

TAKING ACTION

SUSTAINABILITY IN TISCH FILM PRODUCTIONS

Presentation created by **Vanneeda Keowmang**, **Brad Sachs**, and **Heather Vaxer**Advanced Television Production
Undergraduate Film and Television, Kanbar Institute **APRIL 2019**

WHY?

Filmmaking is notoriously wasteful. With approximately 300 intermediate and advanced-level films made in Tisch every semester, the waste is monumental.

CONTEXT

Approximate cast and crew: 30

Advanced TV allotment

Senior-level production



WASTE CATEGORIES



Power Usage and Travel

- Poor management of charging and charged batteries
- Usage of non-rechargeable batteries
- Set procedures used as excuses
- Wasteful transportation for convenience



Waste Management

- No separation of trash
- Poor sourcing of crafty and catering
- PLASTIC WATER BOTTLES



Equipment, Props & Costumes

- Purchasing equipment solely for the production
- Making and disposal of production-specific props and costumes

SOLUTIONS & EXECUTION

GREEN PRODUCTION TOOL KIT

Aproject by the Producers Guild of America referred to the production by Earth Angel, an NGO dedicated to making commercial film sets sustainable.

WASTE MANAGEMENT

Trash Reduction 01

To reduce trash generated by the production proper:

- Reduce excess food waste by in-house catering (i.e. crew-cooked meals to reduce waste via food delivery) and donating leftover food to homeless shelters
- Crafty purchased in bulk from Costco
 - Kept in reusable containers
 - Organic, locally sourced
- Reduce trash by using compostable plates and utensils
- PLASTIC BOTTLE BAN ON SET
 - Vapur water bottles provided by production
 - Sports jug filled with clean water available for crew at all times





WASTE MANAGEMENT

Trash Separation 02

To reduce amount of trash by separating all waste generated by the production into the following categories:

- Paper
- Co-mingled (Metal and Plastic)
- Organic Compost
 - Food Scraps and Compostable Utensils
- Trash

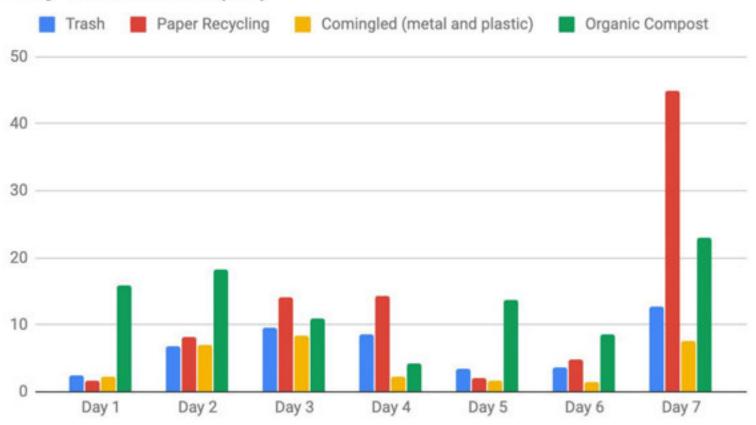
Important Note: NYC does not accept compostable plates and utensils. Waste volume for Weekend 2 is increased to compensate for this setback.



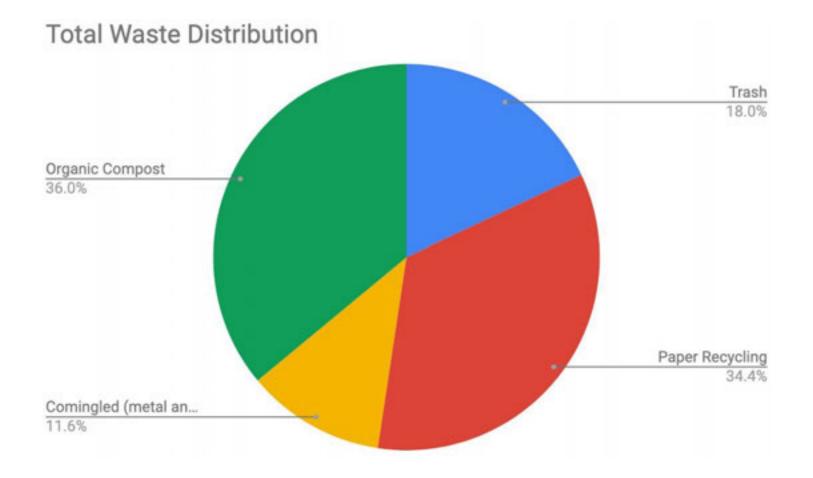


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Daily Waste Chart (lbs)







TRAVEL

Weekend One (NewRochelle, NY) ∩1

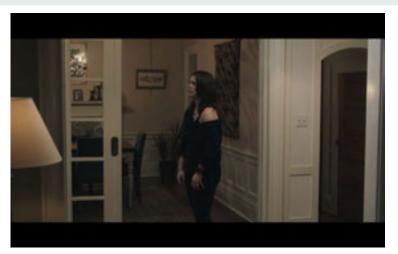
Vehicles Used:

Core Crew - 2 passenger vans, 1 box truck, 1 car Day Players and Actors - Metro-North *Note: Truck was parked at location for three nights with a no-idling policy

Main Problem:

Transportation to and from Metro-North station for day players with specific schedule means several non-pooled car trips (additional waste)

Unfortunately, in unpaid productions, actor and day player convenience is a priority.





