

A Low Energy Solution for Backlit Display Advertising
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Sustainable Backlighting for Advertisers

With global warming at the top of the public agenda, the media world is starting to ask some logical questions:

- * Should we be investing energy to illuminate advertising displays?
- * If so, are these displays as environmentally responsible as they could be?
- * How can we drive down the carbon footprint of backlit advertising?

The outdoor advertising industry has begun to recognise that providing good answers to the second and third questions is the best way to prevent the first question from dominating the debate.

In short, the industry needs to do everything it can to reduce its environmental impact now, before governments start to introduce financially punitive legislation.

Governments are only one source of the pressure to go green. Advertisers are also increasingly concerned about their own carbon footprint and are keen to demonstrate their commitment to improve.

It's time for the outdoor media industry to step up with solutions that dramatically improve on the current state of the technology.

The trouble with fluorescents

The outdoor media industry is starting to realize what lighting engineers have known for years - fluorescent tube lighting is unsustainable:

- Fluorescent tubes waste energy.
The rest is wasted as heat – which often needs to be removed by power hungry air conditioning
- They demand costly, regular maintenance.
Tubes fail suddenly and unpredictably, forcing regular replacement – further waste and cost.
- They create hazardous waste.
Fluorescent tubes are hazardous to manufacture and expensive to dispose of, with the risk of releasing mercury into the air, water and food chain.

This environmental cost is matched by an aesthetic penalty: fluorescent backlighting provides uneven illumination, 'striping' patterns and dark zones when tubes fail.

LEDs: a better way to backlight

Solid-state LED technology has been replacing less efficient lighting sources for many years. It's already widely used in everything from consumer electronics to traffic lights.

But until recently, LED technology has been too expensive for more general use.

Fortunately, the price/performance ratio has been improving dramatically. For the first time, LEDs are cost-effective enough to change the economics and environmental impact of the entire outdoor media industry.

Sustainable Backlighting™

Bright Green Technology has pioneered the use of solid-state LED backlighting for display advertising and signage.

The new generation of Sustainable Backlighting creates advertising displays that look better, cost less and reduce the carbon footprint of every display.

- Bright Green systems use up to 70% less energy than a traditional 'tube box'
- Bright Green systems are zero maintenance, with no need for re-tubing and tube disposal
- Bright Green systems last longer – typically 6 years before needing a fast, simple and safe LED replacement (with no hazardous waste to dispose of)

Carbon footprint: Bright Green vs. Tubes

A single, backlit, 12 x 3 mtr '96' sheet billboard puts around 2.5 times the carbon into the atmosphere with fluorescents than with Bright Green systems (and incurs 2.5 times the energy costs):

	Fluorescent Tubes	Bright Green
One Year		
Total Power (tubes and ballast)	30,485 kWhrs	12,868 kWhrs
Energy cost/year*	£3,049	£1,287
Carbon emissions**	15.3 tonnes/year	6.4 tonnes/year
Six Years		
Energy costs*	£16,294	£7,722
Carbon emissions**	91.8 tonnes	38.4 tonnes

* £0.10 per kW-hr, 24hrs per day, ** @ 0.5 kg of carbon per kWhr
Example is based on 60 x 58W tubes replaced with Bright Green Matrix™ LED system

A green initiative that pays for itself

By using less energy, lasting longer and requiring no maintenance, Bright Green systems don't just reduce greenhouse gas emissions, they also pay for themselves.

