configuring the site into precincts, particularly for bars and catering outlets, power supply is segregated onto separate smaller generators – one which needs to run overnight for refrigeration purposes and the other for event opening times only. This means that a single large generator is not running overnight wasting fuel.

Caloundra Music Festival has significantly lowered their generator fuel bill. The event identified equipment that needs 24 hour power and had been forcing temporary power generators to run all night on extremely low loads – such as refrigeration. They installed additional power distribution and placed these overnight loads onto mains. They still use the same number of generators of the same size, but they can now be turned off overnight, significantly reducing fuel consumption and associated costs by 50%.

4. Monitor Usage

Falls Festival has identified that one way to incentivise energy efficiency by power users is to directly charge them for their consumption. By measuring each vendor's power use on a user-pays system, they can be assured that the vendor is incentivized to manage their operations efficiently. Vendors, upon application, are required to give a detailed inventory

of equipment that will be running, in order to estimate power demand, and this is used to inform generator siting, to ensure optimal generator sizing for each precinct and fuel efficiency.

Outcomes

Metering of kWh consumption by outdoor events is uncommon. However fuel consumption and costs are monitored and can be a measure of efficiency if the size, layout and activities at an event are constant from event to event.

It is evident that configuring power demand and supply to facilitate using fewer mobile generators and enabling them to be switched off completely is the key. Generator suppliers may also invoice on running hours as well as fuel consumed, further incentivising turning off those generators!

Implementing a user-pays system, and installing user metering also encourages energy efficiency, reducing costs for the user/vendor and for the event organiser.