



# GOING GREEN & SAVING GREEN

A Cost-Benefit Analysis of Sustainable Filmmaking

By Emellie O'Brien

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The myth that it costs more to “go green” on set is currently plaguing the production of film and television. Sustainable filmmaking efforts are making significant strides and continuing to evolve. When resistance by decision-makers occurs, however, it is often due to complaints over cost. This document will show how pro-environmental measures can translate into budgetary savings for productions. With adequate preparation during pre-production, thorough communication across all departments, and an Eco Manager/Eco Supervisor to oversee initiatives and track progress, sustainable filmmaking is not only effective, but cost efficient. The bulk of this analysis surrounds New York specific vendors and pricing.

## FINANCIAL SUMMARY

Opting for sustainable practices can yield run-of-show cost savings as high as the budget line breakdown below. These potential cost savings percentages were calculated from production accounting records as well as current market prices of respective vendors, as further outlined in the remainder of this report.

### CATEGORY | % of BUDGET LINE SAVINGS POTENTIAL

<b>WATER</b>	<b>51%</b>
<b>WASTE</b>	<b>40%</b>
<b>DISHWARE</b>	<b>6%</b>
<b>TRANSPORTATION</b>	<b>12.7%</b>
<b>BATTERIES</b>	<b>58%</b>

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### **A FOOTNOTE FROM THE AUTHOR: EMELLIE O'BRIEN, ECO SUPERVISOR:**

The data that is represented in this report is a collection of studies, vendor-specific information, as well as industry professionals' input. The pricing reflects current vendor listings. As the needs of every production vary, so do the estimated savings found below. The bulk of this analysis comes from my professional experience as an Eco Supervisor based in New York City working with New York specific vendors and pricing.

# WATER

## COST BREAKDOWN OF USING PLASTIC BOTTLES ON SET (100 crew count)

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25 cases per day (24ct):	\$7.45 per case <sup>1</sup>
Average cost per day:	\$186.25
Average cost for 60 shooting days:	<b>\$11,175</b>

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## COST BREAKDOWN OF ELIMINATING PLASTIC WATER BOTTLES ON SET

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Water cooler rentals: 5 coolers at \$9/month for 3 months:	\$135
Additional compostable cups at \$98.68/case every 2 weeks:	\$592.08 <sup>3</sup>
Reusable bottles at average cost of \$10/each:	\$1,000
840 five gallon jugs at \$4.36/each:	\$ 3,662.40 <sup>2</sup>
Miscellaneous water accessories:	\$100
Total average cost for 60 shooting days:	<b>\$5,489.48</b>

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## THE ENVIRONMENTAL COST OF PLASTIC

In the U.S., public tap water is regulated by the EPA, which requires multiple daily tests for bacteria and makes results available to the public. The Food and Drug Administration, which regulates bottled water, only requires weekly testing and does not share its findings with the EPA or the public.<sup>4</sup>

It takes 17 million barrels of oil to meet America's annual demand for bottled water, which is enough to fuel 1.3 million cars for a year.<sup>5</sup>

Americans throw out 38 billion empty water bottles a year, more than \$1 billion worth of plastic.<sup>6</sup> 80% of plastic water bottles are not recycled and end up in landfills or waterways.

Many water bottles contain the chemical bisphenol A (BPA), a hormone-disrupting chemical that has been associated with reproductive abnormalities, obesity, and insulin resistance.<sup>7</sup>

It takes 700 years before plastic bottles start to decompose, and can take up to 1000 years to fully decompose.<sup>8</sup>



## “TAKE BACK THE TAP” STRATEGY

The economic and environmental savings of eliminating plastic water bottles is irrefutable. The water bottle issue is one of convenience. It takes commitment from the top to institute a company policy of banning plastic bottles. Below are more suggestions for converting to a sustainable hydration model:

**Communicate** this company policy to everyone beforehand so there are no surprises. Ask department heads to notify day players of the policy so that they can come prepared with their own bottle.

**Buy a good bottle.** The more durable and practical the bottle, the more likely the crew is to hang onto them and continue to use them throughout the shoot. Attaching carabiners to make the bottles more portable is also preferred. The bottle with the greatest on-set success rate I’ve seen thus far is the Nalgene “On the Fly” model:

<http://store.nalgene.com/category-s/6.htm>

**Avoid using logos.** Once a project’s logo is stamped, it becomes a novelty item and crew members are less likely to use the item for practical purposes.