TRAVEL

Weekend Two (Brooklyn, NY) 02

Vehicles Used:

1 box truck, 1 car

*Note: Truck was parked at location for two nights with a no-idling policy

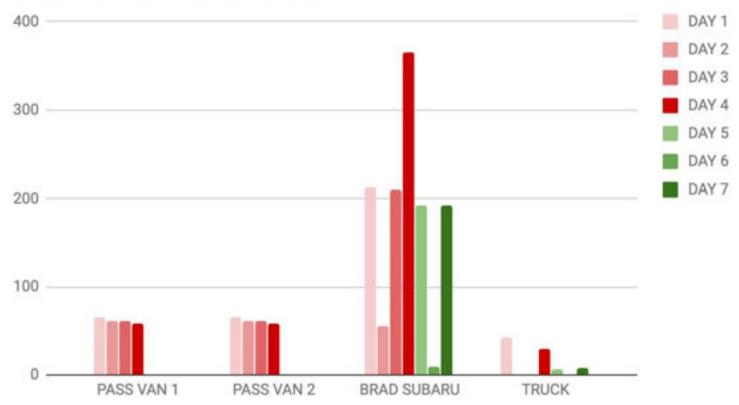
Subway:

Transportation was mostly via York St subway station. Extremely convenient. Travel waste at a production low.

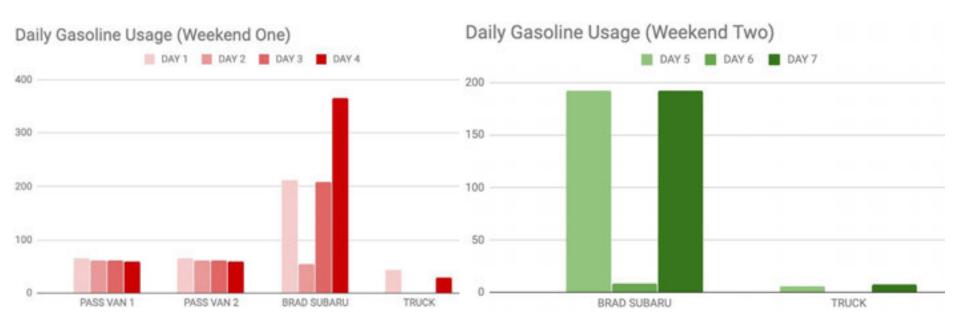




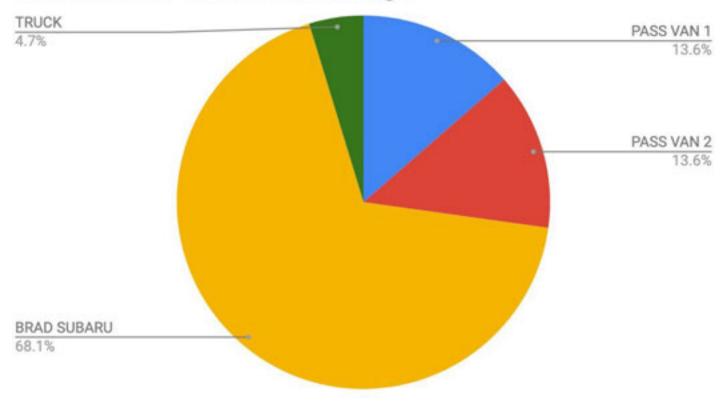
Daily Gasoline Usage Chart



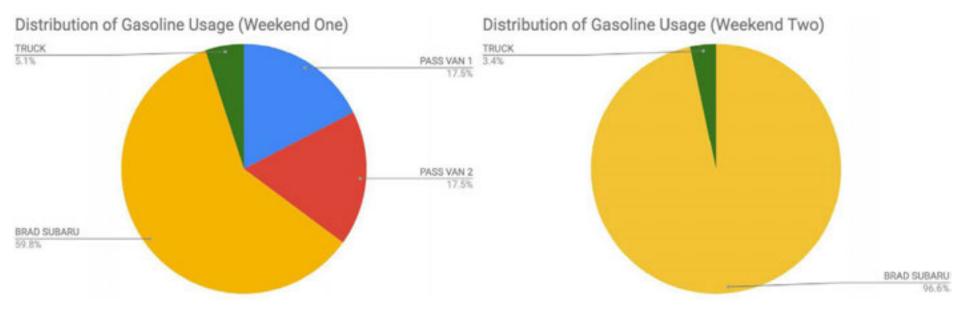




Distribution of Total Gasoline Usage







POWER USAGE

Weekend One (NewRochelle, NY)

11.02.18 - 11.05.18

Location #1:

233 Broadview Ave, New Rochelle, NY 10804

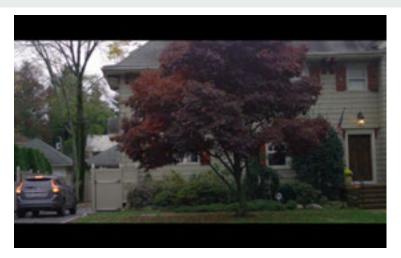
- 15,246 squarefeet
- 4 bed, 3.1 bath
- Two floors, basement

Location #2:

Siwanoy Country Club

351 Pondfield Rd, Bronxville NY 10708

- Estimated 9,500 square feet
- Formal dining room, banquet room, 2 bars, great room, outdoor dining





