

Decarbonising power at festivals and outdoor events

Stefan Edwards, CF 2024

Contents

Executive summary.....	3
The current event power situation.....	4
What does good look like?.....	4
Preventing power use and increasing efficiency.....	5
Sourcing renewable energy and using hybrid systems.....	7
Innovation, organisational ethos and perception.....	13
Beyond the festival.....	18
Recommendations.....	23
Acknowledgements & contributors.....	26

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About the author

Stefan Edwards lives in Bristol, UK and works as the city's Senior Events Officer. Stefan has over 15 years' experience in the events industry, predominantly at outdoor music and arts festivals. In recent years he has begun to specialise in event sustainability and is passionate about pushing the boundaries in this field. He feels a moral responsibility to improve the planet for future generations and aims to make a positive impact through this work.

Executive summary

For centuries, events have been a meeting point for individuals and communities to connect, converse, share culture, challenge views, learn, grow and be joyful. Considering this context, it is only relatively recently that events have needed electrical power, and even more recently that they have needed to exist within the context of the unfolding global climate and environmental emergencies. The outdoor events industry is grappling with how events can continue to take place in a way which does not harm the planet. Progress has already been made by many forward-thinking events around the world, but the sector is a long way from widespread adoption of environmentally sustainable practices. This challenge is common to most industries, but it is particularly important for events, as they are hugely visible and have the power to effect wider societal change.

For my Churchill Fellowship I decided to focus specifically on decarbonising event power at outdoor events. I particularly spoke to urban events, where existing power infrastructure may make transition easier, but did also consider wider adoption at rural festivals. I was mindful that when looking at climate change, the issue can seem overwhelmingly large. As an individual, it is hard to know where to start and easy to feel powerless to make a difference. By focusing on one specific area in detail, I aimed to identify some achievable actions which could make a meaningful difference.

From my research, it is evident that we must do all we can to accelerate the removal of diesel generators from events as rapidly as possible, as they are proven to contribute to climate change, cause air pollution and are damaging to human health. It is imperative that event organisers should seek to gather as much data as possible, to better understand their power usage and educate how they improve. Reduction of power usage and improved efficiency are important first steps, followed by sourcing of greener power. HVO has been widely used when transitioning, but there are growing concerns that it could be just as damaging as diesel unless very well sourced and could further delay the uptake of greener power sources. Given the scale of the environmental challenge we now face, my research demonstrates that we need to be much bolder and more innovative than this. Events must look to challenge unsustainable practices and be aware that they may face resistance to change from some stakeholders. Events and culture more broadly, must recognise the power they have to influence behavior change and create positive impacts across society.

However, event organisers can not be expected to act alone and should themselves be open to being challenged to do more. Change-makers exist in almost every part of society and the driving forces behind the projects I witnessed came from a variety of backgrounds. Sometimes event organisers led projects, other times it was the film industry, the municipality, private sector partners such as progressive suppliers, energy companies or public demand. On every occasion, the momentum came from passionate, driven individuals and collaboration across multiple partners was key. It was important that these individuals were able to embed their sustainable ethos throughout the organisations they worked for and with. The personalities I met and the approaches they took varied, highlighting that everyone can find their place and make a positive impact through the actions they can achieve within their sphere of influence.

The scale of climate change can seem daunting at times, but the inspiring work I witnessed on my travels proved that with collaboration, leaps forward can be made. All is not lost, but the time left to take action is shrinking. The projects I visited embraced this urgency and were bold in doing as much as possible as soon as possible. I was encouraged to see how widely the impact of projects spread beyond the event sector, proving the power of events and culture to improve society and affect behaviour change.

The current event power situation

Many in the event industry have for years relied on diesel generators for most of their power needs. Generators are portable, affordable and abundantly available in various sizes, so are an appealing solution. Because they are based on well-established technology, they are generally reliable and when things do go wrong there is usually someone nearby who can source parts, make repairs or find a replacement. There is also a degree of familiarity, whereby some events simply continue using generators because it is what they have always done.

However, diesel generators do present a number of problems. They are noisy and produce fumes, both of which are unpleasant to anyone standing nearby and can diminish the audience's enjoyment of the entertainment. Use of diesel generators adds to air pollution, which the UK government acknowledges "has a significant effect on public health and is the largest environmental risk to public health in the UK". A [study by Public Health England](#) found that health impacts of air pollution in the UK Between 2017 and 2025 cost the National Health Service (NHS) between £1.6bn - £2.8bn. A [report from the Committee on the Medical Effects of Air Pollutants](#) found that short-term exposure can lead to a range of health impacts including lung function, coughing, wheezing and shortness of breath, exacerbation of asthma, increases in respiratory and cardiovascular hospital admissions and mortality. They also concluded that long-term exposure to air pollution reduces life expectancy, mostly due to increased cardiovascular and respiratory diseases and lung cancer.

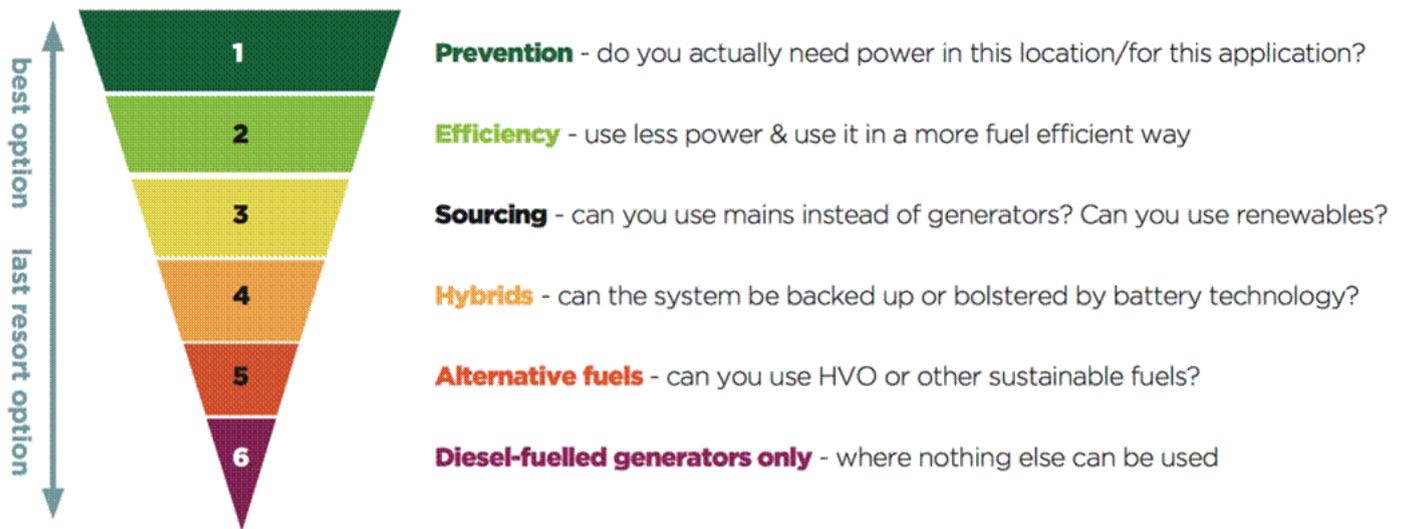
Use of diesel generators also contributes to climate change. [Research undertaken by Hope Solutions and ZAP Concepts](#) found that the UK events industry uses more than 380 million litres of diesel annually, producing 1.2 million tonnes of CO2 equivalent. To put that into context, these emissions are higher than the entire emissions of nations such as [Sierra Leone](#) or [Seychelles](#). Due to the nature of global climate injustice, [nations such as these](#) are being most affected by the negative impacts of climate change. A [2022 study by A Greener Future \(AGF\)](#) found that power represents a relatively small part of the average carbon footprint breakdown for festivals (with transport and food & beverage being much larger sources of emissions), so total emissions from events are even larger.

This problem is not unique to the UK. AGF's annual festival sustainability report 2023 examined 40 festivals in 11 countries and found that 70% used generators. Their Low Emission Festivals report had similar findings, with 76% of events reporting they were still using diesel generators and 65-85% of festival power still coming directly from diesel generators.

Historically, it has been common for events to overestimate the power they need when specifying their generators, which leads to oversized generators running inefficiently. There has been some improvement in this area in recent years. [Powerful Thinking](#) observed significant progress on efficient energy management during the five years between them publishing their [smart energy guides](#) in 2012 and 2017. [Creative Zero](#) found a similar issue in the film industry when researching for their "[The Shift](#)" report, with the majority of generators used for location filming operating at less than 50% efficiency.

What does good look like?

The Power Management Hierarchy, devised by ZAP Concepts and Hope Solutions sets out a framework for best practice.



Research undertaken by AGF for the Low Emission Festival project found that although generator power remains used by a majority of festivals, the power mix of festivals is shifting away from diesel generators. They noted that events are increasingly introducing hybrid, renewables, and battery storage systems to reduce fuel use, so some progress is made to move up the power hierarchy.

The trend to move from diesel to Hydrotreated Vegetable Oil (HVO) has gained momentum in the UK over the past decade or so. The AGF annual festival sustainability report 2023 found that 38% of festivals using generators were entirely running on HVO. This shift was also common in the countries I visited, as it is often the least logistically challenging and most financially reachable change for event organisers to make. This has been considered a positive first step for event organisers, but a recent study has suggested that [HVO is doing more harm than good](#). Research in this area is at times contradictory, but it is clear that HVO must be carefully sourced to be of benefit and to ensure it's not contributing to issues such as deforestation and biodiversity damage. Sourcing HVO with absolute confidence that it is environmentally friendly and is difficult. Detailed due diligence is rarely undertaken, based on assumptions that any HVO is better than diesel. There is a growing consensus that HVO is not a sustainable long-term solution for decarbonising event power. With this in mind, I will predominantly be exploring best practice in the top four layers of this hierarchy (prevention, efficiency, sourcing and hybrids). I will also examine the barriers which are preventing event organisers in the UK from making quicker progress in this field and look at the role of innovation, organisational ethos, perception and the positive impact events can have on wider society. I will conclude with some suggested recommendations.

