THE POWERFUL THINKING GUIDE 2017

Smart Energy for Festivals and Events

EXECUTIVE SUMMARY

Since the first edition of the guide in 2012, a significant shift towards more efficient energy management has taken place in the events industry. Events are typically able to save between 10% and 50% of their fuel consumption. This guide provides event professionals with up-to-date knowledge and practical resources to help manage temporary energy smartly, reducing environmental impacts and fuel bills. It is created from a collection of modular resources that are also available separately online.

This edition is European in focus, reflecting both the progress being made across Europe on this topic, and the partners involved with the guide's content.

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This guide has been co-written by a group of leading European energy consultants, advisers and festival organisers under the direction of lead author Chris Johnson, Chair of Powerful Thinking, Co-Founder and Operations Director of Shambala Festival.

Special thanks goes to several significant contributors: Paul Schurink (ZAP Concepts/Green Events Nederland), Chiara Badiali (Julie's Bicycle), Sid Rogerson (Entersys), Tim Benson (Freelance Tech Manager/ZAP Concepts UK), Sjoerd Schouten (Watt-Now), Shaun Pearce (Production Services Association), Liz Warwick (Lansdowne Warwick).

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Powerful Thinking is a not-for-profit coalition of industry stakeholders, working together to drive positive change for businesses, audiences and the environment.

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Julie's Bicycle SUSTAINING CREATIVITY

ARTS COUNCIL ENGLAND

kambe SUSTAINABLE EVENTS

Festival REPUBLIC

NOEA National Outdoor Events Association

THE SHOWMAN'S SHOW

NCASS NATIONWIDE CATERERS ASSOCIATION

AIF

eif events industry forum

AFO ASSOCIATION OF FESTIVAL ORGANISERS

PSA PRODUCTION SERVICES ASSOCIATION

LANSDOWNE WARWICK

PLASTER creativecommunications

A GREENER FESTIVAL

Sunday Best

ZAP

Front cover photo credit: Boomtown Fair

ABOUT THE GUIDE AND ASSOCIATED RESOURCES

The guide has been designed as a coherent collection of 22 Factsheet (15 of which are new or updated), 12 new case studies and 2 resource packs, all of which are available online, along with many other inspiring case studies and 'The Show Must Go On', Powerful Thinking's report on the environmental impacts of the UK Festival industry (November 2015). Each section of content in the guide relates to a standalone factsheet and has case studies of recent events to show where the suggested measures have been successfully employed.

LINK TO ONLINE CASE STUDY

LINK TO ONLINE FACTSHEET

FACTSHEET AND RESOURCE LIST

#1 – Sustainable Energy Tips for Traders
#2 – Ten Top Tips for Reducing Fuel Bills at Festivals
#3 – Using Hybrid Power at Events
#4 – Communicating Green Energy at Events
#5 – Biofuels for Festivals
#6 – Five Tips for Smart Energy Contracts
#7 – Roles at a Glance
#8 – Pros and Cons of Low Carbon Energy Types
#9 – Five Easy Steps to Greener Power at Small Events
#10 – Power Sources on Location
#11 – How Energy Actually Works & Essential Terminology
#12 – Smart Grids Explained
#13 – Grid Power for Festivals
#14 – Energy: Frequently Asked Questions
#15 – Identifying Fuel Wastage
#16 – Energy Action Plan
#17 – What to Ask your Energy Supplier
#18 – Getting Smart with Energy for Stakeholders
#19 – Working Out Energy Requirements for Concessions
#20 – Measuring Generator Loads Resource Pack: Factsheet & Recording Template
#21 – Advanced Power Monitoring Resource Pack: Factsheet & Recording Template

"This guide is an essential aid to the industry. It equips festivals with the tools needed to understand their energy requirements and drive efficiencies by using resources intelligently, employing renewable systems and ultimately reducing emissions."

Melvin Benn, Managing Director, Festival Republic.

"Climate change is a critical and urgent challenge facing us all. Taking action to reduce the energy use and carbon impacts of our events and exploring how to best employ new low carbon energy technologies makes financial, operational, and ethical sense, and it allows the industry to practically express its values of resourcefulness and creativity in a way that serves as a pioneering example to others."

Alison Tickell, CEO, Julie's Bicycle.

Shambala Festival - Photo credit: Carolina Faruolo

INTRODUCTION

At the end of 2015, 196 countries negotiated the Paris Agreement on climate change: a historic international political consensus for global climate action pledging to keep warming to a maximum of 2 °C, aiming for 1.5 °C, above pre-industrial levels. Meeting this target is going to take a full and urgent rethink of how we produce and use energy in all aspects of life: using less energy overall, using energy more efficiently, generating it from renewable sources and phasing out fossil fuels within the next few decades.

As an industry with thousands of diverse events in various sub-sectors, and a combined audience and client-base of millions, we have the ability to materially contribute to this shift by managing our energy more smartly, but also play a valuable leadership role in making changes toward a more sustainable future.

