White Light Green Guide

It can often feel difficult to reconcile creating entertainment lighting with the current green agenda of politicians and others. Lighting for shows or other events is by its nature an extra, something that doesn't have to be there - you could watch a play with the worklights on and some would doubtless argue that energy was being used more efficiently. Of course, follow that argument to its logical conclusion and we'd have no heating, no television, no lighting at home after dark.....

Those who create lighting know that it has its place in the world, conjuring visibility, mood, atmosphere, magic literally from nowhere. They - we - also know that what we do isn't inefficient: that one light, perfectly placed, perfectly focused at a low level is sometimes all that a scene needs; that a carefully considered scheme for a building can be more efficient than a bank of floodlights while also making the building look better.

Of course, that doesn't mean we can ignore the issues of the environment. Whatever your particular politics or beliefs in the arguments about global warming, it is surely obvious that using less energy is better than using more, that creating less waste is better than creating more, that polluting the planet - our one and only home - less is better than polluting it more.

The trick is to figure out how to do that without affecting the end result of what you're trying to achieve - in our case, to still have the lighting look beautiful, while wasting less energy and less resources getting there. It turns out that there are an enormous range of things we can do to help with this - a simple example being to turn off the discharge lamps in moving lights during those parts of the day when they're not actually being used to light anything. It sounds like a tiny step - but in London's West End alone, moving lights in theatres consume over 1 megawatt of power per hour when all on. That's fine when they're being used for their purpose, to light the show. The rest of the time, it's just wasted.

As a bonus, being good for our home can often also be good for the bank balance: the energy for those moving lights is costing more than £100,000 a year. Theatres often claim to be cash-strapped. Why throw that money away?

This guide is intended to offer some suggestions as to how we can all work to make lighting - both the light you see on stage, and the process of getting it there - more efficient. Some of the suggestions are probably obvious, some less so. Some are free to achieve, some not (though the expensive ones will generally pay back in time). Some seem big, others small - but in this case, every little helps. Plus legislation is going to force some changes (look at the number of countries that have already put schedules on banning tungsten lightbulbs), so why not start now and be ahead of the game?

Have a look to see what you might be able to do, and look to see what we're trying to do to help. After all, we're all in this together...

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1 - Planning The Show

Lighting a show often starts with a first phone call from someone asking you to do the job, and since lighting is almost always about collaboration with others - directors, designers, production managers, electricians - from then on it can feel like constant rounds of meetings right up until the point the show opens.

While some of these meetings have to be in person, such meetings involve travel. And do they all have to be in person? Working to make a show have less impact on the planet can start right at this earliest phase:

- Schedule meetings efficiently: make the trip, meet several people, come home, rather than making trip after trip after trip.
- When you do have to travel, consider the options: car vs train vs plane. If the meeting's close by can you walk? Or cycle?
- Consider offsetting the carbon emissions for journeys, or asking those calling the meetings to do so!
- Do you have to travel to the meeting, or can you use technology - phone, teleconferencing, video, email, on-line chat, video chat, instead?
- Minimise paper use and postage: can you work and exchange ideas on-screen? Can the script and plans be emailed to you instead of posted? Do you need to print the script and plans? If you have to print, can you print smaller, or print on both sides of a page instead of just one?
- Re-use or recycle paper rather than just throwing it away.
- Create a central on-line repository for show information so everyone can get the most up-to-date version from there rather than having to chase around by phone or email to find out what's changed.
- Use on-line reference material from manufacturers and suppliers instead of paper versions. Make colour swatchbooks last!
- Learn about new equipment and how others are using it from digital or on-line versions of trade magazines instead of paper versions.
- Consider your workplace and how you could make it more efficient: changing to more efficient light bulbs, recycling printer cartridges, recycling packaging.
- When you're not using your technology, turn it off!
- Make sure that everyone involved is doing their bit, including suppliers chosen for the show.

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At White Light, we're working to make everything we do as efficient as possible. We aim to conduct as much of our business as possible electronically, including invoicing and direct payment to suppliers. We re-cycle wherever possible, and have purchased a compactor so that where products are genuinely waste they take up as little landfill space. We also encourage efficient use of transport, with a Ride2work scheme in place, and we're easy to get to by public transport - train, bus, tube and even tram; we travel to meetings by public transport wherever possible. While we do still produce our paper-based Reference Guide, we are encouraging as many people as possible to switch to the electronic PDF version - and many people are doing so - and to use our other on-line equipment reference tools.

