

How Green was the Green Man?

An Exploration of Burning Man's Efforts to Become Environmentally Friendly

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(shorter version to be published on [Alternet](#))

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Introduction [[top](#)]

Can 45,000 people journey vast distances to a barren, lifeless desert and participate in an environmentally sustainable festival devoted to burning stuff? As strange as it sounds, during the last week of August 2007, the annual hedonistic celebration [Burning Man](#) attempted to do just that: go 'green.'

What has Burning Man actually done to merit its theme, [The Green Man](#)? Is Burning Man making serious efforts to green itself, or is it all a front, a form of greenwashing? How will the Burning Man experience affect burners, and will they bring it home into their lives? What does the Green Man art theme say about the state of civilization and its trajectory? It was in search of answers to these questions and others unimagined that the author trekked to the playa this year.

A certain segment of the Burning Man community has long made respect for the environment a high priority. For years, event organizers have promoted a "[leave no trace](#)" ethic and encouraged all participants to scour campsites down to the tiniest scraps. The under-appreciated [Earth Guardians](#) work year-round to keep the playa clean and tidy, and ensure that "burn scars" don't deface the desert. [Burners Without Borders](#), a group of volunteers vowing to "bring it home," journeyed to the Hurricane Katrina destruction zone in 2005 to provide an estimated one million dollars worth of free home demolitions to help property owners clear away wreckage from the disaster. Last year, the same group [salvaged six semi trucks full of reclaimed wood](#) from the festival and donated it to

Habitat for Humanity. (This year, a Burning Man spokesperson says it was even more).

But in the past few years, participants have demanded a much higher level of environmental responsibility from their beloved festival. Just keeping the desert free from [“MOOP”](#) (matter out of place) was not enough.

According to [Kachina Katrina Zavalney](#), volunteer coordinator for Burning Man’s Green Team, at last year’s burn, “I was walking around feeling unhappy – not like I had a chip on my shoulder, but more like, ‘Gosh, people think this place is so progressive, but yet it smells so bad from all the generators, it’s so loud, there’s not a lot that people can say about the environmental efforts or what’s being done out here.”

An alliance of like-minded volunteers converged around the Green Theme for 2007. The task was daunting.

“The idea of building a sustainable, temporary city in the middle of nowhere on its face is preposterous. So you have to start from that point of view. There’s no frame against which our work here can be compared except ourselves...because no one else does what we do. Given that, I think what we’ve been able to accomplish is extraordinary,” said [Tom Price, environmental manager](#) for the Green Man theme for the Green Man theme.

Nobel peace laureate [Al Gore](#), whose cable network [Current TV](#) was onsite to document the event, expressed optimism about the playa’s green prospects.

“I think it’s just great that the people of Black Rock City have made the Green Man this year’s theme for Burning Man, and I hope that folks will use [TV Free Burning Man](#) as a platform to spread that great message even further,” said the former vice president.

“Because we build the city from the ground up we’re able to look at everything and change whatever we want to on a dime. So, we’ve looked at transportation, solid waste, materials, energy, art, media, everything, all aspects of the event,” Price added.

Analyzing the environmental sustainability of a city of 45,000 people is a monumental task. Given space constraints, we’ll examine a few elements: electricity, water, fuel, carbon, education, and the future.

Electrifying the Playa [[top](#)]

[Solar photovoltaic](#) (PV) electricity is one of the best-known, venerable “green” technologies, and deservedly so. It receives across-the-board plaudits from environmentalists (unlike controversial biofuels) and quickly becomes a net-positive energy source: after only a year, a solar panel typically generates more energy than was consumed in its manufacture.

This year, [Burning Man LLC](#) (“the LLC”) worked with a team of Berkeley engineers from [The Shipyard](#) to install a 30-kilowatt solar array in the shape of the [Native, sacred Zia Sun symbol](#). The array powered the pedestal underneath the iconic man statue and the surrounding Green Pavilion. (Such an array could power approximately 10 to 20 San Francisco homes). Batteries stored extra energy during the day so the man could glow green all night.