Preventing power use and increasing efficiency

A good first step for most events is to gain a better understanding of their power use. Powerful Thinking found that events are usually able to save between 10% and 50% of their fuel consumption through efficiency savings. Progressive power suppliers should be able to support event organisers with this and there are plenty of free resources available on the [Powerful Thinking website](#). It is only once an event understands its power needs and has reliable data, that it can look to monitor progress and reduce usage. Improving planning will often require some additional staff time in advance, but will almost always pay for itself in reduced power costs from optimising power.

During my research, I found that a common first change to me made on the ground, was to switch from inefficient traditional bulbs, to LED lighting. Extrema Festival in Belgium uses over 10,000 lights, so this has made a significant improvement to their energy usage. Similarly, Into the Great Wide Open festival in the Netherlands has moved entirely to LED lighting. For those events who have not yet made this switch, they should challenge their suppliers to upgrade their equipment informally and through contract specifications. If suppliers are not willing to make basic changes such as this, event organisers should look to use other suppliers. As this is starting to become standard across the industry, prices have fallen, making it achievable

for other events to follow suit. This is a good example of how sustainability best practice from innovative events has been picked up by early followers and is well on the way to filtering down to all events.

Once festivals have improved their own lighting hire agreements, the requirement to use LED lighting can easily be passed on via contracts to sub-contractors, such as traders and caterers. In recent years, as more festivals have made this change, suppliers have increasingly upgraded their equipment, so LED technology is now increasingly commonplace. Festival organisers have an opportunity to influence change through the contracts they specify with their production companies. They can also influence further down the chain, specifying terms the production companies need to pass on to subcontractors. Rosendal Garden Party in Sweden said they are guided by the topics covered in the A Greener Festival assessment and have used this to influence their contracts. Into The Great Wide Open recognised their position as an organisation which purchases a lot of services from sub-contractors, so has a certain amount of soft power to influence culture change.

As I delved deeper into the topic of reducing energy usage, I was surprised to find that it divided opinion more than I expected, especially given that the AGF Low Emission Festivals report found that 70% of festivals are working to reduce their energy consumption. Several festivals who were using mainly green energy and reducing usage in some areas, shared that they did not have an ambition to restrict power usage for their stages or creative programming. Their argument was that they have already banned environmentally damaging activities such as fireworks and confetti cannons, so there was now more need to create a spectacular show with lighting and audio-visual technology. Paaspop festival in the Netherlands has built a reputation for extravagant and impressive production values. For a festival of this nature, where spectacular, but power hungry technology is a core part of the festival brand, it is understandable that there is a hesitance to scale back. However, many festivals I spoke to reported that although they were driving efficiencies and pushing suppliers to upgrade to more modern kit, their power requirements continued to rise. There was a common thought that this was driven by festival audiences coming to expect more technically impressive shows each year, perhaps fuelled by the high production values used by artists touring at arena level.

Bucking this trend, Eurosonic Noorderslag festival (ESNS) in the Netherlands, have been successful in reducing the power used for their stages and creative production. They achieved this by challenging lighting engineers to reduce their energy usage to within set power budgets, without detracting from the quality of the show. Creative people are driven by the desire to showcase their artistry, so limits like this are usually seen as negatives, which stifle creativity. This challenge effectively flipped the issue, suggesting that only those with the best artistry would still be able to create at the highest level within environmental constraints. Unlike most festivals, ESNS takes place in the winter months, so some of their venues are heated. They were able to reduce emissions by deciding not to heat one of their main venues. Before making this change, they were concerned that audiences may complain that they were cold. A back-up heater was hired in case of this, but also as a safety precaution in case snow built up on the roof and needed to be melted due to the additional weight. Audience complaints did not materialise as people simply wore warmer clothes, and the heater was not needed. Rob Van Wegen from ESNS stressed that “it is important to focus on reductions and efficiency initiatives such as these, before transitioning to other power sources, to avoid over-specifying and enable lower costs”.

Way Out West festival in Sweden, said that until 2019 they attempted to push back against artists with excessive technical requirements and made them pay for anything above and beyond the standard equipment the festival sourced. However, in recent years they have found that so many artists want this additional technology, they have given up on fighting this battle. We Love Green festival in France, also reported that artists are creating more spectacular and power-hungry shows. They have introduced a clause in artist contracts to limit the kilowatt hours available to them but felt they had to make the allowance generous and not too restrictive. This move was controversial and caused some friction with artists, as the production for a show is generally designed to be the same for an entire tour and can not easily be changed for one festival. However, the festival found that it was useful to have these challenging conversations with artists. Conversely artists can use their influence to push events to make positive change and use their profile to raise awareness

of environmental issues. Rosendal Garden Party mentioned that they were pushed to go further on their sustainability standards when they booked Massive Attack, a band well known for their environmental activism. Initiatives like the [Green Artist Rider](#) for music and the [Green Rider](#) for film, give guidance on how performers can leverage their power to make a difference. In recent years it has been encouraging to see that more artists are making sustainability a priority.

It is common practice in the industry for subcontractors using power on site (such as caterers) to be charged a fee based on the size of the supply they think they need rather than the specific amount they use. This is not particularly effective if you want to incentivise traders to conserve power. Some caterers do not fully understand their own power needs and over specify the supply needed to be safe, whilst others attempt to save money by selecting a smaller supply and end up needing to upgrade on the day. This approach makes it very difficult for event organisers to accurately arrange the correct power supply for food court areas. Often this means that the generator hired by the festival is over specified and runs at an inefficiently low level. Attempts have been made by some events to monitor the individual power usage of each caterer, but the cost of sub-metering equipment and staff time needed to collate power data has proven too costly to make this a viable long-term option.

Most events said they encourage caterers to reduce their power demands. This was usually done via guidance rather than being enforced contractually. Some festivals have attempted to gather better information about the equipment and requirements of caterers. Rosendal Garden Party said that they have detailed dialogue with suppliers such as bars and caterers to establish an accurate picture of what power they need, rather than just accepting their estimates. Extrema festival has intentionally created a significant price differential between the smaller and larger power supplies they offer to caterers to reward those needing less power.

When it came to sponsors, it was clear that there was a different dynamic at play. Sponsorship often represents a significant income stream for events, from a small number of brands. Festivals can worry about upsetting sponsors and losing their affiliation, which potentially makes them more cautious of challenging them if they are not doing the right thing on power or other sustainability issues. Decisions on sponsorship are also not clear cut. For example, one festival mentioned the moral dilemma they faced when approached by a fast-food chain to launch their vegan menu, whilst being aware that they continued to source meat with low welfare standards. Festivals who are struggling to balance the books (which represents a large proportion of the sector) often face uncomfortable decisions, where financial pressures sometimes push them to work with less progressive brands.

Once a festival has gained a strong reputation as an ethical or sustainable event, environmentally conscious brands are more likely to partner with them than other events. Some festivals felt that this sponsorship went some way towards recuperating the money they had spent on sustainable initiatives in the preceding years, giving them financial vindication for decisions they had made for moral reasons. Events reported that sponsors such as green energy companies were often willing to give in-kind support such as expertise from staff with specialist knowledge. Ethically minded festivals often have a stance whereby they only allow sponsorship from brands which align with their values. Tijn Couzij from Into The Great Wide Open said that “through making the right choices, opportunities and money eventually flows to those companies taking positive actions on climate over those who are not”.

Sourcing renewable energy and using hybrid systems

In urban areas, where there is more plentiful mains power available, this should be the preferred solution for most events. Where capacity is an issue or infrastructure is limited, demand could be managed using batteries to top up mains supplies. Despite high levels of reliability from the grid in Western Europe and very advanced battery technology, a degree of scepticism remains within the industry. At live music events particularly, the stakes are high, with considerable potential for reputational and financial damage at events if power is lost even for a short time, for example during the performance of a headline artist. Festivals have strictly licensed curfews, which if breached could result in large fines, or loss of permission for the festival to take place in the

future. So, if power was lost during the headline artist, their time performing could be cut short. Festivals are also heavily dependent on bar income. The loss of payment systems even for a few minutes can have significant financial implications.

Having been reliant on generators for so long, it is not surprising that there is resistance to change. At ESNS Rob Van Wegen noticed that there was a turning point in attitudes as time went on, commenting that “once some grid connections had been made, a collective determination began to emerge, with everyone working together to remove the last few remaining generators”. Many festivals address this risk, or perceived risk, by having back-up generators, which are only used in the event of an issue. This is a costly addition for events, especially given that they often are not needed. The festivals I interviewed mainly chose to use HVO in their back-up generators, so that they could remain fossil fuel free even if they were needed. Given that the fuel generally was not used, or was only used for very brief periods, the cost difference in using well sourced HVO over diesel was minimal, making it an easy decision for event organisers.

When asked if they felt that back-up generators were needed, festival organisers gave mixed responses. Cabaret Vert festival in France still has generators in case of emergencies, as do Into The Great Wide Open, who reported that they needed to use generators for 5% of their power one year, due to technical issues. In 2024, DGTL reported that they needed to use emergency generators for one hour. At KulturFestivalen in Sweden, a major power line went down, but the festival was able to manage the problem by turning off the bar fridges, allowing stages to remain running on the reduced power available. The residual cold in the fridges was enough to keep the beer cool and avoid customer complaints. At Oyafestivalen, in Norway they are satisfied that the risk of losing mains power is very low, so choose to operate without back-up generators.

One of the main challenges for events wishing to connect to mains power is that very few event sites have existing connections with enough power for large events. The cost of upgrading mains power varies hugely, but will usually be in the tens of thousands of pounds as a minimum, or potentially high into the hundreds of thousands if a new substation is required. These up front capital costs are prohibitively expensive for most events. In France, Cabaret Vert have been successful in getting the municipality to pay for a large connection to their site. This supply will just be to one location, so the festival will then pay to install a ring, which will distribute power to various locations around their event site, to supply stages, bars and other areas. Once complete, this connection will provide 90% of the power needed for the event. Only the campsite, which is separate from the rest of the site, will not be connected. Previously the event developed their own solar farm in collaboration with neighbours to the festival site. This allows neighbours to generate green power, which during the festival is used by the event, but year-round provides power for 121,000 people. This not only helps with decarbonisation at and beyond the festival, but it also compliments the event’s aim to support local communities. The festival also has an office in a brownfield industrial area with an old turbine. They have aspirations to use this to generate hydroelectric power and become an interesting educational talking point.