POWER USAGE

Weekend Two (Brooklyn, NY) 11.15.18 - 11.17.18

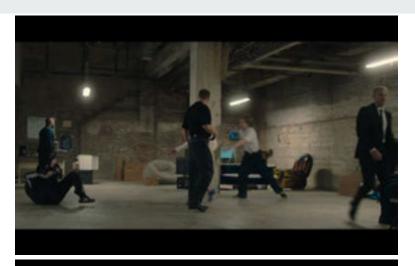
Location:

37 Bridge St, Brooklyn, NY 11201 Apartment building unfinished basement

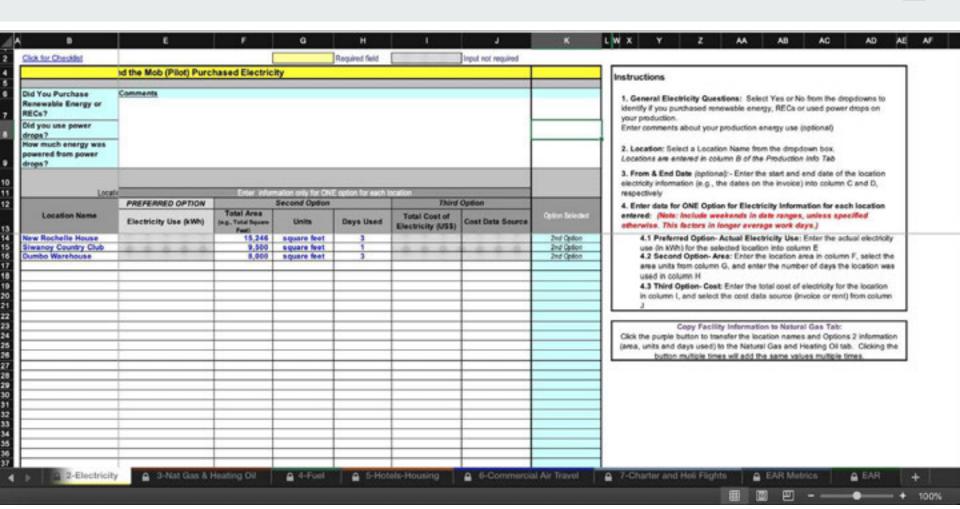
- 8,000 square feet
- 2-floor basement

Main Problems:

The production had no accurate way to calculate exact energy/electricity usage of the production. Therefore, we will be using the PGA-approved second method of calculation: by area size of location.







CARBON FOOTPRINT SUMMARY

As per PGA-approved Environmental Accounting Report Calculator

Environmental Accounting Report

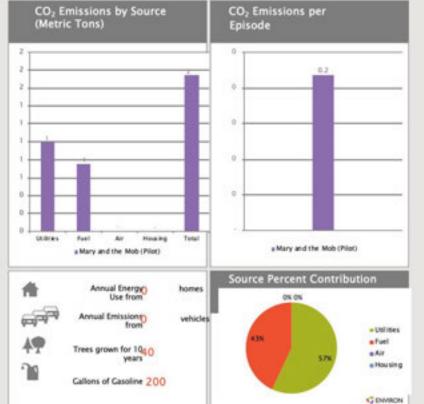
Carbon Footprint Summary

Mary and the Mob (Pilot)

Total CO₂ Emissions

2 Metric tons



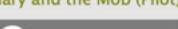


Environmental Accounting Report

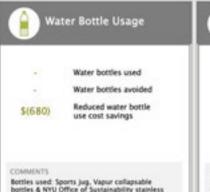
Mary and the Mob (Pilot)

Additional measures or challenges:

Sustainable and organically sourced make-up and snacks throughout the shoot.







steel bottles.



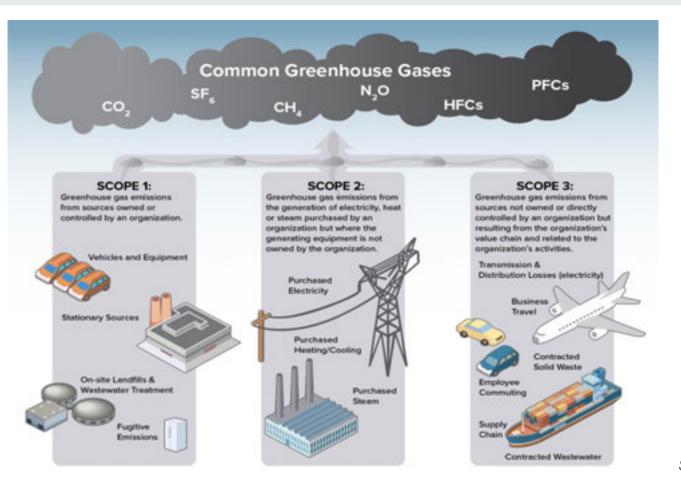
Donations

COMMENTS

Little to no leftover food on set due to zero-waste policy.