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2 - Designing The Show

Lighting designers have an enormous range of tools available to them, and that range is constantly expanding as new technology (moving lights, LED fixtures) and new products appear. While designers generally choose the equipment they need based on artistic grounds, it can also be worth considering the bigger picture when making choices.

- Do I really need to rent in new lights, or will the theatre's existing equipment actually do the job? - that would save transportation to and from a rental company as well as the cost of rental.
- Conversely, would it be better to rent newer, more efficient lights rather than struggling on with older, less efficient equipment? Of course, there is no one correct answer to these two questions...
- If I do need to rent things, can they all come from the same place, so minimising the transportation there and back.
- Do I need that big, bright, high-wattage special when I know that the light is going to be on at a low level in a dark scene? Many fixtures will take a range of alternative bulbs, the popular Source Four being available in anything from 300W up to 750W and with longer-life, lower-output variants also available and perfect for use in worklights as well as the architectural lighting projects for which they were intended.
- Do I really need discharge moving lights, or will tungsten moving lights work just as well?
- Discharge lights are billed as high efficiency compared to tungsten - which is true if both are running at full for long periods of time. But discharge lights never go off - they're using electricity even when their mechanical dimmers are closed and no light is coming out of the front. When a tungsten lamp is off, it's using no power...
- Can I use colour and gobos from the theatre's stock, or do I have to order new?
- Can I use other stock items - for example, standard scrolls owned by the theatre or supplied by the rental company - rather than having new, show-specific ones made up?
- Would it be better to spend a bit more in the short term to save in the long term, for example with more heat resistant colour filters for the cyc floods so that they have to be changed less often during the run of the show?
- Are there new technologies which could help - for example, LED lighting equipment which has much lower energy requirements than much conventional lighting and in which there are no colour filters to replace! While LED battens have been around for some years, new products with improved fade characteristics - including unique LED cyc lighting solutions, and moving-head LED washlights - are now appearing offering enormous new lighting possibilities as well as the chance to reduce energy consumption.
- Have I designed the rig as efficiently as possible? Even if you're using equipment a theatre already owns, there is the impact of getting people to work to get it all up and running...
- Get information to people as soon as you can. That way, they can plan things as efficiently as possible, getting everything delivered on time and without last minute rush deliveries.

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As with many products, the greatest environmental impact of most lighting equipment comes when it is created, and the impact of disposing of equipment is not far behind. It therefore makes sense to keep using equipment for as long as possible, unless some hugely more efficient, better alternative comes along.

At White Light, we're proud that the oldest item in our rental stock has been giving good service for 35 years. But equally, we're the first to jump when better things come along: we were an early adopter of the revolutionary ETC Source Four, and our stock of LED lighting fixtures has grown enormously in recent years.

Our rental stock is one of the most comprehensive of any lighting supplier, everything from classic lanterns to complement those already in a theatre's house stock to the latest moving lights. That means that we can supply the products to perfectly fit your needs - whether that be a spotlight for an arena, or low-wattage profiles to allow the Arcola Theatre in London to run from a fuel cell and aim to become the first carbon-neutral theatre in the world - and you can collect everything you need in one journey.

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3 - Getting The Show On

The time period when a show transfers from plans and paperwork to the real thing is always a challenging one, always done against the clock because 'the show must go on': that first night audience booked their tickets months ago and will be there at 7.30pm on that first night! It's here that the best laid plans for environmental efficiency often go out of the window as plans are changed, mistakes are made and rushed decisions happen just to make sure the show opens on time. It's also the time when the lighting rig is worked hardest, on for long days of rehearsal. But here, too, thought and planning can help.