**Get craft service and the studio’s preferred vendors on board with weekly water deliveries, preferably with BPA-free 5 gallon jugs as well as local water sources.** Ensure there are plenty of water stations set up on set, at crafty, at catering, in holding and at base camp. Installing filters on tap faucets in offices and at studios saves even more by eliminating water dispenser rental fees.

**Big background days?** Talk to your Extras Casting company about sending a memo to the background informing them of our water policy and asking them to bring their own bottles.

# WASTE

“W.R.A.P. – Waste Reduction Always Pays” – Eva Radke, Film Biz Recycling

## WASTE HAULING PRICE BREAKDOWN\* (Prices provided by Avid Waste Systems, New York)

Average pick up cost of regular trash 2 yard dumpster:

**\$40**

Average pick up cost of recycling 2 yard dumpster:

**\$20**

**FACT:** As of early 2014, New York is considering implementing a mandatory municipal composting system in the city of New York due to the economic and environmental savings. “Food waste and other organic materials account for almost a third of all residential trash, and the city could save about \$100 million a year by diverting it from landfills.”

– Ron Gonen, Deputy Sanitation Commissioner for Recycling and Sustainability<sup>9</sup>

## WASTE HAULING PRICE BREAKDOWN\* CONTINUED

On location price of loose trash:

**\$5/BAG**

On location price of loose recycling:

**\$2.50/BAG**

On location price of loose compost:

**\$4/BAG**

\*There is no standardized method of measuring production waste. Methods vary from on stage to on location, by weight or by volume, as well as by municipality. This report uses units of measurement according to a preferred New York sustainable production waste hauler.

**SUCCESS STORY!** Columbia Pictures' *The Amazing Spider-Man 2* saved **5%** of its total waste hauling expenses, or **\$4,732** through its recycling and composting efforts. Additionally, 49.7 tons worth of construction and set decoration materials were sold to other shows or donated to non-profits at wrap. With one ton dumpsters costing an average of \$950 each, that's a whopping savings of **\$47,215!**

**COMPOSTING** is becoming more commonplace in the office and on set with the emergence of Eco Supervisors and green productions. In addition to food waste, compostable dishware can also be collected in compostable bags and hauled to an industrial composting facility where it is converted into nutrient-rich soil instead of winding up in a landfill. North Americans alone generate more than 80 million tons of organic food waste each year. While the economic benefits of composting have yet to be fully realized, the potential to reduce one's total waste stream and thus, hauling expenses, by up to 30% is worth noting.

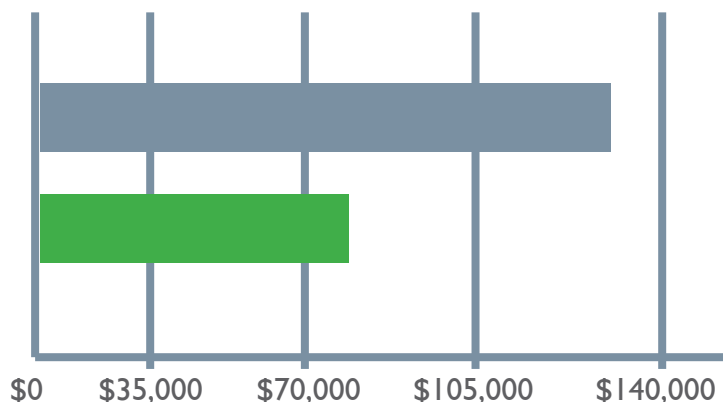
## COMPOST SUCCESS RATES ON SET

### FEATURE FILM / AMOUNT COMPOSTED

<i>Gods Behaving Badly</i>	10,425 lbs
<i>Premium Rush</i>	5,675 lbs
<i>The Dictator</i>	7 tons (14,142 lbs)
<i>Noah</i>	23 tons (46,500lbs)
<i>The Amazing Spiderman 2</i>	72 tons (144,000 lbs)

The chart below represents the combined waste hauling savings from the everyday set operations plus the tons of donated/purchased materials saved from landfills.