The array came in handy when the man burned unexpectedly early during the Tuesday lunar eclipse: the array powered the tools needed to rebuild the man.

In the spirit of Burning Man’s “gift economy” – where playa-goers are encouraged to give for the sake of giving without expectation of return – a wealthy burner named Matt Cheney, who runs a green-technology venture capital firm, fronted the funds necessary to help the LLC gift the array to the city of Gerlach, Nev. to power a school. By November, the LLC plans to donate 120 kilowatts worth of solar arrays to Gerlach and 60 KW to Lovelock.

Cheney only has to front the money for the panels; most of the cost will be refunded by the state of Nevada, which offers sizable incentives for solar PV (nearly double California’s). Burners Without Borders signed up to provide the necessary labor to install the array.

Several theme camps also deployed solar PV, such as the Snow Koan Solar Camp which offered refreshing snow cones to burners as well as free electricity. A sign implored, “Come charge your: cart, scooter, buggy, laptop, camera, flashlights, cell phone, gameboy, DVD player, walkie talkies, iPod, tea kettle, toaster, snow cone machine, personal air conditioner, toothbrush, hair dryer, home theatre system, vibrator, robot pet, XP 238 space modulator, & etc.”

[William Korthof](#) of Snow Koan recognized that solar PV is out of reach for most theme camps, because few if any companies rent solar arrays. “The panels are expensive and the best way to make them cheaper is to keep them in permanent use. They’re kind of bulky, so if you stick them on the back of a truck, they’re a little bigger than a normal generator,” said Korthof.

Korthof, who is a professional solar installer, offered to rent the solar arrays to any camp that contacted him before the burn. He estimated the pricing to be equivalent to what a generator would cost.

Of course, while the solar arrays might generate clean power on the playa and relieve noise pollution, they'll never make up for the expenditure of fossil fuels required to transport them to the desert.

Meanwhile, Korthof talked about the importance of energy efficiency. "If you have incandescent light bulbs or halogen work lights, we try to get people to switch over to [compact fluorescent](#) or [LED](#) lights."

[Phil "Peef" Sadow](#), a Berkeley engineer who helped to install the LLC's solar array, observed that the festival has made strides but still has a long way to go.

"Center Camp [which is run by the LLC] uses old, incandescent lights...and a lot of the lights use 500 watts a pop. It's not very efficient. They are slowly investing in better lighting technologies; it's expensive and it takes time," said Peef.

Aliza Wasserman, founder of [Green Guerillas Against Greenwash](#), was disappointed to observe few electric vehicles on the playa, unlike the large number of gasoline-powered art cars (so-called "mutant vehicles"). She places blame back in the real world at the doorstep of [a San Ramon, Calif. oil company](#).

"Chevron bought the patent for a new type of battery for electric cars and shut down the battery company and did not allow the patents to be used by anyone because it was a huge threat to oil profits. That one act remains to this day the main challenge for transitioning to electric cars and keeps our society addicted to oil, which therefore threatens to be the nail in the coffin for humanity. And it's all because one company had the ownership of two different types of energy sources," said Wasserman.

"As a society, we should demand that the government not allow this type of joint energy ownership. We should clearly differentiate between the different economic interests of various technologies so that there is no mixed incentive and that doesn't keep our government from moving forward with the renewable technologies we need," Wasserman concluded. She also cited General Electric's investment in [dirty nuclear](#) and [clean wind](#) technologies as a problematic conflict of interest.

While electricity has been stymied in the auto sector, a new source of transportation power is gathering momentum at home and on the playa: biofuels.

Fueling Ecocide... [[top](#)]

While burner activists may agree that fossil fuel extraction and consumption is destructive, unsustainable, implicated in human rights violations around the world, a destroyer of wildlife habitats, and a contributor to global warming, nothing like a broad agreement yet exists in the burner community on what, if anything, should replace the fossil fuel regime.