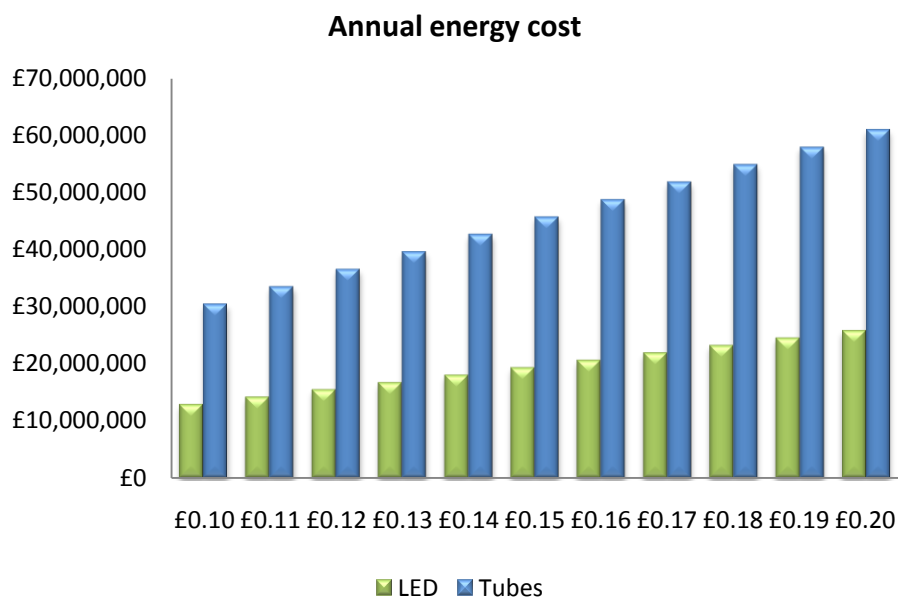
A single fluorescent tube box billboard costs an estimated £11,502 more to operate over six years than the Bright Green equivalent:

Six-Year Savings	Fluorescent Tubes	Bright Green
Tube/ballast replacement cost	£540	--
Tube recycling	£90	--
Labour (planned/unplanned)	£300	--
Energy	£16,294	£7,722
Total	£17,224	£7,722

Preserving future profitability

These economic models assume that energy prices are the same in six years as they are today. A more likely scenario is a significant hike as carbon legislation and capacity shortages take effect.

This is the effect of rising energy cost on a single 12 x 3 meter billboard, keeping everything else constant:



Carbon footprint: Bright Green vs. Tubes

Typical Bright Green solutions use 50 to 70% less energy and generate 50 to 70% less carbon than traditional backlit advertising and signage. To put that into perspective:

- A single billboard display using fluorescent tubes, puts over 15 tonnes of carbon into the air every year.
- The equivalent Bright Green display only generates 6 tonnes of carbon – saving 9 tonnes of carbon, every year, per display. This is about the same as 6 average western household's annual heating footprint (1.49 tonnes) for each and every backlit billboard display in the world.
- Replacing 10,000 of the world's billboard displays with Bright Green systems would save around 480 MW hours of energy every single day (not even including the larger billboards). That's 241 tonnes of CO₂ saved for every day of operation.

The aesthetics bonus

Sustainable Backlighting systems look better than traditional tube-boxes and support more creative uses.

The LEDs are optimised for advertising display, giving a diffuse light that delivers vivid colors and bright whites. Because there are no tubes behind the posters, there's no striping – just an evenly illuminated display surface that always looks its best.

Unlike fluorescent tubes, Bright Green systems can be dimmed, programmed and turned on and off, saving more energy and opening up new creative opportunities.

As advertisers increasingly reward suppliers that actively reduce carbon emissions, Bright Green systems provide an attractive alternative with no penalty in terms of illumination quality.

A sustainable system for any site

There's a Bright Green solution for every application, from six-sheet bus shelter to backlit billboard. Two different systems are on offer:

- **Bright Green Edge™** – the super-thin, edge-lit system suitable for 6-sheets and smaller.
- **Bright Green Matrix™** – the patented LED Suspended Array™ technology that's scalable and retrofittable.

Chosen by top contractors around the world

Bright Green solutions are in daily use by some of the industry's most progressive contractors, including CBS Outdoor, JC Decaux and Titan Worldwide.



The bottom line: sustainable backlighting that pays for itself

As the outdoor media industry rises to the challenges of global warming, government pressure and advertiser demand, Bright Green Technology systems show the way forward by:

- Using much less energy, so generating much fewer greenhouse gases.
- Being maintenance free and foregoing the need for annual engineer visits and tube disposal.
- Lasting at least five times longer than fluorescent tubes with no recyclability issues.

Clearly, the time for Sustainable Backlighting™ has arrived.

About Bright Green

Bright Green Technology is the technology and market leader in solid state LED backlighting systems for the advertising and signage industries.

Bright Green develops and markets proprietary backlighting systems built on our own patent-protected technology.

Our mission is to dramatically improve the environmental performance and ROI of all backlit advertising and signage by replacing fluorescent tube boxes.

Contact us at www.brightgreentechnology.com