

## The greening of the Great White Way

Broadway Green Alliance encourages environmentally friendlier practices

“IT’S IMPOSSIBLE TO BE GREEN. Therefore, you can’t expect to hold people to one single standard.”

Those may not be the words that you would expect from Charlie Deull, who Co-Chairs the Broadway Green Alliance (BGA) along with Susan Sampliner. But his goals, and the goals of the organization, are altruistic.

The BGA, according to their web site ([www.broadwaygreen.com](http://www.broadwaygreen.com)), is an organization that is dedicated to the education, motivation, and inspiration of the “entire theatre community and its patrons to implement environmentally friendlier practices.” And that’s what makes Deull’s thesis so intriguing, but when he completes his thought, the message becomes clear.

“People have to realize that there is no one bad actor, but [making a positive impact] is the cumulative effect of a lot of small actions,” he said. His words are a plea for everyone to get involved in the greening of the theatrical community. “Every contribution,” he says, carefully choosing each word, “no matter how small you might think it is, makes a difference.”

“In the short time they have been in existence, BGA has already had a significant impact.”

The BGA has been making a difference since 2008 when a group of people from The Broadway League got together with the support of Mayor Bloomberg’s Office of Long Term Planning and Sustainability and the Natural Resources Defense Council to form what was originally called Broadway Goes Green. The mostly volunteer organization (they recently hired their very first employee, Kenn Watt, as Coordinator) focused their original efforts on identifying ways to contribute to the greening of Broadway shows, to raise environmental awareness, to educate the community, and to share information about sustainable practices.

In the short time they have been in existence, BGA has already had a significant impact. In the process, they have helped develop and refine an approach to making production and touring ever greener, ever more sustainable, and ever the model for reducing, reusing, and recycling.

According to Deull, there are three categories of actions in the greening process. There are those things which can be done that have an immediate impact on the bottom line, saving money and going

easier on the environment at the same time; there are things that require an initial investment but that pay dividends after a period of time; and there are those things which contribute to the greening of the environment but that cost more money to implement.

As an example of the first category—immediate savings—Deull cites reducing the amount of printed materials and increasing the use of rechargeable batteries in Broadway theatres. Since the launch of BGA, many of them have switched from using disposable batteries to using rechargeables. Audio technicians have been wary of making the switch since it’s a mission-critical technology, but they are finding that it’s a workable solution.

Among the first to make the change was the New York company of *Wicked*, which has pioneered many greener practices and organized the Town Hall that brought together the theatre community and led to the formation of BGA. Until October 2008, they had been using and disposing 38 AA-sized alkaline batteries per show for their wireless microphones. At eight shows per week, 52 weeks per year, that results in 15,808 batteries per year or 79,040 batteries in five years, and about 5,000 pounds of electronic waste over that same five-year period.

Since they switched to nickel-metal hydride (NiMH) rechargeable batteries, they have reduced their consumption to 76 batteries per year since they use two complete sets of batteries, alternating between them to allow sufficient time for recharging, and they use those batteries for a year before responsibly recycling them. The cost savings works out to over \$4,300 per year after paying for the five rechargers, costing \$67 each.

In addition to the cost benefits, there are many environmental benefits. Lower battery consumption means less packaging material and less fuel to transport the products to market. In addition, the NiMH batteries comply with RoHS.

Many Broadway productions have switched to rechargeable batteries, including *Lion King*, *Mary Poppins*, *Mamma Mia*, and *Billy Elliot*. The practice is still spreading, even across borders and oceans. Theatres in the UK and Australia are adopting this practice after consulting with BGA.

In the second category, actions that require an initial investment but that pay dividends after a period of time, Deull cites an example involving the familiar theatre marquees on Broadway. Every one of them has moved away from incandescent lamps to more efficacious lamps.

One such theatre is the Belasco at 111 West 44th Street. Before it underwent renovation in 2009, the marquee used over five hundred 25-watt lamps. When its current owners, the Shubert Organization, renovated it, they replaced the incandescent lamps with three-watt cold-cathode lamps, resulting in a decrease of 11,000 watts without any decrease in the intensity of the marquee. It is estimated that converting to higher efficacy light sources saves the Broadway community nearly two million kilowatt-hours every year.

Typically, a conversion of this sort requires an initial investment to buy the higher-priced but higher-efficacy lamps, but it pays dividends in time. When the Samuel J. Friedman Theatre converted



One set of nickel-metal hydride (NiMH) rechargeable batteries recharging for the next showing of *Wicked*.

their marquee to cold-cathode lighting, they calculated that the cost of the new lighting would be recouped in six months and then it would yield a savings dividend.

In addition to saving the cost of electricity, reducing electricity

consumption has the added benefit of reducing the amount of carbon dioxide (CO<sub>2</sub>) and toxins released into the atmosphere. Over half of the world's electricity is generated by burning fossil fuels, which releases into the atmosphere approximately two pounds of CO<sub>2</sub> per kilowatt-hour as well as trace amounts of arsenic, beryllium, cadmium, chromium, copper, lead, mercury, nickel, molybdenum, radium, selenium, vanadium, and zinc, some of which are highly toxic.