Since the first edition of the guide (2012) the industry narrative about temporary energy has fundamentally changed from a skeptical interest in new approaches, to an ongoing dialogue about how to practically implement new technology and smarter ways of working to achieve better efficiency.

There are now many success stories of events across the UK and Europe that have saved energy, fuel and costs. In the recent Festival Industry Green Survey (Powerful Thinking: 2016), over 50% of respondents stated they are now using LED festoon lighting, and a third of respondents had introduced monitoring of generator energy/fuel consumption in 2016 alone.

"The way we are managing energy at events is profoundly changing. Smarter more efficient practices and new technologies are enabling events of all types to dramatically reduce fuel use, emissions and costs."

Chris Johnson, Chair, Powerful Thinking.

"The AFO is an active and committed member of Powerful Thinking because we see that managing energy more efficiently will benefit member festivals in the short-term, and leave the Earth a better place for our grandchildren in the long-term."

Steve Heap, Founder and General Secretary Association of Festival Organisers, and Director of Towersey Festival.

Since the 1980s, when outdoor events were becoming more prevalent, a 'plug and play' model has persisted in the events industry, in which event organisers expect power to be cheap, readily available and power companies will supply generators with an estimated significant margin of contingency in their capacity to ensure that they can provide a reliable supply of energy, which is often based on unknown or incorrect power requirements.

The recommended load for generators to be running at to maximize fuel efficiency and minimize potential damage to the engine of a generator is 60-80%.

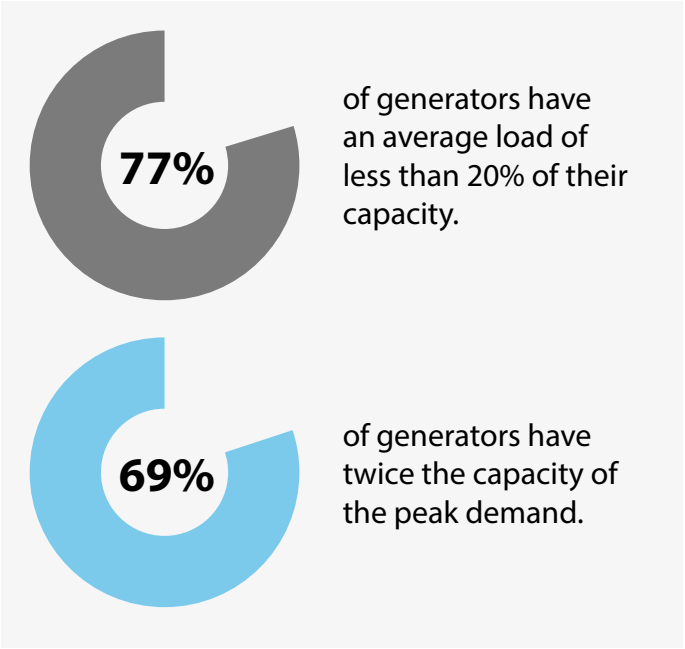

Figure 1. Results of Generator Monitoring 2014–15 (Watt-Now, Holland)

The Power Behind Festivals Guide (2012) detailed research undertaken in the UK by De Montfort University that showed that, of the generators monitored at eight events, every single system had periods of working below a 25% load, and some of them operated entirely below a 25% load. In over half of cases the generator was more than double the capacity required. At one event, the capacity of the main stage generator was eight times larger than the peak load.

An innovative company in Holland called Watt-Now has been busy collecting energy data at events, whilst working with event organisers to identify energy saving and renewable energy solutions. They have analysed 270,000 data points from outdoor events in Holland over two years (2014–2015) finding that 77% of generators they measured had an average load of less than 20% of their capacity (see Figure 1). This data correlates strongly with recent data from Glastonbury Festival and the University of West of England (UWE), showing that the majority of generators were oversized for their purpose.

Power is typically one of the five largest single production costs for a festival. It is one of the few payments not known pre-event, and it is left to a third party to report on, often without safeguards or proper scrutiny. Power also typically represents up to 65% of an event's 'core' carbon footprint (i.e. not including audience travel).[1]

THE FOCUS OF THIS GUIDE IS SIMPLE:

- How we can reduce the amount of power we need.
- How we deliver power with less equipment, transport, fuel and cost – without reducing reliability.
- How we can introduce more renewable energy and other low-carbon technologies into our power mix.

A broader question we should keep in mind is; how do we create the relationships between suppliers, businesses, researchers, and festivals to promote innovation in our approaches to energy supply in order to ensure we are benefiting from the latest developments in energy technology?

[1] The five largest single production costs tend to be power, sanitation, staging, fencing and trackway for many outdoor events. Figures from The Show Must Go On report (Nov 2015). Full references from the report can be found here.