CARBON NEUTRAL

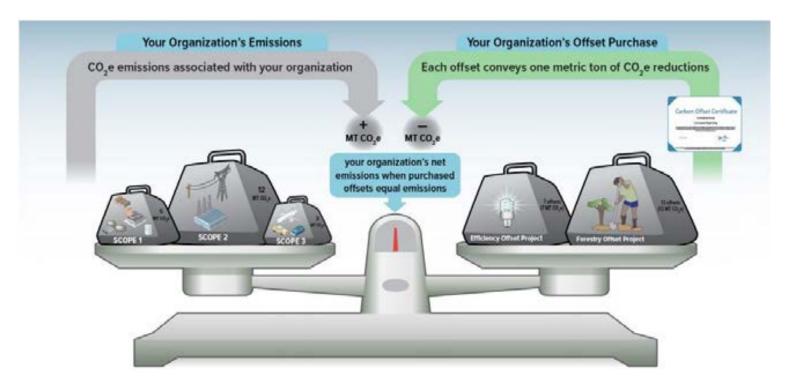
Offsets vs Renewable Energy Certificates (RECs)



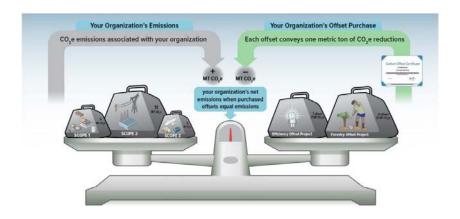


Basic Differences	Offsets	RECs
Unit of Measure	Metric tons of CO ₂ or CO ₂ Equivalent	Megawatt hours (MWh)
Source	Projects that avoid or reduce greenhouse gas (GHG emissions to the atmosphere	Renewable electricity generators
Purpose	Represent GHG emissions reductions; provide support for emissions reduction activities; and lower costs of GHG emissions mitigation	Convey use of renewable electricity generation; underlie renewable electricity use claims; expand consumers' electricity service choices; and support renewable electricity development
Corporate GHG Inventories and Reporting	Reduce or "offset" an organization's scope 1, 2 or 3 emissions, as a net adjustment	Can lower an organization's gross market- based scope 2 emissions from purchased electricity
Consumer Environmental Claims	Can claim to have reduced or avoided GHG emissions outside their organization's operations	Can claim to use renewable electricity from a low or zero emissions source

SELECTED STRATEGY: OFFSETS



SELECTED STRATEGY: OFFSETS



- Availability of offset calculations through the Green Production Toolkit
- More suitable for scale of student set (Scopes 1-3 instead of just Scope 2)
- More research needed for RECs' applicability to student sets

2 METRIC TONS OF CARBON

Selecting a carbon offset project on the basis of our two biggest contributors: electricity and fuel

ELECTRICITY

One metric ton for a renewable energy carbon offset project



A SIGN IN

COOL EFFECT

WHY CARBON

FOR BUSINESS

PROJECTS

ABOUT US V

NEWS Y

- Costa Rica

Renewable Energy Wind Turbines

Help supply renewable energy to thousands of Costa Rican families with the construction of wind turbines.





WHAT IT DOES

HOW IT WORKS

WHO IT HELPS

WHY WE CHOSE THIS PROJECT





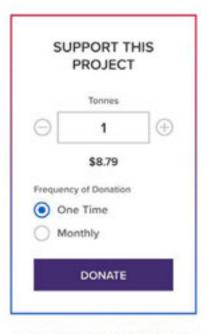
What it does



When Mother Earth breaks wind, turbines generate renewable energy, supplying clean energy to thousands of Costa Rican families. This reduces both greenhouse gas emissions and the country's

reliance on fossil fuels. It also benefits the local economy by adding jobs and education. Now that's wind power to the people. Bottom Line: Help the Los Santos Wind Power Project provide renewable clean energy to families while helping the local community.





WHERE DOES YOUR MONEY GO?



Benefits

- Provides clean electricity for 50,000 people and 10,000+ households in rural Costa Rica
- Prevents 11,000 tonnes of CO₂ from entering Earth's atmosphere every year
- Project proceeds flow back into the community in this impoverished area and help renovate schools and provide public lighting and services
- Project offers environmental and renewable energy education to people from regions across Costa Rica

Challenges

- Expanding the project is costly and complex
- Building turbines in Costa Rica's mountains can be a long process and may include clearing land

FUEL

One metric ton for anitrous oxide carbon offset project





COOL EFFECT

WHY CARBON

FOR BUSINESS

PROJECTS

ABOUT US

NEWS

- United States

Nitrous Oxide Abatement

When fertilizer is manufactured, it gives off one of the most powerful of all greenhouse gases—N₂O. This project supports the abatement of N₂O by separating it into its components; nitrogen and oxygen.



WHAT IT DOES

HOW IT WORKS

WHO IT HELPS

WHY WE CHOSE THIS PROJECT





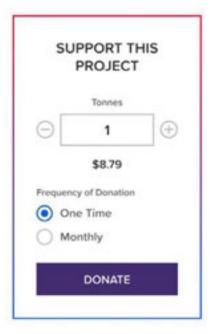
What it does



You may know nitrous oxide as laughing gas, but it is no laughing matter, N2O is a greenhouse gas over 300 times more powerful than CO2 in holding heat in our

atmosphere, is destructive to the Earth's protective ozone layer but its emissions are unregulated. This project supports the installation of a proven catalytic technology that reduces N₂O emissions. N₂O abatement is a voluntary, vital and worthwhile investment that improves our environment and keeps our farms productive. Bottom Line: CF Industries, by installing this technology, is stepping up to do the right thing, even though government regulations do not require it to do so.





WHERE DOES YOUR MONEY GO?