- ✦ Cost Without Sustainable Waste Diversion Efforts
- ✦ Actual Cost



## CONSTRUCTION DEBRIS

is one of the biggest potential moneymakers. Here are some examples of materials that can not only be salvaged, but also cashed in on when inventoried and managed appropriately:

**Clean Wood**

**Excess Scenic Paint**

**Concrete**

**Glass**

**Metal** – most scrap metal recycling facilities will pay a minimum of 10 cents on the pound

In terms of sourcing construction supplies, vendors like LeNoble Lumber provide FSC certified wood at comparable rates to standard lumber prices. Affordability is achievable when it comes to both building and striking sets sustainably.

**SUCCESS STORY!** On Paramount Pictures' Noah (2014), 100% of the steel was recycled and re-couped by Allocco Metal Recycling. The total amount was estimated at 450,000lbs and the production made back approximately \$45,000.

## PROPS, SET DRESSING, WARDROBE

typically have literally tons of excess when a production wraps. Rather than paying to haul these items away in a dumpster, they can be given a second life and earn a tax-deductible donation to qualifying non-profits.

When the television series 30 Rock wrapped it had 7 seasons worth of assets to get rid of. Instead of tossing everything into a dumpster, NBC donated over a million dollars worth of set dressing, props and wardrobe to other NBC shows. They also donated another 10.7 tons of material to Film Biz Recycling, saving nearly \$20,000 in waste hauling expenses.

During the strike of Columbia Pictures' The Amazing Spider-Man 2 an estimated \$205,000 worth of excess construction and set decoration material was sold to other productions. An additional \$120,000 worth of tax-deductible donations were made to Film Biz Recycling, Materials for the Arts and Build it Green.

**FACT:** If you were to donate the entirety of a large studio feature film wardrobe department's non-hero clothing, the value of that donation would be an estimated **\$250,000**.<sup>10</sup>

**PAPER-LESS** is the future. Producers are re-evaluating what needs to be printed because paper reduction practices are simple, easy ways of saving money, trees, ink and office space. Always defaulting to double-sided, printing on scrap paper, and making hard copies available by request only are great reduction strategies.



**Printers defaulted to scrap paper** (paper that has already been printed on one side) in the production office on the last season of Damages. 300 reams of paper were saved, the equivalent to almost \$1,000 in savings!



**Paper distribution was essentially eliminated** during the production of Moonrise Kingdom. Going paper-less required a mandate from the top, but Moonrise proved it could be done: “I don’t really have any numbers on what we saved - as in reams of paper or money. But the details are that Wes Anderson really didn’t want to have a lot of wasted paper on the set (or office) including schedules, call sheets, crew and contact lists, production reports etc. We bought a few iPads for departments and put everything in dropbox folders. Some were public, and some for animatics and storyboards and such were more controlled. We never distributed call sheets on set but we emailed them to everyone on the crew list and the cast and there never seemed to be a problem.”  
– Sam Hoffman, Executive Producer



**Department heads used iPads** for scripts and revisions on season 2 of Boardwalk Empire. Accessibility to tablets is improving and becoming more of a practical alternative. Many crewmembers already own tablets and have found them useful for viewing both production documents and dailies. Eventually studios may secure and rent them out to individual productions like many other electronics, in order to get the crew more synchronized digitally and less reliant on paper and ink.

### SCRIPT COSTS: iPad vs. Hard Copy

Case Study for Boardwalk Empire, Season 2 by April Taylor, UPM\*

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COST TO PRINT ALL SEASON 2 DRAFTS (per crew member) **\$118.49**  
Production Drafts and Revisions: **\$74.33**  
TOTAL: **\$192.82**

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COST TO READ PDFs on IPAD (per crewmember)  
PDF Annotation App: **\$4.99** (GoodReader)  
iPad Stylus: **\$24.99** (Wacom Bamboo Stylus)  
TOTAL: **\$29.98**

\*These costs reflect a one-hour television series, thus scripts average 60 pages and revisions average 15 pages; at \$0.92 per script printed cost for white paper and \$1.17 for color paper



# DISPOSABLE DISHWARE

The very word “disposable” has become far too overused in our everyday vocabulary. On green productions, we replace the term “disposables” with “compostables.” Plates, cups, cutlery are used in massive quantities. Replacing disposables with reusables is, of course, ideal. If an office of 30 people replaced their 3 paper cups a day with washable, reusable mugs, over 8,000 cups would be saved over the course of 3 months, or the equivalent of over \$700. However, reusable dishware is not always an option when shooting on location, which is why green sets turn to the most sustainable alternative – compostables.