- Make sure you've ordered everything you need.
- Is it worth ordering spares or extras you think you might need to have on-hand, rather than having to make another trip or have another delivery later?
- If you know - or suspect - you're going to need the same extra light for many forthcoming productions, would it be more efficient to buy it? Not only would you save on rental fees in the future, but you wouldn't have to keep collecting it from and returning it to a rental company.
- Consider the environmental policies of suppliers you choose. What's the point of you doing your bit if they're not doing theirs?
- Work out the most efficient transport routes for getting everything to the theatre. One US courier company created software to route their delivery vans through as many right turns as possible, since you don't have to wait at a red light to make a right turn in most US cities, and so their vans were idling for as little time as possible. That might be going a bit far for a theatre company, but careful planning (and a satnav so those making the journey don't get lost!) can pay dividends. If you're having equipment delivered, can you share those deliveries with others? Or organise the delivery as part of a supplier's regular, scheduled delivery runs?
- Make sure you have everything before you leave your suppliers, so you don't have to make another trip. Your suppliers should check this, too....
- Have the theatre's equipment prepared and ready - and working as efficiently as possible. There's no point having a highly-efficient spotlight if its lenses are filthy.
- Plan consumable use to minimise waste - for example, maximising the number of cuts of colour from each sheet. And are those off-cuts really waste, or would they be a useful size for colouring up Birdies in a future show?
- Consider the impact of the load-in on the building as a whole: don't open the dock door on a cold winter day except when you have to. Conversely, if you can open your theatre's dome why not do so in the summer instead of turning on the lights and turning up the air conditioning?
- Re-consider standard working practices: is PVC tape the best choice for attaching cables to bars, or would re-usable tie-line or velcro or rubber straps, as used in many other countries, be better options?

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While we're not as efficient as that American courier, those working in the West End can make use of our regular West End delivery runs, so sharing their transportation with others. While we can always make special rush deliveries if the need arises, we try to encourage people to plan their needs a little further in advance. Our staff start work early and our entire rental stock lives at our Wimbledon base, so a request emailed in last thing at night by a lighting designer or electrician can usually be dealt with in time to be on our first West End run and so generally at a theatre by mid-morning at the latest . We also strive to ensure that deliveries are correct before they leave our base. And we're always considering how we transport equipment - in the short term, picking the most appropriate vehicle size, and in the longer term considering hybrid and electric vehicles as existing vehicles in our fleet become due for replacement.

A Note On Moving Lights

It has become common practice to just leave discharge moving lights on once they are on. In some cases this means they come on at the start of the day, stay on all day, but are only actually used for two hours of performance in the evening.

This practice probably dates from the early days of moving lights, when they were much less reliable than they are now. It was such a relief when a light struck properly that no-one wanted to risk trying it again (particularly since if it didn't come on, time would be needed to get to it for repair or replacement). Some users also feel that the bulbs suffer more 'wear' from being repeatedly turned on and off than for just being left on for long periods.

With modern equipment, this is much less of a problem and, indeed, the manufacturers recommend turning the lamps off when not in use: Martin Professional's manuals state "if light output from fixtures is not required for a period of one hour or more, it is generally a good idea to cut lamp power from the control desk." This saves much more than just the energy

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4 - Getting The Show On (cont.)

consumption of the lamp itself: reduced heat output also means less wear-and-tear on the fixture and that a building's air conditioning has to work less hard. And since the discharge lamps used in these fixtures often have relatively limited working life, turning them off when possible also extends their lamp life - reducing waste from old lamps and the time and money you need to spend changing them. To maximise the flexibility you have here, you should set moving lights to allow you to strike and douse the lamps remotely from the control console - that way you can turn them on when you need them (remembering, of course, to leave enough time to repair a unit that doesn't correctly strike before the audience arrive), and turn them off when you don't.

It is also worth considering other procedures you adopt with these moving lights. For example, users who do chose to keep the lights on often leave the mechanical dimmers open citing reduced heat build-up in the fixtures. In fact, most modern fixtures reduce the lamp's operating power when the dimmer is closed for a few moments, so reducing both energy consumption and heat.

Electricity consumption is also not the only consideration: reducing the maintenance required is as important, since this reduces the impact of, for example, transporting units to and from suppliers for repair. Some things to consider here include parking overhead lights so they are not pointing straight down (since in that position heat from the lamp rises directly into the top-box containing the electronics), and maximising the effectiveness of cooling fans within the unit (by leaving the optical path as open as possible - ie. not parking the light with gobos, colours, iris or shutters in and, in some cases, positioning the zoom and focus lenses to maximise airflow). These factors can be considered not only when the units are idling between shows, but actually during shows: can the light sit with its optical path open until just before it is needed, then drop the gobos and colours into place? Or even, can lights douse themselves after their last appearance in the show, rather than all staying on then being manually doused after the curtain call?