Benefits

- Reduces harmful N₂O emissions (310 times the global warming potential of CO₂)
- \$600,000 in profit generated from previous credits has been donated to Future Farmers of America
- CF Industries has agreed to give 100% of the proceeds net of \$1 per credit, which goes to the project developer, to The Nature Conservancy's project to decrease nutrient runoff from fertilizer use into the Mississippi watershed

Challenges

- Monitoring and reporting requirements are strict and complex
- To install this technology, the plant needs to be temporarily shut down



SOCIAL REPORT

Observations/Pow Wows Producer POV

Crew:

Freshmen PAs and crewmembers more open and interested to sustainability efforts. Junior/Senior crew more set in their ways.

Many on-set sustainability discussions.

LOVED the Vapur reusable water bottles.

Received several consultation requests after project success.

Cast:

Organic makeup actually improved skin condition of actors (they even asked for recommendations!).

Food:

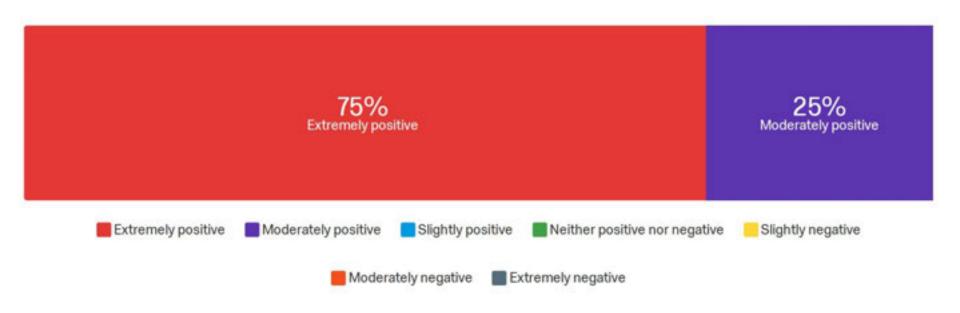
Organic crafty and crew-cooked meals improved morale and reduced after-lunch slump considerably.



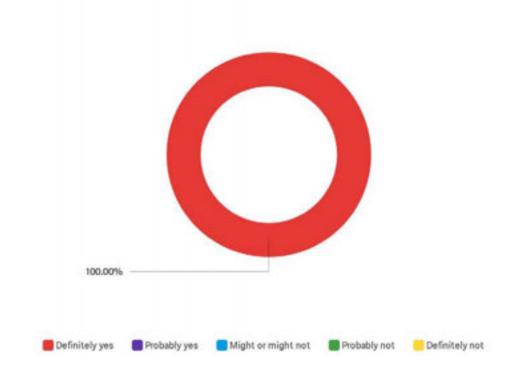
SOCIAL SURVEY RESULTS

Cast and Crew responses

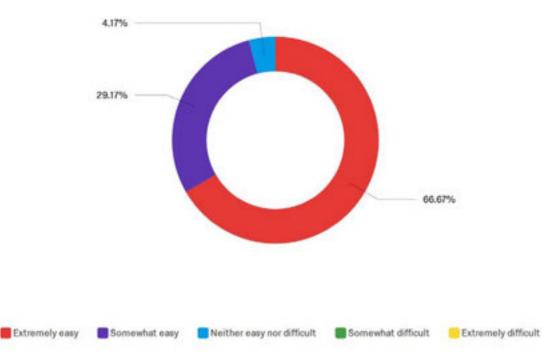
Q1 - Overall, how did you feel about your experience working on this set?



Q2 - Did you notice any of the Sustainable initiatives being implemented on set?



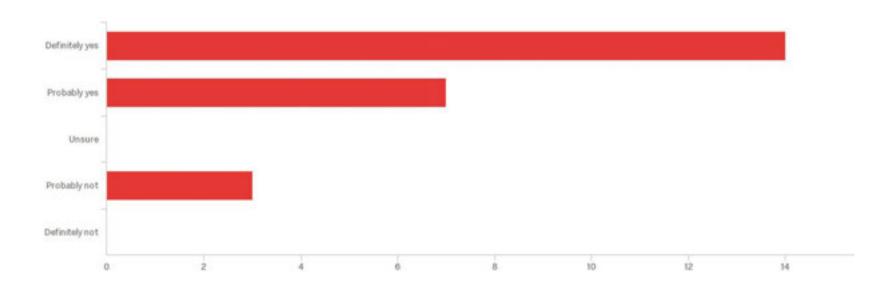
Q3 - How easy was sorting and disposing of waste to accomplish?



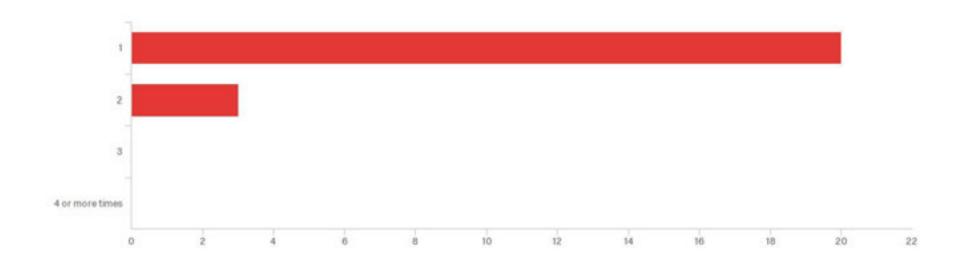


Q4 - Did you make changes to your normal routine that were more sustainable on this

film set?