In the third category, there are sustainable actions that cost more money to implement but that have an ecological benefit. For example, using 100% post-consumer recycled paper sometimes costs more, but has ecological benefits. It takes less water and energy to produce, it helps to reduce deforestation, and it produces less greenhouse gas emissions, in addition to reducing the solid waste disposal.

Today, the BGA divides its work among six different areas: production, pre/post-production, education and outreach, venues, touring, and membership. The Production Committee, among other activities, organizes collections of electronic waste (e-waste), much of which contains contaminants and toxins such as beryllium, brominated flame retardants, cadmium, lead, and mercury. Improper disposal of such items can lead to the pollution of air and water, as the toxins can be incinerated and released into the atmosphere or they can leach into the water table. In 2010, the BGA collected 6,000 pounds of electronic waste, which was subsequently disposed of responsibly. The next e-waste drive is scheduled for

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## Green Day Sessions at LDI2011

### Getting to Carbon Zero: The Holy Grail of Sustainability

Thursday, October 27, 9:00 – 10:30 a.m., Room S320E

Speakers: Charlie Deull, Co-Chair, BGA, Clark Transfer; Katie Oman, LEED AP+, cSBA, Fisher Dachs Associates; Sian Alexander, Associate Director, Julie's Bicycle; Robert Usdin, President, LEED AP, Showman Fabricators

### Green(er) Lighting Techniques

Thursday, October 27, 11:00 a.m. – 12:30 p.m., Room S320E

Speakers: Curtis Kasefang, Senior Consultant, Theatre Consultants Collaborative, LLC; Steven Cullipher, LEED AP, Barbizon Lighting; Mark London, VP of Operations and Systems, The Lighting Design Group, Inc.

### Green(er) Lighting Products Roundup

Thursday, October 27, 1:30 – 3:00 p.m., Room S320E

Speakers: Curtis Kasefang, Senior Consultant, Theatre Consultants Collaborative, LLC; Steven Cullipher, LEED AP, Barbizon Lighting; Bryan Raven, Managing Director, White Light Ltd.

### The Greener Facility: Going Beyond LEED

Thursday, October 27, 3:30 – 5:00 p.m., Room S320E

Speakers: Katie Oman, LEED AP+, cSBA, Fisher Dachs Associates; Ryan Biziorek, LEED AP, Senior Consultant, Acoustics, Arup; John Runia, AIA, LEED-AP, Senior Associate, Theatre Projects

### Green Theatre Initiatives Around the World

Friday, October 28, 11:00 a.m. – 12:30 p.m., Room S320E

Speakers: Charlie Deull, Co-Chair, BGA, Clark Transfer; Sian Alexander, Associate Director, Julie's Bicycle; Ian Garrett, Executive Director, Center for Sustainable Practices in the Arts

### Intro to Sustainability: A Primer for Those Newly Interested

Friday, October 28, 1:30 – 3:00 p.m., Room S320E

Speakers: Ellen Jones, Assistant Professor, Bemidji State University; Paul Brunner, Technical Director, Indiana University Theatre and Drama; James McKernan, Professor, Department of Theatre, York University

October 5 in Times Square.

The Pre/Post-Production Committee has been helping to encourage the recycling or re-use of construction materials or scenery elements, and in 2010 about 84% of all materials from Broadway shows that were closed were reused or recycled. The Venues Committee was instrumental in helping to convince Broadway theatres to convert to more energy-efficient light sources in their marquees. The Touring Committee has been working to help touring shows offset carbon emissions by investing in wind power and other alternative energy sources and they have also helped reduce their carbon footprint by recycling props and scenery, concession products, backstage materials, and *Playbills*, and by using greener cleaning products.

In addition to maintaining a web site with news, tips, and resources, the organization also regularly publishes an e-newsletter and they maintain a presence on Facebook (<https://www.facebook.com/>

BroadwayGreenAlliance). They will also co-sponsor, along with Showman Fabricators, a series of six seminars at LDI2011 (see sidebar on page 45) and they are planning to have a lighting workshop in conjunction with Julie's Bicycle ([www.juliesbicycle.com](http://www.juliesbicycle.com)) in November 2011.

Besides devoting much of his time to BGA, Deull is Executive Vice President of Clark Transfer, which is, not surprisingly, a member of BGA and a founding member of Touring Green (<http://bit.ly/qryqtV>). Susan Sampliner is also the Company Manager of the Broadway company of *Wicked*. Together, they help shepherd the organization along with committee heads: Seth Greenleaf (Education and Outreach), Jeff Lee (Membership), Bob Usdin and Donyale Werle (Pre-Production/Post-Production), Bret Shuford and Stuart Shefter (Production), Jill Kratish and Lisa Morris (Touring), and Dana Amendola and Jennifer Hershey (Venues).

Deull admits that it's indeed impossible

to be totally green, the BGA is a great community resource for helping make the theatre community as green as possible. Although Broadway accounts for a small fraction of the carbon footprint in the New York City metropolitan area, its influence extends far beyond mid-town Manhattan. With each passing year, the contributions of individuals and organizations, with the help of resources from the BGA, add up to a significant difference in the world.■



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