We Love Green first introduced solar technology 10 years ago. They found that solar takes up a lot of space for the relatively small amount of power it generates, but they believe it is valuable as it is visually attention grabbing and generates conversations amongst festival goers about green issues. ESNS agreed that solar provided limited power, but have found it useful to re-charge touring vehicles and in remote locations such as security gates or accreditation points, where small amounts of power are required for lighting and charging laptops. DGTL and Extrema have also used some solar power in the past, but again, it only accounted for a small amount of their power usage.

In 2010, Oyafestivalen moved entirely to grid power and fossil fuels have not been used since then. The festival originally took place at a different location to their current event site. At the old site, the festival part-funded some infrastructure upgrades, sharing the costs with an energy partner and the Oslo municipality. However, when the festival decided to move sites, one of the key factors in selecting a new location was the requirement for mains power. Despite selecting a site with power, Oyafestivalen has needed several upgrades in recent years, due to the growing power demands of the festival. The municipality has been very supportive and invested significantly in improving infrastructure. Norway is fairly unique in how well funded its national

and local government institutions are. It is unlikely that many local municipalities in the UK would be able to fund large-scale upgrades of this nature in many locations without significant funding from other sources. It is worth reflecting on the fact that Norway's sovereign wealth fund was largely built on, and continues to be funded by, the extraction and sale of fossil fuels.

Oyafestivalen highlighted that it is a two-way relationship with the city. The festival recently invested in a hard-standing area in the park they use, which also benefited residents by doubling as an area for skateboarding and basketball throughout the year. Arne Johansen from Oyafestivalen said that the "positive relationship between the event and the municipality means they support each other, but can also have honest conversations and challenge each other". Improvements such as this save money for the municipality, by not needing to fund works themselves, but also enhance spaces for the public year-round. No matter how considerate event organisers are, festivals will always cause a certain degree of disruption and negative impact, both to nature and for nearby residents and visitors to public spaces. By making improvements, the festival not only counteracts these impacts, but also builds positive relationships with these stakeholders.

By selecting a site based partly on power requirements, emissions can be reduced without the need for hugely expensive infrastructure investment. Whilst this is a sensible decision, it is not an option for many events. For example, with Into the Great Wide Open, one of the joys of the festival is for people to experience an event in the beautiful, but remote setting of Vlieland Island, which is a nature reserve with limited power infrastructure. Fredrik Holmstedt from Way Out West commented that "event sites with the best power connections and infrastructure are not always the greatest concert locations. It is rare to find a site which has it all."

In Gothenburg, Way Out West discovered that they had two high voltage power lines under their event site, one of which was unused. After some conversations with the municipality, the spare supply was activated and a temporary power station was constructed, increasing the mains power supply to the event by ten times. In this case, the municipality paid for all upgrades, which is rare. At Extrema Festival, they are keen to have a mains power supply installed, as the event takes place in a remote, forest and lakeside location with very limited power available. Conversations have been ongoing for several years and it is anticipated that they may continue for many more years due to the sensitivity of the site, which is a National Park. Even if permission was granted, costs would most likely be high for a rural site of this nature and financing such a project would be challenging and time consuming. Whilst the ambition for mains power remains a long-term goal, in the meantime, they have been using solar and battery packs wherever possible and supplementing with HVO generators. In most cases where mains power upgrades have been completed for events, the sites have been in urban locations, or near to buildings with substantial existing power supplies, where it is easier to make a business case.

In cases where event organisers have contributed towards funding mains power upgrades, there were strongly expressed opinions from several event organisers as to the importance of securing multi-year permits from the local municipality. It is commonplace for events to usually be permitted on a year by year basis, with returning events re-applying each year for the repeat hire of an event site. Event organisers argued that their financial investment into infrastructure was physically tied to a geographic location, so stressed that it was vital that they be granted long term permits to give stability and reassurance that the festival would not need to relocate. The preference from event organisers was that permits were between five and 10 years long, to give a degree of security. Even with these guarantees, festival organisers were still expected to carry a certain degree of risk, since projects often had payback periods of over 10 years to recuperate the upfront capital costs. In one case, a festival still only was issued a year by year permit despite making major site investments. However, the event organisers did lease an office in a council owned building with a 40 year lease, so that provided them with some reassurance. Several organisers went to great lengths to stress the importance of these long term permits, repeating it multiple times when interviewed. This is clearly an important factor for local municipalities to consider if they want to encourage investment, enable significant sustainability improvements and retain forward thinking events.

A common approach from several festivals was to break their sites down into separate zones, such as the main stage arena, catering area, box office area, etc. This allowed festivals to identify possible solutions zone by zone. In some cases, enough mains power was available to power some zones, allowing the event organisers to focus on solutions for the other areas. Some festivals were open to the idea of adjusting site layouts and moving bars or catering areas towards mains power sources. Several festivals I spoke to have successfully moved their backstage production operations entirely on to mains or batteries. The production offices tend to arrive on site first and leave last, so they require power for the longest period, with relatively low and stable demand without high peaks. This makes them an affordable and reliable first element of a festival to migrate away from generators. This approach works well for Paaspop, where the available mains power falls far short of the festival requirements, but is sufficient for the build and break periods.

In other cases where mains supplies were available, but not powerful enough, batteries were used to supplement the power by charging during low demand periods. Batteries are used in this way by DGTL to double the amount of power available in one zone. Similarly, Tinderbox Festival in Denmark, has enough mains power for around 50% of their needs and uses batteries to bridge the difference. Batteries are increasingly being used as a hybrid solution to balance power in this way, not only with mains and green power sources, but also with generators to reduce their fuel usage and emissions. Some crew members I spoke to at events cited safety concerns relating to batteries, usually mentioning how difficult it is to extinguish a battery fire. Whilst it is true that battery fires can be challenging to extinguish, studies relating to the automotive industry from several countries have found that electric vehicles are significantly less likely to set fire than petrol or diesel vehicles. Most batteries used at festivals are highly advanced and have comprehensive safety systems in place to recognise the signs of thermal runaway and shut down before a fire occurs, so these concerns are largely unfounded.

Kultur Festivalen in Stockholm benefits from a central city location, with lots of mains power points available. However, the festival has large power demands and does not have enough power in the right locations. The event has put pressure on energy suppliers to upgrade power supplies, with limited success, despite having monthly meetings and regular dialogue. In some locations, where no other solution is affordable, generators are used to supplement the supply. The event investigated battery solutions but found that the cost was more than double the price of generators. They also found that the additional space needed for the batteries would have been too large to be feasible in the city centre, where space is very limited. Way Out West Festival echoed these concerns, saying they would need 40 batteries the size of shipping containers to meet their requirements. Both events said they hoped to see batteries continue to become smaller and cheaper, so they could re-visit this. It was hoped that increasing interest in smaller, lighter batteries from the sea and air travel sectors might speed up the development of this technology.

The use of HVO in existing generators was mentioned frequently and was perceived as a better solution than using diesel during the period where suppliers are phasing out generators and growing their stock of technology such as batteries. It was generally acknowledged that it is a far from perfect option and some expressed concerns that use of HVO was legitimising the prolonged use of generators and slowing the progress of scaling up other technologies. Some event organisers shared that in addition to basic equipment hire fees, a profit margin is often added to the cost of the power used. This practice can be found when using diesel, HVO or mains power. However, in the case of diesel and HVO the profit usually goes to the hire company, whereas if a battery is charged from mains power it usually goes to the owner of the power supply. There was a suggestion from some event organisers that hire companies are therefore not incentivised to move towards mains power as quickly, as they are unusually not the owner of the mains supply, so would lose the mark-up on fuel.

Another good solution, especially in urban areas, was to supplement the event's supply by tapping into connections already owned by other businesses. This is a particularly good fit for events which happen next to factories or office blocks, which use significant power during the daytime on weekdays, but very little in evenings and at the weekend, when most events tend to happen. At DGTL, they reached an agreement with a neighbouring film studio, which does not operate at weekends, to use their power supply. Some work was

required in advance to install metering equipment, but this allowed the festival to remove one large generator. In Stockholm, several local organisations, including the Opera House allow KulturFestivalen to use their power and in Norrköping, during their night of culture, they use power from a local school. In several port cities, event organisers were able to gain permission to use power supplies which were usually reserved for boat owners. Into The Great Wide Open have successfully negotiated a deal with the local sports centre to share their grid connection. They also make use of a connection which is slightly away from the festival by driving large batteries between the connection and festival to allow for recharging. This model has more recently been adopted by several events in the UK, including Massive Attack's groundbreaking, Act 1.5 low-carbon concert on Bristol's Clifton Downs in August 2024.

One innovative and affordable example of events being supported in transitioning to existing mains power is the [Green Energy Map](#) developed by NRG in the Netherlands. This project maps power supplies in many cities across the country and matches the owners of power supplies with potential power users through their website or app. The concept of the power map is very simple, but it elegantly solves a long-standing problem whereby potential power users are unaware of nearby power sources, or do not know who owns a power source or how to access it safely. In addition to power supplies owned by municipalities, the map also captures privately owned supplies, such as external sockets on cultural buildings or owned by businesses. As mentioned previously, some event organisers have managed to connect to other power supplies without use of this kind of map, but their feedback was that the process was time consuming, with numerous obstacles and layers of bureaucracy and insurance issues to navigate. The power team working on DGTL festival said that it required “hundreds of hours of conversations” to negotiate permission to use one supply and remove limits to its capacity. This explains why it is fairly common to see generators at events, positioned just meters away from mains power sources which the event organiser has not been able to access. Use of the map makes the process easy for event organisers and has no upfront costs, so removes these barriers. As well as the sustainability benefits, there are also financial gains for the supply owner, so they are motivated to make their connections available. If required, technology can also be installed which allows power boxes to be remotely opened and billing can be automated, making the process even easier for power users.