Q5 - Including this film, how many times have you been on a Green Film Set?



Always is. I think we did have some leftover food.



Q6 - Was there something wasteful on the set that could have been avoided?

Energy saving & implementation (lights on in bathroom, etc)	
Not that I can think of!	N/a
nothing	No
Possibly cutting back electricity usage?	Coffee cups- reusable coffee cups?
Not that I remember.	there were too many people
Таре	Rarely
Not really	N/A
no	



Q7 - What is a Sustainable practice you think should be implemented on a future set?

Sustainability PAs
Having the AD or Producer continually remind Camera, Sound, and G+E to unplug equipment that is fully charged.
compost, reusable water bottles
LED lights to save energy
getting rid of plastic bottles
Using reusable water bottles and recycling.
Water Bottles
Using compostable/reusable utensils and plates
water bottle
Giving everyone a reusable water bottle with the ability to refill is as opposed to buying plastic water bottles.

Source: Bradley Sachs



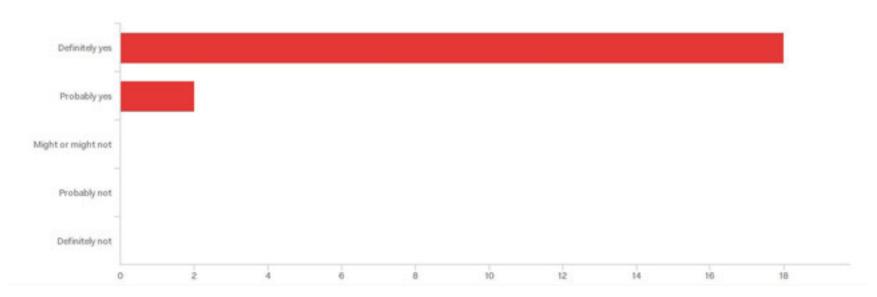
Q7 - What is a Sustainable practice you think should be implemented on a future set?

Possibly ensuring there is more than one recycling bin for the whole set, there was a time when it got moved and many people were confused.
Giving out individual water bottles
Reusable clip on waterbottles, sorting of waste
Absolutely
refillable water bottles and biodegradable utensils would be easy enough to practice on any set
Measuring total electricity used
no single use plastic
Composting, separating recycling from trash.
Crew members should bring their own non-plastic water bottles.



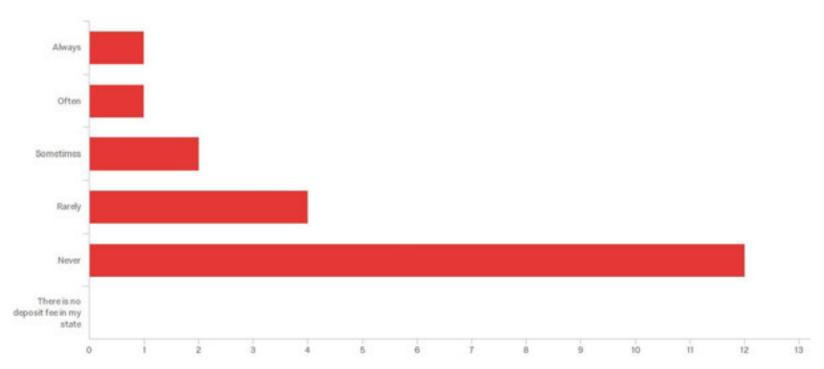
Q8 - Is sustainability something you think you would like to see on sets that you work in

the future?

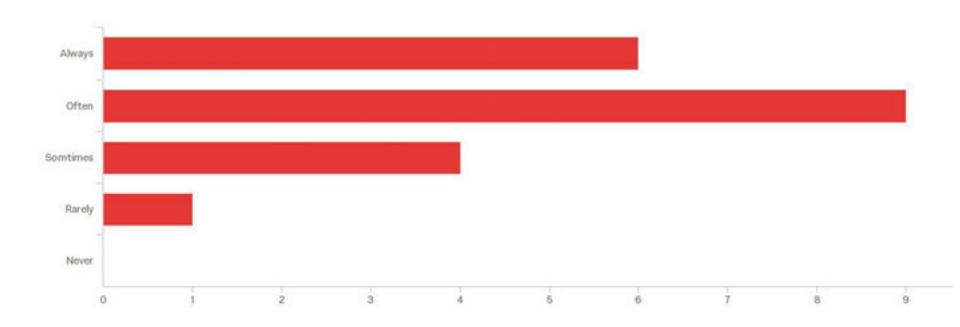


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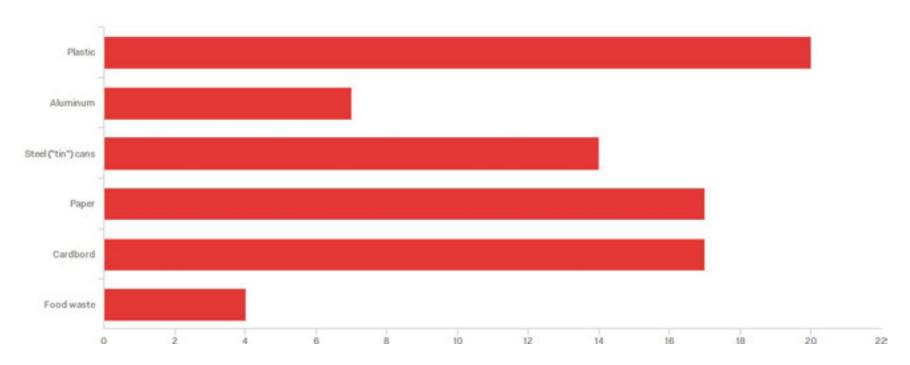
Q9 - How often do you return beverage containers to recoup the deposit fee?