Take, for instance, [biofuels](#) – fuels processed from organic matter. President Bush is high on ethanol these days, a corn-based substitute for standard gasoline that is highly controversial because it is usually made from genetically modified organisms and produces energy yields that are less than the fossil fuel required to grow it. (Thus, unlike solar photovoltaic, ethanol is a net energy loser according to Prof. Tad Patzek of UC Berkeley's Civil and Environmental Engineering Program.) As highly subsidized corporate farms grow more corn for ethanol and less for food, corn supplies dwindle and prices increase. Recent [tortilla riots in Mexico](#) have been traced to the burgeoning push toward ethanol.

Nevertheless, the LLC and individual burners have tried to find ways to procure environmentally and socially responsible biofuels, such as waste vegetable oil. About 85 percent of the LLC's generators were powered by biodiesel this year. According to Price, "We took [out] 11,000 gallons [of petroleum] that were coming from human rights hotspots like Saudi Arabia and Nigeria and instead we're running it off [french fry juice from Reno](#) – thanks, Reno!"

The [Sustainable Living Road Show](#) was one of the numerous burner encampments utilizing and promoting biofuels. The San Francisco-based group plans to travel around the country to demonstrate a variety of green technologies such as solar and wind power, as well as alternative medicinal healing. Their bus featured a colorful panoramic mural depicting a lush, green country setting and a harmless-looking grey city. A sign on the bus prominently proclaimed, "Runs on Biofuel!"

"As we're promoting biofuels, we're talking about ethical, sustainable biofuels, because not all biofuels are ethical or sustainable," said Road Show member Jonathan Youtt of San Francisco.

But Dr. Ignacio Chapela of U.C. Berkeley's Environmental Science, Policy, and Management program said that Youtt and other biofuel-promoting burners are playing right into the hands of international oil conglomerates that have recently embraced biofuels as a successor to fossil fuels.

“Even the use of the term biofuels has enormous propaganda value for the movement toward biofuels. [Burners] can be very responsible about which specific material they burn and where it comes from, but that's not the point. The point is this is a public event whose appearance is the most important thing. The propaganda value they provide with the word ‘biofuel’ is something that concerns me a lot because the vast majority of biofuel development is not socially or environmentally conscious. They’re playing with fire – propaganda fire – which is the worst kind of fire you can have around art,” said Chapela.

Biofuel controversy recently engulfed Chapela’s employer U.C. Berkeley when the “world’s number one public university” agreed to [accept \\$500 million from a private corporation, British Petroleum](#), to genetically engineer a “new generation” of biofuels. Hidden in the deal’s fine print were plans to enlist U.C. scientists to devise more efficient ways to extract oil reserves. The deal sparked ferocious opposition on the campus from students and faculty members such as Chapela, who see the deal not only as a dangerous disintegration of the university’s academic integrity and collaboration with a technology that has demonstrated negative environmental and social impacts, but also a kind of “prostitution” of the public university for the benefit of a corrupt, ecocidal private interest.

Palm oil plantations in Indonesia, Malaysia, and Brazil have been linked to [enormous deforestation](#), species loss, and impending [extinction of the orangutan population](#). According to Patzek, before the advent of biofuel plantations, Indonesia was number 28 in the world in greenhouse gas emissions; [now it is number three](#), behind only China and the United States. The activist organization [Biofuel Watch](#) also describes numerous human rights violations and death squad assassinations carried out by paramilitaries in the Global South on behalf of the oil conglomerates to expropriate indigenous land for biofuel cultivation.

As a result of the overwhelming negative indicators, the European Union is now considering a proposed moratorium on biofuels signed by hundreds of environmental pressure groups.

Are members of the Sustainable Living Road Show concerned about the possibility that their bus is a marketing vehicle on behalf of corporations such as British Petroleum?

Sonya Sophia Illig, who practices alternative medicine, was not disturbed by the idea. “That may be to our advantage in a way, where we are here to connect with those in power. And if they think that we’re helping them with their agenda, fabulous, that gives us a little extra ‘in’ to come in and say, ‘Guess what? We’re

here to come on in and you don't need to be afraid of us. See, biofuel! We're on the same team.”