- Consider the times you have the equipment on. Particularly with discharge moving lights, don't just turn them on first thing in the morning and leave them on all day unless you're doing something with them! The same is true of other equipment that is often just left on for convenience - smoke machines, haze machines, video projectors. Of course, during rehearsals everything needs to be ready to go at a moment's notice, but they don't during a paint call.
- Be gentle with equipment. Conventional lights receive more wear and tear during a fit-up and focus than during the run of a show. Lights that are treated carefully will last longer. Forcing a focus knob or banging a hot light will likely cause the lamp to fail - frustrating to the designer trying to focus, but also meaning another dead lamp on the planet (plus the cost of the replacement!)
- Consider how you bring up lights during a focus. Snapping cold filaments to full will drastically reduce the bulb's life; can you fade lights up instead? A lamp's life increases dramatically as its level is reduced; do you have to focus with the light at full?
- Does that extra light the director has requested really need to be delivered by 9am the next morning?
- If you're doing a show outdoors, off-mains, consider how you power the lights: can you run the generators on bio-diesel? Or explore newer, more efficient technologies?

A real world example: in early 2008, the National Theatre carried out an experiment called 'The Big Switch Off'. Over twelve days and eighteen performances of the award-winning War Horse they switched off the moving lightsbetween the end of the rig-check in late afternoon until 35 minutes before the show began. Every time, the lights came on cleanly and never failed during performance.

The company calculated that they would make an annual saving of around £1200, or 30% of typical lighting use, even before factoring in the costs of lamp replacement and reduced air conditioning demands.

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5 - Show Running

Once the show is running, the use of the rig will hopefully decrease - but the same decisions about when to turn moving lights on and off still apply. In particular, it can often be worth turning the lights off between a matinee and an evening performance. It can also be worth keeping a note of when you turn the lights on and off each day so that you will know when the moving light bulbs are actually nearing the end of their operating lives, rather than just guessing. When you do change a lamp, don't forget to reset the lamp hour counter on the fixture itself since that will always be the most accurate recorder of how long the bulb has really been used for. In the future, RDM, ACN and new tools such as Wybron's InfoTrace will make it easier to get and use this information without actually having to get to the lights.

Waste generated during show running needs to be dealt with carefully. Discharge and tungsten lamps can be hazardous and should be disposed of correctly. And items which do not explicitly fail can often find new uses - batteries used to run a radio mic for one performance can go on to power torches (particularly LED torches!) or other less show-critical appliances for some time to come, or a variety of recycling schemes are available for larger quantities. Of course, you could ask your sound team why they haven't started using rechargeable batteries....

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We are a EWE recycling point for discharge lamps, and can collect old lamps from you on request. We are also working to put in place similar schemes for recycling tungsten lamps, though such schemes are not in place just yet (as of spring 2009).

Once a show is lit, you should also take a quick look to make sure you're minimising energy use:

- Can you turn equipment such as smoke and haze machines or HMI lamps on just before you need them, and off just after their cue, rather than keeping them on all evening?
- Can you douse moving lights after their last cue, rather than keeping them on until the end of the show?
- Are there stray lights accidentally plotted in that you could turn off - lights left on behind flown scenery, not visible to the audience and not lighting anyone, for example?
- Can you use lamps that have to be on instead of lamps you have to turn on? For example, quite often you have some light on stage behind the show curtain as the audience are coming in: why are you using Source Fours to do this when the moving lights are struck up and ready to go and you could use them instead?

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6 - After The Show Is Over

Once shows are finished, they are often never seen again. In the worst cases, entire sets may just be thrown away. This is obviously wasteful: consideration should be given to any material that can be re-cycled or re-used in future productions, and there are re-cycling companies willing to take scenery and either offer it for re-sale to others or strip it down recycle materials correctly. In terms of lighting, there are often things that can go on to a future life:

- Colour can often be re-used; modern filters tend to have a long working life. Obviously colour that is burnt out shouldn't be kept, but there might be other uses for it rather than just throwing it out: as art material for a nearby nursery school, perhaps?
- Gobos can be re-used; Source Fours and other 'cool beam' lights cause much less wear to gobos than older spotlights.
- Don't forget to remove and store any custom gobos or colours you've had made for moving lights, or scrolls you've had made up... they will all find another use in the future.
- Consider the overall energy use of the building during get-outs - don't open the dock door on a cold winter night unless you have to!

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Consumables often end up back at White Light when rigs come back, whether because production staff haven't had the time to remove colour or gobos or have just forgotten. If you remember later we can try and get them back to you, but failing that we ensure they don't go to waste, recycling them on to not for profit shows, charity events or school productions.