Q10 - How often do you recycle at home?



Q11 - What materials do you Recycle/compost at home? (select all that apply)



Source: Bradley Sachs

RESOURCES & MOTIVATION

PGA-APPROVED RESOURCE

Green Production Guide 01

Featuring nearly 2,000 companies that provide sustainable and energy saving products and services for film, television and commercial productions, The Green Production Guide aims to take all media green one set at a time.

Data Generation and Recording:

The Toolkit provided contains the PEAR Carbon Calculator, a pre-formulated Excel sheet used by many large film productions. This toolkit also contains the PEACH Best Practices Checklist, letters to the production, and tips for productions.







Call Sheet Green Tips and Facts

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Resignation are appropriate for the latest and for many factors.

for any latest series because the above of the above that the later when the same at the later with the later

Name Andreador & Recording

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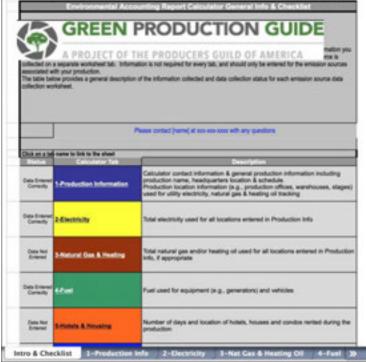


Charles and concurrent areas













GREEN SEAL POTENTIAL



The EMA Green Seal is a recognition program honoring progress in sustainable production. The Program rating is determined on a scale of 200 points. A minimum threshold of 75 points must be obtained in order to receive EMA Green Seal recognition. The rating is based on a self-assessment by the production company on how well it complies with the Program criteria developed by EMA and the sustainability departments of the major studios. If you'd like to apply for an EMA Gold Seal a threshold of 125 points must be obtained.

Click the EMA icon to find out more about Green Seal Applications.

It is not necessary for productions to submit for a Green Seal after filling the PEACH worksheet.

See if you qualify based on points earned from PEACH (min. 75) and email the PEACH to awards@ema-online.org.

How to send this form

- 1. Sending this form is an OPTIONAL and additional step after completing PEACH worksheet
- 2. If you received over 75 points as indicated in your PEACH Dashboard, you can submit for a Green Seal and 125 points for EMA Gold Seal
- 3. Email your completed copy of PEACH to awards@ema-online.org.
- 4. To learn more about EMA Green Seal, click on the logo.

SUSTAINABILITY SUPERVISOR

SUSTAINABILITY SUPERVISOR

A dedicated position in charge of organising sustainability efforts in pre-production and production by:

- Collaborating with each department and location owners to integrate sustainability
- Implementing sustainable efforts with help of set PAs and department heads
- Recording and processing data

At the early stages of implementing sustainability in productions, a dedicated position is needed as a consultant. As most seasoned student film crews have carried out set procedures in certain ways, a point-person alleviates the stress of an entirely different work environment.

Goal:

To canonize sustainability efforts on set so each department carries out their respective duties, reducing the reliance on a sustainability supervisor OR to partner with CAS.

BUDGET

10.25.2018 REVISION

BUDGET

- · Craft services (crafty) items could fluctuate based on cast and crew allergy and dietary restrictions.
- We've included crafty in the budget due to the wasteful nature of pre-peckaged snacks on set.
 Though there are pre-packaged items on the budget, we have tried to make sure the product is at the very least organic, and we would purchase items in bulk as much as possible.

Category	Goods/Services	Vendor/ Payee	Cost (each)	Quantity	Total Cost
Waste	Annie's Organic Bunny Baked Snacks 1.0 oz, 36-count	Costco	\$13.99	2	\$27.98
Waste	Kirkland Signature Organic Fruity Snacks 0.8 oz, 72- count	Costco	\$16.49	2	\$32.98
Waste	Kirkland Signature Organic Animal Crackers, 64 oz.	Costco	\$11.79	1	\$11.79
Waste	Clif Kid Organic ZBar, 1.27 oz, 34- count	Costco	\$19.99	2	\$39.98

Waste	Made in Nature Toasted Coconut Chips 3 oz., 6-pack	Costco	\$21.99	3	\$65.97
Waste	Miscellaneous fresh fruit	Costco	To be discussed with Line Producer	To be discussed with Line Producer	\$200 (Approx.)
Waste	BPA-Free Customized Water Bottles	Eco- Marketing Solutions	\$5	50	\$250
Waste	Reusable Containers (mason jars, tupperware & professional sports jug)	Amazon	To be discussed with Line Producer	To be discussed with Line Producer	\$100 (Approx.)
Waste	World Centric's Biodegradable and Compostable Wheat Straw 9" Plates (Package of 200)	Amazon	\$36.84	2	\$73.68
Waste	100% Compostable Forks Spoons and Knives Cutlery Combo Set (380 pc.) with Convenient Tray by Ecovita	Amazon	\$54.56	1	\$54.56
Waste	Non-toxic detergent	Amazon	\$25.64	2	\$51.28
Waste	Eco-Smartbags Biodegradable Trash Bags, 13-Gallon, 24- Count Boxes (Pack of 6)	Amazon	\$41.34	2	\$82.68