**FACT:** Paper cups generate 253 million pounds of solid waste per year, and use approximately 6.5 million trees and 4 billion gallons of water to produce per year.<sup>11</sup>

Using COMPOSTABLE DISHWARE on set is one of the easiest and most effective ways to reduce a production’s carbon footprint. And contrary to popular belief, it does not cost an exorbitant amount when purchased in bulk. Here are the hard numbers comparing Costco’s non-biodegradable Dixie and Solo brands with World Centric’s BPI certified carbon neutral products that turn to soil within 90-180 days.

## DISPOSABLE VS. COMPOSTABLE DISHWARE PRICE BREAKDOWN

ITEM	QUANTITY	COSTCO	WORLD CENTRIC
10oz Hot Cups	1,000	\$89.08	\$77.74
Hot Cup Lids	1,000	\$43.69	\$58.81
12oz Cold Cups	1,000	\$45.98	\$87.99
10” Plates	1,000	\$126.18	\$87.99
6” Plates	1,000	\$31.89	\$35.19
Bowls	1,000	\$87.58	\$38.09
Utensils	1,000	\$35.90	\$46.33
Clamshells	300	\$69.10	\$64.37
<b>TOTALS</b>		<b>\$529.40</b>	<b>\$496.51</b>

Entertainment productions have immense buying power. When it comes to sustainability, sometimes all it takes is simply shifting that power to a more responsible vendor. A little research can go a long way when disposables are necessary and sustainability is a priority.

## THE ENVIRONMENTAL SAVINGS OF USING COMPOSTABLE PRODUCTS<sup>12</sup>

Oil and natural gas are the major raw materials used to manufacture most plastics. Replacing petroleum-based plastics with plastics made from renewable raw materials, such as plants, reduces our dependence on fossil fuels.

Use of fossil sources of carbon creates a net increase in atmospheric CO<sub>2</sub>, whereas use of biobased carbon provides the opportunity to reduce the amount of additional CO<sub>2</sub> released into the atmosphere.

The potential to increase the diversion of food waste from landfills is a key benefit of using compostable products. These bioplastics can be sent to an industrial composting facility once disposed of, and used to grow more corn, sugar and starch for additional bioplastic production, creating a highly sustainable end-of-life management system.

When it comes to carbon emissions, fuel is a top contributor. Basic savings tactics such as buying a crew member a weekly/monthly Metro-Card or CitiBike pass instead of renting them a vehicle can be implemented. Incentivizing bike use in order to reduce the number of shared van rides can also be encouraged. Additionally, public transit directions and ride share information should always be included on call sheets.

### HYBRIDS

According to the EPA's 2013 fuel economy charts, it costs \$91.67 per month to fill up a Toyota Prius, and it costs \$150 per month to fill a similar compact Nissan Versa, assuming both vehicles are averaging the same mileage.<sup>14</sup> That's a savings of almost \$200 per vehicle over the course of 3 months. For a production with an average rental vehicle fleet of 20, that's a savings potential of \$4,000!

Some car rental companies charge higher rates for hybrid vehicles, while others are comparable to other standard sized vehicles (i.e. Nissan Versa). According to Enterprise's 2013 price chart, it costs only \$5 more to rent a hybrid at a daily rental rate. These prices are expected to become more competitive in the coming months as more fuel-efficient vehicles enter the marketplace.

**FACT:** While research into the East Coast's FTI [Film/TV Industry] emissions output has yet to be conducted, within metro Los Angeles alone, the FTI makes a larger contribution to conventional air pollution than the Aerospace, Apparel, Hotels, and Semiconductor Manufacturing industries. The FTI is responsible for 130,000 metric tons of pollutant emissions within metro Los Angeles per year.<sup>13</sup> Without conclusive research, we believe the East Coast emissions to be on par with that of Los Angeles.