The power map has proven incredibly successful for the events sector in the Netherlands. De Parade were one of the early adopters and went on to save over 60,000 litres of diesel. In Utrecht, the city municipality supported roll out of the map with some financial support. By combining data and specifications from multiple users, the city has gained a better understanding of power requirements. By considering all potential power users in a location, it is possible to make a better business case to cover the costs associated with upgrading existing supplies or installing new infrastructure. Live data is also useful to identify events which have suspiciously low power usage and may be deliberately choosing not to use mains power in favour of generators.

Having been operational for several years in the Netherlands, the power map has also grown into other industries, powering everything from food markets and film crews to construction sites. These sectors are a good fit, as they are also turning their attention to decarbonising and share similar challenges around needing portable power. Jordi Leijnse at [NRG Group](#), who developed the map, commented that “the event and construction industries do not tend to talk to each other much, but they have a lot more in common than they realise. Construction sites, like events, have build and break periods where the power needed is lower, and a busy middle period with higher power demand and usage peaks”. In one case in Amsterdam, a newly installed power supply paid for by a music festival is now being used by a construction company. They have built a temporary compound to charge vehicles and equipment overnight, which can be used during the day on a nearby construction site. This is an excellent example of the creative industries being funded by other sectors and being rewarded financially for their positive action on climate change.

Another innovative outcome from the Green Energy Map is the unlocking of Electric Vehicle (EV) Charging points for other applications, such as event power and location filming. In several cities, approaches have been made to the companies operating EV charging points, but given that they are designed specifically for charging vehicles, the idea was generally not well received. There are also logistical issues to overcome, as EV

charging points are designed with a safety feature, which makes them cut out after a certain time to avoid over charging a car. This feature would of course be problematic if it was triggered during a concert. This issue has been overcome by NRG Group, as they have developed hardware and software solutions to communicate with the EV charging points and act as a safety buffer between them and the power user. They have also built trust with the owners of the EV charging points, so it is now possible in the Netherlands to use these supplies for events and other applications.

In Amsterdam, use of the map has enabled a 27% reduction in the use of diesel generators in the city. In 2024, the power map saved over 327,000 litres of diesel in the city and prevented 844,000 kg of CO₂ from being released into the atmosphere. Depending on efficiency, event organisers have seen their fuel costs decrease by as much as 50%. The map has gone on to be adopted across most of the Netherlands and roll out has now begun in some Belgian cities. This project is a shining example of how initiatives emerging from the festival sector can benefit society as a whole. A similar map has been developed in Vancouver, Canada, which was driven by the film industry and developed by the Reel Green Clean Energy Committee. However, these examples are rare and in most other cities it is not easy to access information about mains power locations and how to access them.

Another area of focus when decarbonising event power was considering the fuel used for plant machinery used to build event sites. Traditionally most vehicles on site use diesel powered vehicles to do the heavy lifting and construction work. Into the Great Wide Open worked with Lab Vlieland on a project called “Construction Yard of The Future”, to trial emission-free construction equipment. The project was a good example of collaboration between the event and construction industry. The festival worked with large building companies to create an emission free construction site for the build and breakdown of the event. The project was successful in a number of ways. Beforehand, crew were sceptical about poor performance of new equipment and whether the battery capacity would be sufficient to last all day, but almost all vehicles lasted, and this was not a problem, with some being topped up by rapid charges during lunch breaks. Crew prejudices were largely unfounded and after they got used to using the kit, their attitudes were mainly positive. One of the most common positive reflections, was the greatly improved communication on site, aided by the equipment being much quieter. Because charging mainly happened overnight, when the rest of the event had low power demand, there was no increase to peak power demand. One of the major successes was the removal of 90% of Co₂ emissions and harmful particulates.

Despite these successes, there were also a number of challenges. It is fairly common for mid-sized festivals to hire a small number of large, multi-purpose construction vehicles when building and breaking down the festival site. This approach allows them to hire less vehicles and know that the vehicles they have can handle most jobs required on site. Limited availability of equipment was a barrier during the Lab Vlieland trial, which sometimes made it difficult to find the right equipment for each task and led to a higher number of types of vehicle being needed. Whilst this required crew to switch between vehicles more often, it reduced the common occurrence of hugely oversized vehicles being used for simple lifts. Increased use of smaller vehicles also has the advantage of limiting ground damage, so was positive from an ecological point of view. The trial also found there were some technical challenges to overcome, such as equipment or charging failures, lack of standardisation in charging plugs and lack of familiarity with the kit from the crew. Cost remains a barrier, as the low emission machinery used was generally 30-50% more expensive to hire than traditional fossil fuel powered vehicles. Lab Vlieland now has funding to extend this project and will be working with the construction industry year round.

A number of other festivals I interviewed had also attempted to decarbonise their construction vehicles, with limited success. Commonly cited barriers included costs and the availability of equipment, as was found on the Construction Yard of The Future project. The availability of electric machinery is improving as the construction industry is embracing this technology. However, events can find it hard to get hold of electric machinery when competing with the construction firms, who are often approaching hire companies for much longer term leases. It is clear that currently it would be too costly and technically difficult for most festivals to completely decarbonise their construction equipment. Some positive first steps would be to go electric when hiring

vehicles which are more readily available from hire companies, such as electric vans, buggies and forklifts. A good example of this would be Extrema, who have reduced their emissions by moving their transport vehicle fleet (such as golf buggies used on site) over to electric vehicles, which are charged from batteries.

Innovation, organisational ethos and perception

Many of the people and festivals I interviewed during my research are pioneers of innovation in event sustainability. Some festivals even chose to innovate with new power sources when they had access to simpler and cheaper green solutions. Sometimes the amount of power generated from experimental power sources is relatively low, but piloting new technologies is motivated more by the opportunity to raise awareness of sustainability and what might be possible for society. For example, some festivals have experimented with kinetic dancefloors and harnessing pedal power from bicycles. In 2025 DGTL began trialling technology which aims to capture energy from noise and turn it back into energy to power the speakers. However, this is the minority and in most cases the initiatives have also led to significant positive changes to events' power mixes.

DGTL has a smart energy plan and only uses renewables, predominantly from mains power, but in the past also from a mixture of wind and solar. The festival is in its third year experimenting with green hydrogen, in partnership with [WaterMeln](#) and [Zap Concepts](#). On a practical level, the project has been a success enabling them to remove one large generator from the event. However, the focus has been on working with stakeholders including power experts, safety advisors, the fire department, researchers and other festivals, to test its viability. The inclusion of the hydrogen unit was implemented with the rigour of an academic research project, an environmental impact tool was developed and data was visualised to demonstrate the impact compared to a diesel generator. Similarly, ESNS and partners also tested hydrogen generators in a festival environment, to develop practical and legal safety standards for events. This was just one of many hydrogen initiatives, whereby Groningen wished to present itself as the hydrogen capital of Europe, so again, the goal was much bigger than just the event. The project is not yet scalable, but 16 new hydrogen generators are being developed, so there is potential for growth soon, and the groundwork has already been done.

Despite having a largely good safety record, there is some nervousness about the use of hydrogen, given that it is flammable and odourless. It is of course right that strict safety measures are needed around hydrogen. Having spoken to event organisers using this technology in several countries, most reported that licensing authorities were initially slow to regulate, but as their awareness of hydrogen grew, so did their risk perception. Several events reported that authorities introduced the requirement for large exclusion zones around hydrogen power cells. If exclusion zones of this size were required going forwards, the usefulness of hydrogen as a power source would be limited, as festivals (especially those in urban areas) often operate within a limited footprint. These regulations would impact on other industries, such as construction, which are interested in this technology and also often need to operate within space constraints. By working in partnership, regulators can work alongside innovators, rather than playing catch-up.

Marianne Hocquard from We Love Green shared that the festival factored sustainability into the design of the festival from the beginning in 2011. She said that they see the event as a "laboratory for experimenting with and developing eco-responsible solutions, innovations and working methods" and work collectively across the sector and beyond. The event has been powered by 100% renewable sources since the very first edition and now has a stage which is entirely powered by a solar farm and natural bio-waste recycled into renewable gas. They have experimented with hydrogen in the past but decided not to continue with that due to the constraints around cost and regulation. Despite having achieved green power over a decade ago and now having access to enough green mains power to supply the entire event, We Love Green festival only uses mains for 74% of their power needs, making a conscious choice to continue to challenge themselves and trial new technologies in the spirit of exploration. In the future the festival is looking into the possibility of developing or buying their own battery packs.

We Love Green has a near obsessive attention to detail when it comes to sustainability. In recent years they have been exploring the topic that not all types of HVO are equal and moved to using XTL, a synthetic

alternative diesel fuel. Way Out West has done research in this area and now uses EcoPar Bio fuel, which is an HVO and synthetic paraffin fuel, which claims to have Co2 emissions 92% lower than diesel. Similarly, it was highlighted that events using hydrogen must research the origin of their supplies well and ensure that it is green hydrogen. This is particularly important as the production of hydrogen is very inefficient, so if fossil fuels are used in its creation it could completely defeat the point of using it for decarbonisation.

In addition to progressive power suppliers, other hire companies have begun to innovate and integrate green power solutions into their products. There are many suppliers renting products such as office cabins, toilet blocks, lighting towers, stages and more with built in green power, such as solar panels or batteries. Several European festivals and organisations collaborated to create the [Green Energy Mill \(GEM\) stage](#) in 2018. The stage generates energy through two types of solar panels, a wind turbine and a hydrogen generator, and stores it in a battery at the base of the stage. This provides enough power for a full live show of a band or DJ. As well as being an innovative solution and using multiple green technologies, the stage is visually striking and acts as a talking point for event staff and members of the public. [VELO concerts](#) offer a stage which folds out of a cargo bike, which if recharged with renewables, decarbonises both the power for the stage and the logistics of delivering it.

