



Green Music Australia Info Sheet

Venues - Avoiding Emissions

When considering how to tackle environmental impacts associated with running a venue, most of the opportunities for avoiding emissions (as opposed to reducing and offsetting) require forward planning and a commitment by the venue owner to come to the party.

Usually the most effective way to avoid emissions generated by venues is at the building design stage. Many operational aspects of a venue cannot be avoided, such as room lighting, so it is always preferable to start with good design. However, once a venue has been built, or if a venue is starting up in an existing building, there are plenty of options to retrofit and improve performance.

Building Design

Unfortunately most music venues were built prior to today's focus on constructing energy efficient buildings. On average venue emissions are generated through cooling (28%), air circulation mechanisms (22%), lighting (21%) and heating (13%). These four aspects account for a massive 84% of a venue's total carbon emissions.

The good news is that if you are about to build a new music venue there are plenty of design opportunities to heat, cool and light your building in a dramatically more energy efficient manner.

The best way forward is to seek the services of architects and/or designers who specialise in green building design.

For those of you who operate a music venue in an existing building, the challenge for you will be to avoid those activities that generate emissions (where feasible to do so) and then move down the energy hierarchy towards energy reductions (usually achieved through greater energy efficiency gains) and offsetting.

Building Operation

Most of a building's energy is consumed through heating, cooling, ventilation and lighting.

The best way to identify energy avoidance opportunities is to undertake an energy audit. There are many companies suitably qualified to undertake venue energy audits and Green Music Australia will happily put you in touch with them. At an early stage in the process, you will need to gather some basic data to allow the energy auditor to calculate emissions from specific point sources. Information includes:

- Venue size (gross floor area);
- Occupancy (full time, part time employees and annual audience member numbers);



- Electricity and gas bills (over a one year period - check with your energy service provider if you do not have your bills on hand);
- Then record the numbers of each of the following:
 - a. Computers
 - b. Printers
 - c. Servers
 - d. Fax
 - e. Scanner
 - f. Photocopier
 - g. Air conditioning unit
 - h. Fans (ceiling and desk fans)
 - i. Heaters
 - j. Fluorescent lighting
 - k. Halogen lighting
 - l. Compact fluorescent down lights
 - m. Incandescent light bulbs
 - n. LCD/plasma televisions
 - o. Small appliances (i.e. DVD players, stereos, coffee machine, dishwasher, toaster, etc)
 - p. Refrigeration units (i.e. located in bars, offices, etc)
 - q. Hot water system (and the type i.e. gas, electric, solar)
 - r. Production equipment;
 - s. Public address systems
 - t. Stage and venue lighting systems.

It can be a bit of work to capture all of this information but there are some very real benefits such as:

1. Accurately determining your venue's total carbon emissions;
2. Establishing your venue's baseline emissions (which can be used as a benchmark to measure future emission reductions); and
3. Maximising greater potential energy cost savings.

If for some reason you cannot commit to an energy audit then you should make a list of the main energy consuming equipment that you feel contribute to your overall carbon footprint.

More than likely such emissions will involve heating, cooling, ventilation and lighting equipment.



To avoid generating emissions from this equipment you need to turn it off when it is not in use. So let's run through a few tips:

Heating/air conditioning/ventilation

In many parts of Australia the need to heat a venue in winter is rare. Certainly once the venue has a critical mass of fans the venue ambient temperature will increase (sometimes to the point where air extraction and/or air conditioning is required).

As a rule of thumb, avoid turning on the venue heating system unless it is forecast to be well below comfortable indoor room temperatures (i.e. below say 19 degrees Celsius).

Like heating, there are likely to be certain times of the year when the ambient outside temperature is compatible with indoor temperatures. During these times it may only be necessary to switch on ventilation systems to move air throughout the venue. Avoiding turning on the air conditioner during these times will save energy, money and unnecessary emissions.

Some of the most wasteful energy consumption comes from heating or cooling spaces when the venue is not open. Investigate purchasing a timing system capable of switching on and off your heating/cooling system to ensure that the building, or parts of it, are not being heated/cooled when unoccupied.

If parts of the venue are being used, then only heat/cool those areas of the building. If your current heating/cooling system cannot be turned on and off room by room or zone by zone, an energy audit would certainly reveal the cost effectiveness to invest in such a heating/cooling control system. Many energy management systems can be paid off in one or two years, meaning you enjoy the cost savings long after the initial capital outlay.

Lighting

Just like your heating and cooling systems, lighting can chew through 20% or more of the total energy consumed by your venue. To avoid these lighting emissions you have simply got to switch off lights when not in use. Sounds simple, but in fact most venues have parts or all of their building lit up when the venue is not operating at full capacity.

Having a decent lighting management control system is vital to avoiding unnecessary related emissions. Such a system can:

- schedule lights to turn on or off;
- switch on lights using sensors;
- isolate lighting to only those areas being used; and



- the really smart systems can brighten or dim rooms depending on how bright it is outside.

In addition, the benefits of LED lighting, both for space lighting and stage lighting, are enormous. LED lighting technology has improved immensely in recent years, creating excellent quality lighting environments with astonishingly little energy – around 5% of traditional incandescent lighting.

Like heating and cooling systems, it will probably add to your bottom line if you undertake an energy audit and then implement solutions that can be quickly paid back over a short period of time. It's not rocket science...