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7 - On Tour

Touring takes a show to an audience, reducing their need to travel. However, it has an impact in itself as scenery, equipment and people need to be moved around the country. Lighting is just one part of this, but can play its part in reducing the number of trucks on the road each weekend:

- Do you need to tour all of the lighting, or can you pick up some local gear in each venue? In planning the tour can you work out the equipment that is common across all of the venues you are visiting?
- Select the equipment to reduce the volume of space it occupies in the truck - some new dimmer racks occupy substantially less space and weigh less than older models for the same functionality, for example.
- Take what you need, not what you don't: do you really need to carry that much extra heavy mains cable?
- Pack everything efficiently to minimise your truck space (though beware of overloading flight cases that have to be lifted or otherwise handled).
- Consider how you prepare cable tripes and then attach them to bars - do you really need to use PVC tape that you rip off then discard each week?
- If you have to have equipment swapped out (faulty moving lights, for example), plan those swap-outs carefully: do you have to have the replacement shipped to Aberdeen when the tour is only going to be twenty miles away from the rental company the next week?
- Use the minimum number of vehicles necessary, and the minimum vehicle size necessary.
- Ensure vehicles are well maintained and meet current environmental standards.
- Consider offsetting the carbon emissions of tour vehicles.
- Plan company travel efficiently using public transport or car-sharing. Consider offsetting carbon emissions.

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We aim to offer the most efficient packaging for touring productions - for example, for the recent *Mary Poppins* tour designing flightcases for the EvenLED cyc lighting that fitted precisely across a standard trailer ensuring no wasted space. At the same time we work with touring staff to ensure that other requirements, such as LOLER labelling and weight limits are complied with.

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8 - Around The Building

The stage itself and the show on it is only one consumer of resources in a theatre building - and the rest of the building continues to use resources all day round, rather than just during rehearsal or performance hours. The possibilities for improvement here should also be kept under review, from small changes (turning off lights, computers, printers, coffee machines when not in use) to very much larger ones (replacing heating or cooling equipment with newer, more efficient models). Some possibilities include:

- Minimise energy waste around the building. From an electrical point of view, that includes turning off equipment when not in use, ensuring items like computers, monitors and photocopiers are actually off rather than just on standby. Timeswitches can help with this. It can also include ensuring that heating and cooling systems are not 'fighting' each other, and ensuring that effective insulation is in place.
- Replace light bulbs with more efficient types - compact fluorescents (CFLs) in corridors or offices, LED lighting for exterior or marquee lighting.
- Switch off lights when they're not required - use motion sensors for internal lighting, and timed systems or light sensors to control exterior lighting.
- LEDs can be invaluable as on-stage worklights, particularly as blue wing workers or running lights where they offer lower energy requirements, longer working life and no more burnt out blue gel to replace!
- Constantly consider your lighting stock: even if it is well maintained, it may be worth replacing the equipment with newer, more efficient fixtures if the budget is available to do so. That may actually be an investment that re-pays itself in lower energy and maintenance costs.
- Follow general good building and office management practices both within the building and organisation itself and through its supply chain. The Green Procurement Code can help with this.
- Check the efficiency of your electrical equipment with a 'power factor' survey to analyse the difference between your building's real power and apparent power consumption. With modern metering you are likely to be paying for "KVars' which is the power you are not actually using.
- Non-linear loads such as motors and dimmers can cause the current to lag behind the voltage on the mains, causing overheating of cables and switchgear. Power factor is usually corrected by your electricity supplier, but will need to be re-assessed after major equipment changes. A power factor survey should be available from your utility service provider or via your electrical contractor.
- Consider switching to 'green tariff' electricity suppliers; this may not make a direct cost saving or directly reduce energy consumption, but it will help support the adoption of renewable energy sources and technologies.
- Encourage recycling wherever possible.

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We're putting as many of these plans in action as possible. Even when we don't have solutions to particular problems, we are now monitoring our waste just as we do our consumption of power or water so that we can figure out what we need to do. Our aim is to make every part of the process of getting lights prepared and to you as efficient as possible.

We are, as always, here to help you - whether that be with advice about any of the ideas suggested here, about the range of equipment we have for rental and how it could help you, or if you're considering replacing some or all of your lighting equipment with more energy-efficient alternatives and just need some advice. Chances are we've already investigated many of the issue affecting you (and some quirky ones that might not affect you - we're currently exploring how to power external lighting schemes using hydrogen fuel cells!), and we are here to help.

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9 - Around The Building (cont.)

- Installing mains water filters can reduce the cost and waste of having regular water deliveries; offering it front-of-house could reduce the need to transport bottled water around the world. And why not have old-fashioned mugs that you wash and re-use rather than disposable plastic cups?