Due to the industry's historic dependency on generators, events have sometimes needlessly used diesel out of habit when there is greener mains power available. The opposite is true at Oyafestivalen, as they aimed to be 100% fossil fuel free at the start, so every decision has been made with this in mind. Arne Johansen from Oyafestivalen said that “because mains power has been the primary power source for the festival for so long, activities such as digging new channels for mains power cabling have become more normalised than hiring a generator”. Marie Fursteth, the festivals' head of sustainability spoke to me about the importance of their ethos when it came to matters of sustainability and added that it is “deeply rooted in their organisational ethos and our personal values”. Similarly, We Love Green were guided by one of their founding principles being to raise public awareness of the issues surrounding sustainable development. Circular Festivals have published a [roadmap canvas for sustainability](#) in collaboration with ESNS. This is designed to be a practical framework to support organisations who are aiming to integrate sustainability throughout their operations, touching on strategic planning and cultural transformation within a company. Due to the success of this, follow-up work is currently underway, and more detailed roadmaps will be published soon.

Some of the festivals I spoke to had been taken over by larger companies. This has become more common in recent years, with a handful of large companies acquiring an increasing number of independent festivals. I was interested to know if these take-overs had any positive or negative effect on the sustainability values of the purchased festival, or if the ethos of the festival was able to spread to the parent company and its other events. Most festivals said that having new owners had little impact and they were able to continue as normal with sustainability initiatives. This is most likely because these organisations tend to be hesitant to make major changes to festivals which they have purchased and are already working well, especially if their brand is built around being strong on environmental issues. In the cases where festivals had noticed a change, it was generally positive, with several events commenting that they valued being able to share knowledge with their new sister events. Some festivals also benefited from learnings from innovation happening in the touring arms of their parent organisations, with specific mentions of the influence of acts such as The 1975, Billie Eilish and Coldplay.

The financial climate for the majority of festivals in the UK is currently incredibly challenging. Most events report that their costs are rising faster than general inflation, at a time when their attendees have less disposable income, so costs can not be passed on to audiences. The Association of Independent Festivals (AIF) reported that “a total of 96 festivals fell during the pandemic, 36 fell in 2023, 78 fell in 2024” and sadly the trend is continuing. Whilst finances are so strained for many event organisers, there is a danger that environmental sustainability could become perceived as an aspirational luxury which festivals can not afford, rather than a standard mindset which all should operate by. Some argue that a level of pragmatism is needed if we want to ensure that festivals can transition at a pace which is financially affordable, but this is set against

a backdrop of scientific evidence that as a society we are not going far enough, fast enough to slow global warming.

There is a widespread perception in the events sector that sustainable solutions cost more than less environmentally friendly alternatives, which is problematic for events working on narrow profit margins. There is certainly some truth in this perception, as I spoke to a number of event organisers who confirmed they paid more to use sustainable suppliers, but did so because they felt it was the right thing to do. This was particularly true amongst innovators, who did not wait to benefit from economies of scale once green technologies are more widely adopted. The lack of supply chain was also mentioned many times as an issue which made some interventions impossible or prohibitively expensive. These opinions are backed up by the A Greener Future annual festival sustainability report 2023, which noted that supply chain availability and costs remain the major barriers for faster decarbonisation.

On the issue of supply chain, there are some positive signs, as the Green Alliance found in April 2025 that the Green Economy is growing three times faster than the rest of the economy in the UK. As investment grows, supply chain issues should lessen and costs will continue to reduce, opening green technologies up to smaller events with limited budgets. In the Netherlands and Belgium, it was felt that the availability of batteries was improving and the cost was decreasing at a quicker rate than in other countries. Ridder Haspels from Green Deal Circular Festivals in the Netherlands told me that “battery packs are readily available and can be sourced reasonably easily from local suppliers”. This opinion was echoed by event organisers I spoke to here and in Belgium, with several saying that “the cost is still more expensive, but not by far”. Into the Great Wide Open adopted battery technology and worked with a battery company, giving them the confidence to develop more large, mobile batteries. This hire company continues to give the festival a discounted rate to showcase their batteries and has gone on to become a substantial presence in the construction industry, showing that events can have an impact in wider sectors. However, even in the Netherlands, Ridder Haspels added that it “rarely financially works for a festival under 5000 capacity to hire batteries”, which highlights that smaller capacity events can be limited in what they are able to achieve, even if they are financially stable.

The picture was not as positive in most other countries, where most event organisers frequently shared that large batteries were out of their reach financially. When faced with a shortage of affordable batteries to hire at Sweden Rock, they have started a trial to use power from the built-in batteries from electric trucks. If a local supplier is already delivering equipment to site, their truck may arrive with a nearly full battery and need very little power to return to its base. This could be a good alternative for others to explore as it potentially eliminates the need to hire batteries separately and also saves on transport related emissions. Generators are often hired from local suppliers, so transport is an important factor to consider when calculating emissions if batteries need to be sourced from further afield. In Denmark, in response to the lack of available large batteries, a group of festivals have collaborated to arrange a long-term lease of 185 batteries from the Netherlands, sharing costs and reducing transport emissions. This approach could be replicated in other cities, perhaps with a centralised organisation such as the municipality coordinating across multiple events and facilitating access to green mains power at a centralised charging location.

Although the up-front cost of a battery is usually more costly than a generator, the cost of the power may well be cheaper, so festivals must consider the whole picture. In most countries power from the grid is cheaper during off-peak times, so batteries can also make savings by drawing power at night and storing it to be used in the day. In Sweden, the tax on electricity is also variable, to further incentivise off-peak usage. Oyafestivalen commented that although their batteries are more expensive, they do make some cost savings on cabling and staff time by using a mixture of mains and batteries.

There is increasing evidence that choosing environmental sustainability above profit margins in the short term might make financial sense in the long term. Research by Powerful Thinking found that 90% of audiences believe it is the responsibility of the festival organisers to take action to reduce their energy consumption. Several festivals made the case to me that the financial cost of being environmentally progressive does pay for itself, for example through building audience loyalties and therefore ticket sales, or by attracting ethical

sponsors who want to pay to be associated with the event due to its green reputation. Into The Great Wide Open has been running since 2009 and takes place on an island which is a nature reserve. Since day one there was a strong focus on nature and ecology, which naturally led to diesel generators being seen as a bad fit for the event. Currently, the festival is powered by a mixture of mains, solar, hydrogen, with batteries used as a buffer. They recognise that there is a reputational advantage to being known as a leader on sustainability, which sets them apart from late adopters who could be perceived to only be acting when their hand is forced.

Into The Great Wide Open is run as a not for profit foundation, so does not have the pressure to deliver a profit for shareholders. The event has an interesting governance model whereby income related to sustainability is ring fenced as a transition fund which can only be spent on cleaning up unavoidable emissions and on regeneration and decarbonisation projects. The festival is not only balancing its current annual carbon emissions, but they are also aiming to use this fund to retrospectively clean up their historic emissions right back to the first event. Other projects supported by the fund include environmental awareness, carbon capture and ocean regeneration. Having identified that audience transport caused 70% of their emissions, the festival now adds a 'good travel allowance' to all adult tickets. Festival goers who travel to the event using environmentally friendly travel get their levy back and for those who do not their levy is added to the transition fund. Because audiences know that the fund is used for good, some people who travel by green methods choose not to reclaim their levy and give it to the festival for the benefit of the environment.

Despite the growing mindset that embracing sustainability makes long term financial sense, many festivals are limited by their short term cash flow challenges. The events I spoke to which could afford portable renewable power sources, batteries or mains power upgrades, tended to be long-standing events in relatively strong financial positions. They were willing and able to absorb some of the upfront costs associated with greener solutions. One of the leading festivals I interviewed said "money is not a problem for us", whilst another said "we have strong finances as we sell out in 20 seconds". Another event said "collaboration with other events on sustainability is sometimes tough, as their financial situation is not as strong as ours". The success of these events should be celebrated and perhaps to some extent can be attributed to their progressive sustainability policies as much as their strong creative direction and artistic programming.

Given that there are often financial pressures on event organisers' cash flow, funding is an attractive option for those looking to decarbonise their power or improve other areas of environmental sustainability. This is particularly important for projects such as mains power upgrades, where relatively large capital funding investments are required up front, but cost benefits are only realised gradually over a number of years. Several festivals I interviewed had received funding, especially for their most ambitious and complex projects. Festivals looking to work on sustainability projects have the advantage of being able to explore various types of funds. The organisations I interviewed mentioned funds which covered areas such as climate action, community, creativity, economic growth, education, innovation, health and wellbeing. However, grants are generally small in comparison to overall festival budgets and targeted at specific projects. At Into the Great Wide Open, most of their sustainable initiatives are self-funded from their budgets, with less than 1% coming from grants. However, they do work very closely with Lab Vlieland who do receive funding and trial initiatives at the event. We Love Green said that less than 5% of their income was from funding and DGTL received some funding for their green hydrogen trial. Extrema said there are lots of funding opportunities in Belgium for power projects and more generally for sustainability initiatives, but they do usually require financial input from the festival, so are out of reach for organisers without financial reserves.

In most cases where power projects were funded, event organisers told me they were expected to pay for 50% of the capital costs, with the remaining 50% of costs covered by a grant giving organisation or government funding (usually municipal or regional). In some cases, the costs were split three ways or partially funded by private investment by businesses such as power companies, which supported in making projects more viable. There was a sense from most festivals that funding had become more competitive and harder to secure in recent years, but it did not seem to be a major concern for the festivals I interviewed. It was noted that some funds in the Netherlands had shifted focus from innovation to scaling up of green technologies, perhaps indicating a recognition that they are ahead of most other countries.

In Norrköping, the city received Phoenix Funding, and the terms specified that they must get Green Time accreditation with a score of at least 70%. The city also administers two cultural funds for local organisations to apply for, one of which is event specific and these funds also have sustainability conditions. These funds show that grant giving organisations can play a key role in driving climate action by stipulating sustainability terms in their funding terms and scoring criteria. Given that many events in Norrköping are funded, it has a significant influence on event organisers, but this is not the case in most cities, where only a small percentage of events are funded.