7 days	\$20 per 3,000lbs of carbon	Terrapass	Third Party Sequestration Credit	Power Usage and Travel
7 days	Canon 5d MII w. 20-70 f 2.8 L lens - \$50/ day	В&Н	rops and Video: Production	Equipment, Props and Costumes
	Shoulder Rig - \$25/day			
	Battery Powered Portable 1k Led \$60/Day (x2)			
	Zoom H6n, Shotgun Mic, Boom Pole, XLR Cable - \$50/day			
	Director & PA food & transport \$100/day	food & transport -		
	Total Daily Expense - \$345/day			

Equipment, Props and Costumes	Behind-The-Scenes Video: Post Production	Freelance/ Student	\$300	N/A	\$300
Equipment, Props and Costumes	Makeup	The Body Shop: Vegan Range	To be discussed with Hair & Make- Up	To be discussed with Hair & Make- Up	\$300 (Approx.)
Equipment, Props and Costumes	AmazonBasics AA Performance Alkaline Batteries (20-Pack)	Amazon	\$8.54	1	\$8.54

Total Approximate Project Cost: \$4,250



Burden of Research

We have found that in trying to achieve carbon neutrality, a lot of cost had to be absorbed in the pursuit of a strategy. However, when the budget is broken down, the only true costs to production are:

- Reusable water bottles & sports jug
- Compostable utensils & plates
- Eco-friendly trash bags & cleaning supplies
- Coffee percolator

Other costs such as organic makeup and rechargeable batteries may be absorbed by respective departments.





^{*}Not including documentary budget and organic crafty

THE COST OF SUSTAINABILITY

Comparing budget items of a sustainable set with a normal student set of a similar scope

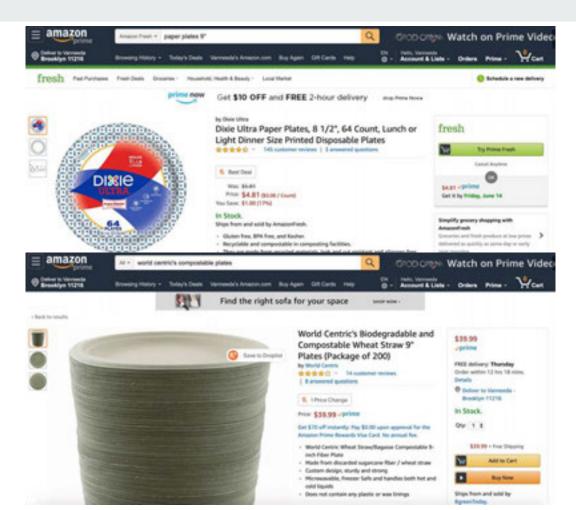


Pack of 24 Poland Spring x 3 packs a day x 7 days of shooting = \$126.00

VS

50 Vapur Bottles (with Vapur contact from showrunner) = \$109.75





Dixie Ultra Paper Plates x 500 count = \$40.00

VS

World Centric's Biodegradable Straw Plates x 500 count = \$100.00

Note: NYC composting sites do not accept compostable plates and utensils

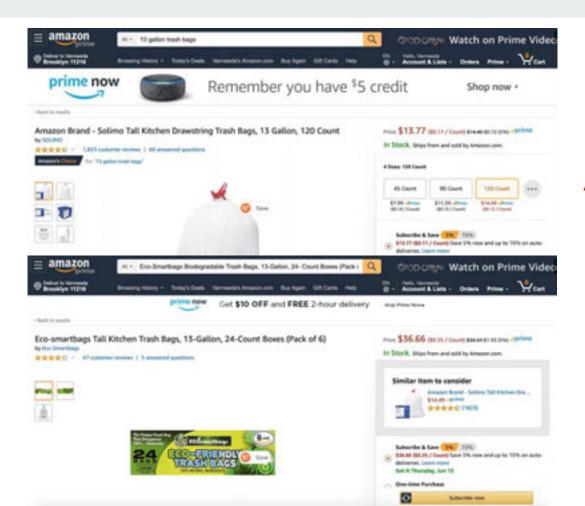


Plastic Silverware x 1.5 (One order for Weekend 1 & half order for Weekend 2) = \$26.99

VS

Ecovita Compostable Utensils x 1.5 (One order for Weekend 1 & half order for Weekend 2) = \$81.84

Note: NYC composting sites do not accept compostable plates and utensils



Amazon 13 Gallon Trash Bags \times 2 = $\frac{\$27.54}{}$

VS

Eco-smartbags 13 Gallon
Compostable Trash Bags x 2 =
\$73.32

MOVING FORWARD

INSTITUTIONALIZATION

to maintain a sustainable set. We

understand going carbon neutral is an

expensive endeavour, so suggestions will be

as cost-effective aspossible.



Environmental Studies and Office

Sustainability Supervisors.

Sustainability to partner with potential

CLOSING STATEMENTS

TEAM

<u>Vanneeda Keowmang:</u>
Projectleader, pre-production,
report generation

Brad Sachs:

Sustainability Supervisor, environmental science consultant, documentary filmmaker

Heather Vaxer: Liaison between Green Grant team and production







THANK YOU