- Ensure that heating and cooling systems are serviced regularly, and are set-up and controlled as efficiently as possible. Reducing a building's temperature just a small amount in winter (or reducing the air conditioning just a small amount in summer) can save dramatically on energy useage and so costs.

- The only way of telling if you're improving over time is to keep records - whether that be regular meter readings or more advanced recording offered by building control systems. Use this data to analyse peak loads and see how things - hopefully - improve as you make changes to the building's infrastructure or company's policies.

Beyond that, the possibilities are endless particularly once you start factoring in every part of the process, including how staff - and audiences - travel to and from the venue. Those are beyond the scope of this lighting guide, but everyone in a venue or organisation should be encouraged to consider the possibilities.

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As well as this Guide, we've been involved with two other documents that examine how the entertainment industry beyond lighting can be more energy efficient and environmentally aware: the Mayor of London's Green Theatre: Taking Action on Climate Change, and Green Music, aimed at the live and recorded music industries and created by the environmental organisation Julie's Bicycle along with the Mayor of London.

Both are well worth a look. Green Theatre, which was launched at the 2008 PLASA Show, provides an overview of the current environmental impact of London's theatre together with many suggestions for improvement and case studies where such improvements have been implemented and have paid off. Though the figures and examples are London-centric, the suggestions could be applied to theatres anywhere.

Green Music examines the possibilities for improvement in the music industry through everything from changing CD packaging to re-designing touring lighting systems, the possibilities shown by the recent Radiohead tour lit entirely with LED fixtures. We feature as an example of improving energy and waste management in office and warehouse environments, a process we're continuing to work to improve.

Both documents are available for download, and designed to be easy to read on-screen as well as on-paper.

Green Theatre:
www.london.gov.uk/mayor/publications/2008/09/green-theatres.jsp

Green Music: www.juliesbicycle.com/green-music-guide

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10 - Further Reading

About White Light

Founded in 1971, White Light has been supplying lighting to the entertainment industry across the UK and world-wide ever since - to theatre productions of all scales, corporate events, parties, architectural projects, museums, television, film and more. The company offers a full range of lighting services, including hire, sales, installation and service, from its base in Wimbledon, south-west London.

While always aiming to keep its rental stock working as long and hard as possible, White Light has consistently invested in new equipment as technology has advanced, being an early adopter of the high-efficiency Source Four spotlight, of automated lighting equipment and, more recently, of a wide range of LED lighting fixtures that open up dramatic new creative possibilities while consuming substantially less power than traditional lighting fixtures.

Committed to reducing both its impact and the impact of lighting on the environment, White Light has been closely involved with a number of schemes in this area, including working with the Arcola Theatre on their plans to become the world's first carbon-neutral theatre, and working with the Mayor of London's Office on their Green Theatre - Taking Action on Climate Change document, launched in late 2008. The company is currently working towards accreditation to BS8555, the phased implementation of an environmental management system.

Further information about White Light can be found at: www.WhiteLight.Ltd.uk.

Theatre and the Environment:

The Mayor of London's Green Theatre Programme: www.london.gov.uk/mayor/publications/2008/09/green-theatres.jsp
Green Theatre Initiative - US: www.greentheaters.org
The Theatre's Trust: www.theatrestrust.org.uk
Advice for Listed Buildings: www.english-heritage.org.uk/server/show/nav.1043

Arts-Related Environmental Organisations:

Centre for Sustainable Practice in the Arts: www.sustainablepractice.org
Julie's Bicycle: www.juliesbicycle.com

Arts-Related Environmental Websites/Publications:

Arcola Energy: www.arcolaenergy.com/contribute
Eco Theatre : www.ecotheatre.co.uk
Eco Theater - US: www.ecotheater.com

Recycling:

Any Junk: www.anyjunk.com
BattBoxes: www.battbox.co.uk
Scenery Salvage: www.scenerysalvage.com

General Information:

The Carbon Trust: www.carbontrust.co.uk
Carbon Offsetting: www.defra.gov.uk/environment/climatechange/uk/carbonoffset/faqs.htm
The Energy Saving Trust: www.energysavingtrust.org.uk
Green Procurement Code: www.greenprocurementcode.co.uk
Global Action Plan: www.globalactionplan.org.uk
The London Climate Change Agency: www.lcca.co.uk
The London Development Agency's Envirowise: www.envirowise.gov.uk
Route Planning: www.transportdirect.com

If you have any comments on this document or have any suggestions for items to be included please contact the White Light at info@WhiteLight.Ltd.uk

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