In some cases, events were able to finance projects by being part of much bigger regeneration or development plans. In France, Cabaret vert received 500,000 Euros of funding for their community solar project, which was further supported by bank loans. The project was also supported by the municipality and in-kind support from experts at the energy company. It is hoped that the future hydroelectric project can be funded as part of a wider £25m regeneration scheme in the area. They said that funding was not common in France, especially at this scale, but they were able to secure this due to being in an area which is a priority for investment. In Denmark £4m was invested in a new site for Northside Festival in Aarhus, with the half coming from private investment and half from a national green innovation and transition fund. The aim was to create a bespoke event site for the city which will also attract other events to the area and allow them to operate with green power. In Sweden, Lollapalooza was able to get a new transformer station at their event site as part of some work to build a new school on a neighbouring plot.

In Stockholm, it was mentioned that construction companies sometimes contributed funding to improve event sites in construction areas. However, on the other hand, sometimes they would make changes to areas without consulting with the event team and make areas harder for events to work with. This highlighted the need for the city events team to be advocating on behalf of local events, coordinating with multiple council departments and external stakeholders. With so many different parties involved with the running of a city, it is a challenge for event teams to remain on top of the detail of short term maintenance and improvement works, plus longer term regeneration plans. When opportunities arise for areas to be regenerated, it is vital that events are considered at an early stage, as it is much easier to include infrastructure from the outset than to add it retrospectively. It is also key that other current and potential future uses are considered, such as filming, car charging, markets and construction, so that supplies can be specified to meet everyone's needs. In Stockholm, this collaborative approach is being embraced in the development of the old meatpacking district into a new urban area, with Visit Stockholm coordinating the event spaces and their requirements.

As well as financial constraints, limited staff time or knowledge are often also major challenges for small and medium sized events. Often event organisers have aspirations to do more on sustainability, but a lack of staff resource or skills slows progress. As leaders in sustainability, the festivals I interviewed tended to have a specific person allocated to sustainability, either as their entire job or a large part of their role, but this is not the case for most events. Even where events do have a dedicated person or team working on sustainability, they still have a finite amount of time to dedicate to addressing each impact. It is common for festivals to select a different sustainability priority each year. This could be an area of environmental sustainability such as water, transport, food & drink, waste or power, but equally could be on a broader issue such as social value, inclusivity or diversity. Selecting a theme to focus on each year seems to be an effective way to make a leap forward in one area, whilst maintaining steady progress in other areas. Extrema apply this approach, using the UN sustainable development goals to guide their decisions. Other festivals were less structured in their approach and said they were led by opportunity, exploring certain sustainability themes as and when particular funding grants or collaborations presented themselves.

Tijl Couzij from Into The Great Wide Open suggested that festivals should ask themselves questions such as “What do we understand and what can we measure? What gaps do we need to fill? What can we do?” By using a tool such as the Green Producers tool, Julie’s Bicycle creative climate tool or getting a sustainability diagnosis from AGF, event organisers can model different scenarios in advance, identify easy wins and compare the impact of various potential improvements. This allows them to make an educated, data driven decision on which initiatives to prioritise. There is of course the additional complication that decarbonisation is

not the only challenge the world is facing. Projects which have hugely positive outcomes in areas such as biodiversity, accessibility or social value may have little impact (or in some cases, even a small negative impact) on decarbonisation and vice versa. This makes it very difficult for event organisers to prioritise, when attempting to compare such different outcomes. When I interviewed Extrema, Lou Hornman shared a feeling that “biodiversity and social value are not considered as much as they should be. These initiatives can be more rewarding and impactful on local ecosystems and people than 100,000 Euros spent on a new power line”. Some festivals also commented that reducing power emissions “is not sexy” and can be an expensive back-stage project which the audience does not see.

Most events observed diminishing returns as they attempted to remove the most difficult final emissions. Northside in Denmark made a 50% carbon saving in their first year without diesel, but it took 10 years to fully decarbonise their power supplies. Into the Great Wide Open got to 85% mains and battery in year one, 95% in year two, but said that “the last 20% was by far the most difficult and expensive”. As efficiencies get harder to find, there is perhaps a valid argument that some organisations could justify taking less action on power if they can make a bigger impact per pound in other areas. By focusing on power, this could lead to opportunity loss on other aspects of sustainability. We Love Green transitioned to green power many years ago and energy now accounts for only 1-2% of their carbon footprint, so therefore occupies little of their time. This allows them to focus their attention on other areas such as mobility, circularity, food and biodiversity, where they can potentially have much greater positive impact.

Beyond the festival

For the most progressive events, it no longer feels like enough to just be sustainable as an event. It was clear from my interviews with event organisers that sector wide collaboration is an important part of sharing learnings and offering peer support. Traditionally this has happened by sharing case studies, project outcomes and festival sustainability reports via the events’ own websites, but also via industry forums and sector wide organisations. A wealth of resources and case studies relating to power are available for event organisers on the [Powerful Thinking](#) website and for broader sustainability on the websites of [Vision for Sustainable Events](#), [A Greener Future](#) and [Julie’s Bicycle](#).

When sharing learnings with the rest of the festival sector, it is important to consider how others will be able to act upon findings. Those at the forefront of innovation can sometimes be far ahead of the majority, meaning other events struggle to see how the achievements practically apply to them. Sometimes innovators are motivated to move on to the next exciting project with little attention given to knowledge sharing and legacy. This can lead to these initiatives being seen as “beautiful examples”, which limits their wider impact in the sector and wider society. It is important that the mechanism for information sharing is considered early in each project. If affordable, an independent partner, such as an academic institution, should be appointed to measure and document the outcomes. Events who have managed to successfully achieve wider impact have tended to engage with a wide range of stakeholders from the start of the project or commission change making organisations such as Lab Vlieland or Innofest to drive the project. DGTL festival has a well formulated plan to scale their initiatives, with each project going through the stages; pilot, prove, share and support.

When speaking with Innofest, they mentioned that for one of their projects they deliberately chose events from four countries which did not have a reputation as sustainability frontrunners. By working with events which were more representative of an average festival, it allowed them to get a better understanding of the challenges associated with rolling the projects out across the sector. This was a departure from the usual approach, whereby the pilot is delivered in partnership with events at the forefront of innovation and then requires more thought as to how the scaling-up of the idea would work. It was acknowledged that everyone can have a role in driving positive action and this may look different for each person or organisation. Lab Vlieland advised that groundbreaking events should look to support events which are behind them but have a “front-runner mentality” and want to do more.

Across Europe, a number of [examples of best practice](#) were gathered by [Future Festival Tools](#), an organisation who aim to empower event professionals across the continent to be future-ready, with green competency, tools and certification. In Scandinavia the [Green Producers Club](#) acts as a knowledge hub and facilitates the exchange of experience with a goal to unify the culture sector around the same mission and method of measuring and reducing emissions. The club meets regularly, with over 20 club meets each year across the nordic countries. At each event, four or five organisations present a case study, sharing innovation, lessons learned and best practice. The club has received just under three million euros of funding from the Research Council of Norway and Creative Europe Innovation Lab to produce an emission calculator tool and map progress. The tool is now being used by 600 organisations, 300 of which are outside of Scandinavia. Between them, they have created over 6500 projects with registered activities over the last two and a half years. The software is adaptable to work across a number of creative sectors. The club is a full partner of the ongoing Horizon project [Streamscapes](#), mapping streaming emissions from video on demand services and developing the Green Streaming Tool, which also will be included in the Green Producers Tool.

Similar methods of best practice knowledge transfer between festivals can be seen in other areas such as inclusivity and audience wellbeing in relation to alcohol, drugs, sex and mental health. In Belgium and the Netherlands, a good example of this is [We Care A Lot](#), an initiative driven by collaboration between eight leading festivals. Both in the UK and abroad, industry conferences were also noted as key opportunities to network and share best practice with peers.

In recent years, collaborations and networks have become more structured and well organised. [Green Events](#) in the Netherlands have developed a five-level guide for event organisers looking to improve their sustainability and the culture department in Norway is working on 'Norway Live', to guide event organisers. In Sweden, Way Out West worked with Vinnova and 32 other partners on a project called 'solutions for climate smart events', which resulted in a toolkit for events to use. In the UK, GECOP and the Donut Assessment Tool for Events (DATE), provide a framework for rapid wide scale sector change. The Act 1.5 roadmap by the Tyndall Centre for Climate Change Research and Massive Attack, gives guidance on decarbonising the live music industry. [Live Green](#) also works to facilitate research, share expertise and innovation informed by science, supporting the transition to a regenerative future. The city of Liverpool have also [shared some resources](#) having completed their year as [the world's first 'Accelerator City'](#) for climate action, under UN Climate Change's Entertainment and Culture for Climate Action programme. Several organisations I spoke to are part of the [Green Deal Circular Festivals](#), a group of 52 festivals across 17 countries. Collectively, event organisers are better placed to take actions, such as challenging suppliers to do more, sooner.

On my travels I visited [Norrköping, a UNESCO city of music](#), which has done a fantastic job of redeveloping old, former industrial sites into vibrant cultural spaces. Norrköping shares knowledge through the UNESCO network. They have also befriended the city of Hull in the UK, as they see similarities between their industrial pasts and growing cultural scenes. More could be done to encourage this kind of international sharing between cities, either through formal networks such as [Euro Cities](#), city twinning or informal conversations. Norrköping's success has largely been due to collaboration across many sectors, including film, music, circus, the arts, science and technology. Many organisations initially moved into the abandoned units illegally as unofficial meanwhile tenants. Gradually, various grants were secured to convert buildings, tenants officially moved in, and industrial areas were transformed into concert halls, art galleries, museums, a university campus and a science and innovation park. Close contact between these sectors creates benefits, such as a science and innovation led project attempting to develop more sustainable batteries, which could benefit events and other cultural organisations.

It has been encouraging to see the event and film sectors considered together in Liverpool's year as an accelerator city, but in many cities, coordination is lacking. There is much valuable work being done in the film sector and there is a risk that learnings are not adopted by events, or work is duplicated. For example, Creative Zero's [Shift report](#) and BAFTA Albert's [Spark report](#) both provide valuable insight into decarbonising film power, with clear crossovers to the event sector. Similarly, the film industry led [generator project](#) in London saved 50,000 litres of fuel in one year, with lessons which could be adopted by event organisers.