# BIODIESEL

**BIODIESEL** is an alternative fuel produced from domestic, renewable resources such as fat or oil (soybean oil, used cooking oil, etc.) Biodiesel contains no petroleum, but it can be blended at any level with petroleum diesel to create a biodiesel blend. Biodiesel blends are denoted as, "BXX" with "XX" representing the percentage of biodiesel contained in the blend (ie: B20 is 20% biodiesel, 80% petroleum diesel). As state and federal regulations become stricter on air quality regulations, many fleet managers are turning to biodiesel as the only alternative fuel to have fully completed the health effects testing requirements of the Clean Air Act.

With the availability and incentives in New York, biodiesel saves money. Engines running on biodiesel for a substantial amount of time have been shown to need less maintenance. Also, biodiesel use allows federal fleet managers to keep existing equipment on the road longer and still adhere to new, stricter emissions standards. Not to mention the many government subsidies that are being implemented to encourage the use of alternative fuel.

**ANTI-IDLING** policies can reduce fuel consumption and save money. Idling for just 10 seconds wastes more gasoline than restarting an engine. Idling engines not only waste precious fossil fuels and dollars, but also pose health hazards to the air quality of the surrounding community. Talk to the Transportation Captain about making this a priority, or even offer incentives to drivers who always make it a point to turn off their engines and conserve fuel.

**SUCCESS STORY!** During the Focus Features production of *Away We Go* a total of 18,094 gallons of diesel fuel was used. 6,570 gallons, or 36.3%, was a biodiesel blend that ranged from 5% to 99%. The blended biodiesel average cost in that particular part of the country at the time was 12.7% less than standard diesel fuel. In terms of the carbon emissions generated by combustion, biodiesel fuel emits 7% less carbon per unit than regular diesel fuel. Had the film used blended biodiesel fuel for all of its diesel needs, the movie could have saved \$33,000 over the course of the production.<sup>16</sup>

## FACTS<sup>15</sup>

Biodiesel is currently less expensive than petroleum diesel in its neat form, so the higher the blend, the less the cost.

B20 tends to be the sweet spot as it functions the same as diesel in all equipment and all climates. This is the lowest blend considered an alternative fuel.

As an incentive to use B20, New York State offers a lower sales tax than what is required for diesel fuel sales tax, saving on average \$.08/ gallon.

Due to the sales tax savings, the lower cost of 20% of the fuel allows Tri-State Biodiesel to price on average \$.05/ gal less, so with Tri-State there is a \$.13/ gal cost advantage to B20 use in New York State.

Visit [www.biodiesel.org](http://www.biodiesel.org) to locate biodiesel retail locations in your area and find out more about price incentives.

**FACT:** 20 to 50 million metric tons of electronic waste are generated worldwide every year. Only 11.4% of that is recovered for recycling.

## Disposable vs Rechargeable 9-volt Battery Expenses for 60 Day Shoot<sup>17</sup>

The Sound Department uses an average of eight to twelve 9-volt batteries per day. Implementing rechargeable battery systems saves precious dollars as well as up to 60 batteries per week!

Total Cost for Disposable 9-volt Battery Use	<b>\$600</b>
Total Cost for Rechargeable 9-volts (8) and Charging Stations (2)	<b>\$252</b>
Percentage Savings by using Rechargeable Batteries	<b>58%</b>

### Recommended Production Proven Brands include:

AA: Ansmann NiMH 2850 mAH

AA: Sanyo Eneloop 1900 mAH

9V: iPower US Li-Polymer 520 mAH

*Noah* saved the use of 594 batteries and **\$645**

*Gods Behaving Badly* saved the use of 520 batteries and **\$550**

*The Amazing Spider-Man 2* saved the use of 1,320 batteries and **\$1,450**

**TESTIMONIAL:** We decided to try rechargeable batteries for all of our Comtek listening devices on “Gods Behaving Badly.” Not only did we prevent 520 batteries from entering a landfill, we also saved the production company hundreds of dollars. This is an exciting new change to the way my department will operate and I am looking forward to helping film companies leave “less of a footprint.”