In Norrköping, culture and sustainability were considered during redevelopment projects, with the river being used to generate green power for the region. Collaboration with power companies was important and [Holmen](#) continued to play an active role supporting culture in the city, such as sponsoring stages at events. There were some errors made though, as there are some town squares which do not have access to mains power. This limits them to acoustic performances or means that generators occasionally need to be brought in. Lessons have been learned from this, and the municipal urban development team are ensuring that event power is now being specified in regeneration projects.

Increasingly, the most progressive festivals are pushing their positive influence beyond their events and the boundaries of the event sector. Oyafestivalen are part of a forum with the construction industry, which meets every few weeks and shares knowledge. Into The Great Wide Open also has a productive working group with the construction industry. Several events shared their aspiration to harness the power of events and culture to improve wider society in the long term. I frequently heard festivals referred to “living labs”, “playgrounds” or “temporary cities”, where initiatives could be tried before rolling them out in the ‘real world’. Into The Great Wide Open have run a number of pilot projects across various areas of event sustainability. Collaboration is key, with partners including government, universities and the private sector. Tijn Couzij commented that “festivals provide a smaller and more practical place to try fixing societies problems”. They work closely with Lab Vieland, an organisation which supports trialing ideas at festivals, which could go on to have wider benefits in society. Tijn added that “improving the festival is no longer the goal, fixing society is the bigger aim”.

There is a widespread hypothesis that events have the power to create lasting behaviour change amongst audience members. It is very difficult to evidence this without long term studies, especially as behaviour change often requires multiple exposure points, some of which people do not even consciously acknowledge, so a festival may just be one of several reasons why someone chooses to make a positive change. Often, festivals aim to create a utopian version of society for a weekend, where people seek escapism from the pressures of daily life. This creates a unique window of time where people are in a different, potentially more open, state of mind. Esmee Bouwmeister, DGTL’s sustainability manager commented that “festivals are spontaneous structures, where we can create new societal rules and cultures”. Tijn Couzij from Into The Great Wide Open said “festivals have the opportunity to create a small version of the world you want”. He added that “by building sustainability into cultural themes, you can capture people’s attention through the things they love”. Because a festival controls who it works with, they can curate an environment where the only choices available to people are sustainable or ethical choices. This effectively forces behaviour change, whilst making it feel like a free choice. Many festival organisers believe that if behaviour change can be influenced at an event, the positive collective memory associated with this will cement the new behaviour when audience members return to their day to day lives.

As well as influencing audience behaviour, festivals have the ability to influence policy at a city and national level. A good example of this is We Love Green festival, who had access to mains power, but the city of Paris is not on a green tariff. The power supply was on a mixed tariff in line with France’s general power mix (which predominantly relies on low carbon power supplies such as nuclear, but with only 12% being renewable). However, after much discussion, the festival was successful in persuading the city and power company to give them a separate contract on a green tariff. This has now been [made possible for other companies](#) in France. Similar conversations are being driven by Green Events in the Netherlands, in an attempt to make power companies allow more flexible and short-term energy contracts for events. In some cities such as Norrköping (Sweden) and Bristol (UK), the municipality has committed to being on a green energy tariff, so the influence is being exerted in the other direction, giving extra motivation for events to transition to green mains power.

In Stockholm and Norrköping, the city events team has considered including sustainability in their event permit terms. In both cases, they have not taken this step yet but may do so soon. Instead, they issue guidance to event organisers, but do not enforce it. There is a fear here, and in many other cities, that legislation would put unmanageable financial pressures on an already struggling events sector. There was also concern amongst cities that if they become an outlier, being stricter than other cities, events may choose to operate in other locations, leading to negative economic, social and cultural impacts from the loss of events. Given that most

municipalities have limited resources, there are also concerns about how sustainability rules in permits could be monitored or enforced beyond the events self certifying their compliance.

In Amsterdam, the city does have some sustainability rules for events, which were introduced in 2017, but with three to five years grace for compliance. The city also facilitated some advice sessions, to help organisers prepare and make the transition. Although there was resistance from a few event organisers, the rules were generally well received and were felt to be achievable by most. The city also requires any events with a capacity over 2000 to report on their sustainability. In Oslo, the city has also introduced some rules, which were inspired by the interventions already happening at Oya Festivalen. The festival reported that because the rules were modelled on their existing practices, they did not need to make any changes, but several other events did, so it worked well in encouraging others to catch up with their progress. One city which did appear to be ahead of most on this front, was Gothenburg. Fredrik Holmstedt from Way Out West said “the festival has taken place since 2007 and the city has required environmental accreditation from the start”.

There was a feeling from event organisers that cities often made policies or pledges to reach net zero by a certain year, but events were rarely mentioned in the action plans which followed. One exception to this was Oslo, where it was felt that promises were backed up by direct actions and money. It was also felt that positive action on climate change had become part of Oslo’s identity, so it has become a constant which could withstand changes to the political leadership in the city. Marie Fursteth from Oya Festivalen commented that “so much progress has been made, it would now be too embarrassing and expensive to reverse it”. Similarly in Gothenburg, it was said that “sustainability is in the city’s DNA”, so periodic changes in political direction would not alter that. Other cities did not share this sense of stability, with many saying that progress could become easier or harder when political leadership changed.

In the UK, there is a feeling in the events sector that the majority of progress on event sustainability has been driven by the sector, with very little input from government at a national level. In 2024 the Green Events Code of Practice (GECOP) pilot was commissioned by Vision:2025 and Julie’s Bicycle, with collaboration from local authorities and selected events. Vision:2025 specifically highlighted the “absence of legislation, recognised minimum standards or best practices for event sustainability” as one of the key reasons for developing the code. Other high profile action has predominantly been progressed by organisations such as Act 1.5, A Greener Future, Tyndall Centre for Climate Change Research or individual promoters, musicians, festivals or venues. Although emissions in the event industry are worryingly large, UK government data shows that they are relatively small in comparison to many other sectors. With this in mind, it is perhaps unsurprising that there’s a lack of attention from the central government on event emissions.

I was keen to explore if there was a similar degree of legislative apathy in other countries. When speaking to events, I found a mixture of opinions. There was a broad feeling from most of the festivals I interviewed in France, Belgium and Netherlands that their respective national governments are open to collaborative working and supportive of their efforts on sustainability. This is not a sentiment you tend to often hear from UK festivals. However, there was a sense that government priorities frequently shifted, for example Extrema commented that Belgium there was currently more of a focus on waste, so funding was more readily available to pilot initiatives in this area than on power. Similarly, We Love Green felt that “energy is not really a topic of interest at the moment” for the government and grant giving organisations in France. There was a feeling that sustainability rules designed for other sectors were often applied to events, with little thought about how they would work in practice, making them difficult for organisers to interpret and implement. One key aspect of DGTL’s hydrogen pilot was to support the development of safety rules. This is necessary because the fire department commented that existing legislation for Hydrogen is “aimed at fixed industrial applications and does not apply well to mobile uses”. I also heard of several examples where legislation unrelated to sustainability has inadvertently had a positive impact. In Italy, increased regulation on bridge load limits has made it harder to get large generators to some sites. In many cities, noise restrictions and resident complaints have made generators harder to justify on small, urban sites.

In Belgium, there is not currently a requirement for events to report emissions, but there is for some other companies. Extrema shared that they have no requirements to report back to landowners, local or national government in relation to their emissions. However, they are driven by their own desire to improve, so choose to create a report to check their own progress and share with their customers, partners and the sector. In the Netherlands there is now national legislation relating to limiting the damaging health effects of NOx particulates, so all events will need to comply with this. This legislation was implemented urgently due to years of government procrastination around addressing EU rules on emissions, which created a backlog of non-compliance. Action was prompted by a lawsuit, meaning strict rules were introduced with very little notice for businesses to adapt, causing panic in many sectors. The rules were particularly strict in and around national parks, which given the large number of national parks in the country, accounts for most festivals in rural locations. Into the Great Wide Open said that the rushed legislation did lead to them increasing their focus and urgency in this area. The changes they made to improve NOx emissions naturally led to further improvements in CO2 emissions too, so had some additional benefits. Events in the Netherlands are now required to secure a nature permit from the province in addition to an event permit from the municipality. Nature permits are generally granted every four or five years and if you fail to get a nature permit, the event can not go ahead, even if they have an event permit.

Another area where a lack of legislation was highlighted as an issue was around data. Events who are just beginning on their sustainability journey often find it hard to know what data to collect or how to collect it. The more pioneering events, who have been working on sustainability for many years, have a wealth of data, which they are often happy to share. Green Events said that the Netherlands is a very data focused country and that lots of data sets are made available publicly and are open source for people to use. Similarly in Belgium, Extrema mentioned that suppliers are usually open and happy to share their data. However, there often is not consistency between the measurement tools and methods used to gather data, especially between different countries. Some light touch measurement tools are free to use and can take less than 15 minutes for a festival to complete, whereas more detailed assessments can cost thousands of pounds and require more than two weeks of staff time. Several festivals highlighted the phenomenon whereby the more detail you delve into and the better you get at measuring your carbon emissions, the more emissions you discover. This can sometimes lead to reported emissions going up, despite events taking successful actions to reduce their emissions. The Green Producers tool calculates emissions per activity in an attempt to counteract this and the [carbon accounting alliance](#) is attempting to bring some consistency to the carbon reporting industry through standardisation.

There is growing concern in a number of cities that national grids won't be able to keep up with demand from power intensive industries such as Artificial Intelligence data centres. In Sweden there is a government project to develop battery banks across the country, which can hold power to balance periods of peak usage and address the issue that most power is generated in the North, but consumed in the South. Globally, battery banks are likely to be in major cities, so may present an opportunity for urban events if they can tap into them. Three battery banks already exist in Stockholm, so it will be interesting to see how this develops in coming years and if it can be replicated elsewhere. Gothenburg was also singled for praise by event organisers. The city was referred to by some as the "little sibling" of Stockholm and appears to be setting itself apart as a city with a reputation for strong environmental values and a vibrant cultural scene. There are good relationships in the city between event organisers, the municipality, tourism and the university, which drives action. It was refreshing to hear of a city which was willing to fund large capital projects, based on a long-term vision of keeping and attracting more events in the city, with all the social and economic value they bring.