—Thomas Varga, Sound Mixer

# E-WASTE FACILITIES

While there are very limited monetary savings associated with the majority of the electronic waste that is generated on set, there are affordable options of proper e-waste disposal.

The 4th Bin is based out of New York and picks up your discarded batteries, film, lightbulbs, electronics, etc. for one affordable flat rate depending on the amount and weight of your items. They are also certified e-Stewards, R2 and ISO 14001 recyclers and guarantee ethical e-Waste collection and recycling.

Green Chip Recycling, another R2 certified e-waste vendor, will pay for computers, monitors, printers, servers, network equipment, etc.

The Lower East Side Ecology Center's e-Waste Warehouse in Gowanus, Brooklyn serves as a free e-waste drop center.

Globe Tops is a unique redistribution network that connects computer donors to recipients all over the world to empower community projects through creative reuse.

## LED LIGHTING

Brite Shot is a new leader in professional LED lighting. Their Luminator® light uses only 3.8amps yet has the output of a traditional 3K light, which uses up to 60amps. Beyond the energy savings, Brite Shot lighting reduces cooling costs, saves on man power and requires no gels for their special effects. Brite Shot recently saved the Radford stages in California \$16,000 in monthly energy costs by switching to their studio tungsten lights on the ABC Family show, Melissa and Joey. Brite Shot was also used on the set of The Amazing Spider-Man 2.

Hive Lighting is another LA-based plasma lighting vendor, reducing on-set energy usage by 50% and power costs by about 40% on CBS shows The Mentalist and CSI: Crime Scene Investigation.<sup>18</sup>

MacTech LED is also an LA-based LED lighting vendor with resources on the East Coast. Check [greenproductionguide.com](http://greenproductionguide.com) regularly for new vendors entering the marketplace.

## FILM

Given the high cost of film stock and processing, more and more productions are opting for the more eco-conscious option of shooting digitally. Yet several million pounds of film are still destroyed and recycled annually.<sup>19</sup> Up to 1,000ft of film scraps can be generated per day when shooting on film. The same constituent that makes this product hazardous to the environment – silver – is the same that makes it valuable as a waste material. Few vendors offer film recycling (considered a method of e-cycling) through silver extraction, yet those that do often waive their pick-up/shipping fees due to the value of the silver. Such vendors include New York's the 4<sup>th</sup> Bin and Kodak's Film Salvage.

“Waste reduction happens when trained and informed people pay attention to the details; keeping waste out of the landfills matters. Hire an Eco Supervisor – spending a little more on labor and a lot less on unnecessary disposables makes it affordable to be green!”

-Steve Holtzman, Co-Chair, PGA Green

# IN CONCLUSION

Smaller films may hire a PA or utilize an outside consultant, and depending on the support and mandates from the top - this can be cost effective. But the larger the production, the more necessary a full-fledged Eco Supervisor becomes. An Eco Supervisor is a resource, a seasoned production professional, and functions as a department head alongside other crew department heads. This person has an exclusive focus on implementing and managing systems from prep through wrap, and problem-solves in conjunction with all department heads as the unique challenges of a production arise.

If no one is available to oversee a production’s sustainability efforts, success rates are much lower. Going green on set means a lot more than setting out a recycling bin at craft service. It’s also about crew education and providing resources for sustainable alternatives. A strong sustainability campaign influences all departments of a production, as well as the community at large, in a mutually beneficial way.

Many decision-makers are discouraged by the idea of hiring additional labor to manage sustainability. However, by implementing the practices in this report, the results have shown a consistent net savings of thousands of dollars even after subtracting the cost of labor. The Eco department always pays for itself.

Converting to sustainable practices demands real systemic and cultural change. While many share a fear of change, let this document serve to at least eradicate the monetary fear. As an industry of forward thinkers, we certainly have the capacity to continue producing engaging entertainment without sacrificing our planet or the bottom line.

## **ABOUT THE AUTHOR:**

Emellie O’Brien has served as a freelance Eco Supervisor for Sony Pictures’ Annie, The Amazing Spider-Man 2, Paramount Pictures’ Noah, and Big Beach Films’ Gods Behaving Badly. She is also the Co-Founder of Earth Angel, a New York based company that provides sustainable solutions to entertainment productions. Emellie holds a B.F.A. in Film & Television with a minor in Producing from New York University’s Tisch School of the Arts. Feel free to visit the Earth Angel website and contact her at

[www.earthangelnyc.com](http://www.earthangelnyc.com)

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# RESOURCE PAGE

## GreenProductionGuide.org

**Vendor Guide** features over 2,000 US and international companies that provide sustainable and energy saving products and services for film, television and commercial productions, sourced both locally by region and by on-line ordering.

**The PGA Green Unified Best Practices** represents the best current strategies for green production, based on the experience of a wide range of producers working to achieve sustainability in motion picture and television production. It is organized by production phases and departments, and each section is downloadable by department, facilitating crew members to focus on the green strategies relevant to their needs.

**The Carbon Calculator** measures the carbon emissions generated by your production based on information you enter on emission sources such as utility electricity and heating, fuel, flight and hotel use. Download a copy of the Carbon Calculator using the link below in order to see the effect of green production practices on your carbon footprint.

### **Greenproductionguide.org, a project of the Producers Guild of America**


Featuring nearly 2,000 companies that provide sustainable and energy saving products and services for film, television and commercial productions, The Green Production Guide was created by the Producers Guild of America Foundation and PGA Green. With seed funding and support provided by Disney, DreamWorks Studios, 20th Century Fox, NBC Universal, Paramount Pictures, Sony Pictures Entertainment and Warner Bros., the website includes the PGA Unified Best Practices Guide, and a Carbon Calculator. This is a free public site where you can also access green production stories and news about eco events and innovations.

### **PGA Green (pgagreen.org)**

pgagreen.org Is a place to find out more about the PGA Green Committee events and activities and to connect with members via social media.

## REFERENCES

- <sup>1</sup> Pricing derived from average of New York water vendors: Costco, Fresh Direct and local grocery stores.
- <sup>2</sup> US Coffee pricing (NYC)
- <sup>3</sup> World Centric pricing for 2,000ct 7oz cold compostable cups; estimated that extra 1,000 cups/week needed when no plastic bottles are made available on set
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- <sup>6</sup> Fishman, Charles. "Message in a Bottle." Fast Company 1 July 2007.
- <sup>7</sup> NRDC. "Chemicals in Plastic Bottles." May 2008.
- <sup>8</sup> www.banthebottle.net
- <sup>9</sup> Navarro, Mireya. "Bloomberg Plan Aims to Require Food Composting." New York Times. June 16, 2013.
- <sup>10</sup> Wardrobe Supervisor for Columbia Pictures' The Amazing Spider-Man 2 estimated this figure based on her experience on large or sizeable studio films.
- <sup>11</sup> Sustainability is Sexy. "The Basic Problem with Coffee Cups." 2007
- <sup>12</sup> "Compostable Plastics 101." The California Organics Recycling Council. US Composting Council.
- <sup>13</sup> Corbett, Charles J. and Turco, Richard P. "Film and Television." UCLA Institute of the Environment and Sustainability. 2006.
- <sup>14</sup> U.S. EPA Department of Energy Fuel Economy Guide 2013; Annual fuel cost based on 15,000 miles per year at \$3.65 per gallon regular unleaded
- <sup>15</sup> Tri State Biodiesel; www.tristatebiodiesel.com
- <sup>16</sup> These prices reflect the cost of fuel in 2008. The cost of fuel is constantly in flux, thus altering the cost advantage of biodiesel on a month to month basis. Tax incentives and subsidies also vary state to state.
- <sup>17</sup> Prices taken from batteryjunction.com for iPowerUS Brand
- <sup>18</sup> "Greening Productions One Light at a Time." www.ema-online.org
- <sup>19</sup> Kodak FPC/Film Salvage



**SUCCESS STORY!** Legendary filmmaker Francis Ford Coppola thinks Globetops is on to something. He recently donated 12 laptops from his winery to go to the Cine Institute in Haiti.  
<http://presskitchen.com/2013/12/26/globetops-provides-a-better-way-to-ditch-your-devices/>

# SHARE YOUR STORY

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**FACEBOOK:** <https://www.facebook.com/pages/Producers-Guild-of-America-Green/124310267595911>