Having become a circular festival in 2022, DGTL's theme in 2025 was 'beyond horizons', reflecting the event's appetite to focus on projects which look beyond the festival. Their aspiration is to not only benefit the sector, but also society as a whole. Their experimental project using green hydrogen power was not primarily driven by the festival's need for power, as they already have significant mains power on site. The main driver has been to showcase the technology and prove that it is safe to use. It is hoped that if all stakeholders are reassured on safety, they can reach a consensus that it is safe to reduce the size of the exclusion zones. By engaging with partners outside of the event industry, the pilot has greater reach and benefits from

independent, external validation, increasing the credibility of its findings. By working collaboratively, it is hoped that innovation can become mainstream quicker, allowing hydrogen to be usable at more events and in numerous other applications across the Netherlands, including the construction sector.

ESNS have also considered the energy use of festival goers' accommodation. They were aware that a number of people stay on boats in the harbour, which often get their power from generators. To improve emissions here, they looked to bring in batteries. Investigating this made them question how the emissions from boat accommodation compared with hotels in the city. This led to the festival having conversations with hotels and using their influence to put pressure on them to reduce emissions. Festivals such as Sail in the Netherlands, which happens every five years rather than annually, benefit from having longer timescales to work on collaborative projects. Representatives from Sail are part of the working group working on DGTL's hydrogen project and plan to implement their learnings. This demonstrates the importance of sharing findings from pilot schemes, so others can build upon them. Similarly, large scale events such as the Olympics and Commonwealth Games, which arrive in a new city for each edition, have a unique opportunity to drive change and leave behind legacy which helps other events.

Recommendations

For event organisers

- Factor sustainability into every aspect when designing your event. If starting a new event, or moving to a new site, consider access to green mains power and other environmental factors as a key part of the decision making process.
- If budget allows, employ an event sustainability specialist or work with a trusted consultant. If sustainability is embedded as part of someone's job, support them with training and ensure they have the skills, time and organisational support to deliver improvements.
- If staff capacity for sustainability is limited, consider focusing on one topic each year, such as power. This focus can enable bigger leaps in one area, whilst maintaining steady progress in other areas.
- Develop a smart energy plan and gather accurate data on power usage to avoid over specifying power requirements. Monitor usage and track improvements year on year or against similar events.
- Try to prevent, reduce and more efficiently use power wherever possible. Revisit site layouts, review processes for efficiency and challenge if high power activities are necessary or can be avoided.
- Transition to renewable mains power where available. Investigate all existing potential mains power points on your site. Initiate conversations with neighbouring properties or businesses to see if their supplies could be temporarily used for your event.
- Push landowners to upgrade mains power. For a very small number of events, financially supporting capital costs for upgrades may be possible.
- Where the event organiser owns the land or has a strong working relationship with the landowner, consider the possibility of installing long term green power solutions such as solar, which could partially power the event and be used by other nearby users when the event is not running.
- Work with mobile power providers to move away from using diesel and HVO generators as quickly as possible. Bolster with mobile solutions such as batteries or green hydrogen. Some organisers reported finding it easier to tackle their event site one zone at a time, to find the best solution for each area.
- If you have already transitioned from diesel to HVO, continue to transition to greener solutions. If you must use HVO whilst transitioning, do due diligence to ensure the best possible sourcing.
- Investigate green mobile power providers in your area, supplying batteries, green hydrogen or solar. If options are limited in the supply chain, consider innovating or collaborating with innovators to trial less commonly used sustainable power sources.
- Where green power is available, consider using electric plant machinery and site vehicles, recharging it on site and removing diesel vehicles.
- Consider hiring equipment such as stages cabins and lighting towers with built in solar or batteries.

- Once you have confidence in green power solutions, build this confidence across your organisation and beyond, to combat resistance to change and largely unfounded concerns around reliability and safety.
- Encourage behaviour change within your organisation so sustainable choices become the norm and are embedded in the organisational culture and employee values. If your event is part of a larger parent company, consider how you can spread a positive ethos across the other events.
- Use your influence to push suppliers to improve, as described in the supply chain recommendations below. This can be done informally at first, but once partners have had a chance to adjust it should be enforced contractually, with agreements structured to financially incentivise less power usage. Influence should be extended to anyone using power on your event site, such as equipment hire companies, bar providers, caterers and sponsors.
- Be bold when dealing with sponsors, expecting the same of them as you do from other suppliers. Refuse to work with sponsors who won't meet the standards you expect. Explore partnerships with sustainably minded companies where in-kind support may be possible for transitioning to green solutions.
- Share knowledge about the improvements you make and lessons learned with other event organisers to encourage positive change beyond your event. When sharing findings consider how they can be applicable to different types of events, especially those with smaller audiences and budgets.
- Events which have the appetite to innovate with new technology should take advantage of their position as living laboratories to try things out, which may work in wider society. Engage with other sectors, such as film and construction, when skills might be transferable.
- Use your unique position as an event to share positive environmental messaging with your audience and encourage wider behaviour change in society. Showcase innovative green power initiatives with attendees to generate conversation around this topic.
- Use your profile to push for systemic and policy improvements related to green power.
- Consider booking artists who actively promote positive environmental messaging. Challenge the artists you book if they have excessive power and technical demands.
- In cases where environmentally friendly options are more expensive, consider the whole picture and long-term financial benefits. Events with a strong green identity may sell more tickets or attract sponsors which offset these costs over time. Consider ring-fencing a portion of income for sustainability initiatives or ensuring that sustainability budget lines are available across all departments.
- As you seek to remove the final, most difficult to remove power emissions, consider that you will experience diminishing returns on your efforts. If you have limited staff time, consider the opportunity loss at this stage if emissions saving from other areas such as transport could be higher.

For industry bodies and networks

- Facilitate the coordination of long term hires of battery or hydrogen for multiple events during busy periods to reduce travel emissions and costs. This role could also be taken by a local or regional authority to support growth of the creative sector in an area.
- Support joint working across events when collective action can be more effective.
- Share case studies, practical examples, training and tool kits to help events transition to green power.
- Encourage better knowledge sharing with other sectors, such as the film and construction industries who are facing similar challenges on green mobile power.

For district network operators / National Grid

- Work with government, land owners, film and music sectors to remove technical constraints and financial barriers (such as high standing charges) to make mains connections easier and more affordable for temporary power users.
- When upgrading grid infrastructure for major developments, work with developers to provide additional capacity and connections in the right locations for events.

For supply chain and partners

- Mobile power suppliers should urgently phase out generators and move towards greener solutions such as batteries or green hydrogen.
- Mobile power providers should continue investing in green solutions at pace to increase the level of supply. As availability increases, reduce the cost of green power supplies as quickly as possible, so they become more cost effective than fossil fuel powered alternatives.
- Mobile power providers should continue to innovate so that battery and hydrogen solutions become smaller and are widely available in a range of sizes, for events with differing space constraints and power demands.
- Mobile power providers should provide detailed comprehensive quotes, especially in cases where battery hire may seem expensive, but could be more affordable when fuel savings are considered.
- Mobile power providers should use the high profile of events to showcase innovations on green power.
- Continue working to address resistance to change. Reassure events and crew that green power solutions are safe and reliable, and that back-up systems can be provided if concerns remain.
- Hire companies (such as sound and lighting) should look to improve efficiency and source high quality, long lasting, energy efficient models when replacing equipment. Initial focus could be on quick, affordable actions, such as replacing old bulbs with LED lighting.
- Sponsors and brands should look to lead by example and not use their position of power (as a valuable income source for festivals) to expect lower sustainability standards.
- Owners or managers of properties and businesses near to event sites should be open to collaborating with event organisers and offering them access to their power supplies where possible.

For local / regional authorities and national government

- National government should reform the way energy markets work, to break the link between green energy and fossil fuel prices and accelerate development of more green energy generation. Policy and taxation should always aim to make green energy the more attractive option.
- Consider how the carbon emissions, noise, pollution and health impacts associated with generators conflict with existing policy. Consider how revisions to climate, clean air or public health strategies and action plans could be used to reduce or remove generators from events and in other sectors.
- Local / regional authorities should take advantage of being more agile than the national government and look to be more progressive via local policy and initiatives, both on green power and wider event sustainability topics. Policies or initiatives which are proven to work locally should be considered for national adoption.
- Proactively facilitate collaboration between event organisers and between sectors; for example linking events with the film, green technology and construction sectors.
- Fund, or part fund and facilitate improvements to mains power at events sites owned by the authority, ensuring upgrades are suitable for events, filming and other potential future uses. Move all supplies onto green tariffs. Multiple year hire deals and permits for event organisers are usually required when securing investment of this kind, to create a business case and give reassurance that the power supply will be well used. This also applies to private landowners hosting events.
- Fund, or part fund and facilitate innovative pilots to explore new technologies and accelerate sustainability in events. Where successful, assist in encouraging wider adoption.
- Maximise the usage of existing mains power by better mapping of existing supplies and simplifying the process of connecting to them, for example by using a solution such as NRG's power map.
- Coordinate local hubs to facilitate equipment storage and battery charging, so that events and film sectors can take advantage of long term hires across multiple organisations.
- Allow event organisers flexibility if they need slightly more space in backstage areas for green power supplies until the size of these solutions reduces.
- Enable access to electric vehicle (EV) charging points for other mobile power users. Where possible, ensure new EV points are built dual purpose, with suitable connections for other users.
- Lead by example, ensuring all government commissioned or funded events are at the highest possible standard on power and other sustainability issues.

- Where arts or cultural funding is awarded to organisations, include mandatory terms for grantees, enforcing high standards on green power and other sustainability issues.
- When funding other areas, such as green power transition, infrastructure improvements or city regeneration projects, include events and other cultural organisations from the beginning, to consider their needs and make use of their profile and abilities as storytellers.
- Encourage event organisers to adopt sustainable practices on power and other issues. Integrate the Green Event Code Of Practice into processes as a minimum expectation and push event organisers for further improvements where reasonably possible locally.
- Work with event organisers and move from encouragement to enforcement via site permissions or licensing processes. Specifically mention actions for events in environmental policies and action plans.

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