Road Show compatriot Youtt added, “I certainly don't think I would be promoting British Petroleum. What they're doing is a greenwash spin on the backs of countless years of grassroots endeavors.... The way we could counteract the inadvertent support of a British Petroleum-based biofuel approach is to talk about sustainable biofuel and maybe that's what we need to paint on our trucks. So people ask, ‘What's the difference between sustainable biofuel and regular biofuel?’”

Illig chimed in, “Let's go get the organically grown golden spray paint and do it right now!”

Youtt admitted that not all the biofuel the Road Show will obtain on its cross-country trip is as innocuous as reclaimed veggie oil. And as Patzek has asserted, there's no such thing as scalable biofuels: if the U.S. were to switch its entire auto fleet to biofuels, there would not be enough land to grow both fuel and food. Because biofuel is so land- and energy-intensive, any attempt to scale it is done on the backs of the poor, who could no longer afford to eat. Other than reclaiming waste vegetable oil, which at maximum can fuel a tiny fraction of the nation's automobiles, biofuels would appear to be a dead end.

John Stayton of Dominican University's [Green M.B.A.](#) program commented on biofuels: “When we start developing solutions to our problems, it's very important for us to think systemically in terms of all the implications of our actions. Without being mindful of all of the impacts of doing that, then we're likely to create unintended consequences that could be as bad as the problem we're trying to solve. So we have to make sure we're thinking systemically and critically before taking action in a rash manner.”

...or Fueling Hope? [[top](#)]

Two experimental biofuel technologies were rolled out at Black Rock City: algae bioreactors and gasification. While neither played a role in greening the event, they served as previews of what the future might (or might not) hold.

Situated underneath the Green Pavilion, the [Chlorophyll Collective](#) displayed a truck-size “bioreactor” with algae in plastic tubes furiously munching away on carbon dioxide emissions from a generator. A sign characterized the technology as “The Single-Cell Solution for Global Warming: greenhouse-gas eating algae.”

According to Bayview resident Meg “Algae Girl” Bracken, director of the Chlorophyll Collective, “Algae can solve many of the problems of our industrial society. They can produce much more food, fertilizer, and/or biofuels per acre than any other crop, and they can be grown on wastewater or salt water, on marginal land, or even on the surface of bodies of water. Algae can clean water and air, and build soil. Many algae are packed full of vitamins, minerals, and other key nutrients (such as omega-3 fatty acids) and make excellent additions to the diets of people and animals.”

Bracken believes that if certain cost and technical barriers can be surmounted, algae has the potential to be a much more efficient source of biofuel than any other. “The amount of oil that we can harvest from algae is already much, much higher than the amount we can harvest from traditional oilseeds,” she remarked. Bracken proposes algae cooperatives as a means to drive down the cost of oil extraction and processing.

Bracken asserted that algae ethanol would potentially be a non-emitting, “closed loop” system: “The high amounts of CO₂ produced in the process of fermenting alcohol or ethanol can be fed directly to algae which then grows profusely and can be harvested to make ethanol.” She promoted algae as a potential salve to global greenhouse gas emissions.

“Worldwide fossil fuel combustion releases more than 30 billion metric tons of CO₂ into the atmosphere each year. This could all be offset with 0.5 million square miles of algae ponds, roughly one-third of the area of the Sahara desert. While decreasing consumption and increasing efficiency are essential for reducing and eventually preventing greenhouse gas emissions, advancing the art of algae cultivation to a state where it can become widespread may be the most realistic technique for removing accumulated greenhouse gasses from the atmosphere, undoing more than one hundred years of industrial excess,” Bracken postulated.

But UC Berkeley Professor of Geoengineering [Tad Patzek](#) characterized the Chlorophyll Collective’s ambitions as [wholly unrealistic](#). “While it’s true that because algae are not encumbered by roots and leaves they can dedicate more of their photosynthesis to growing, that at the same time is their weakness. They need to be suspended in three dimensions in water so they can receive unobstructed light. All these ponds that people are so cavalierly talking about must be very shallow – half a meter in depth – and therefore they must occupy enormous areas. So unless you have an enormous lagoon that’s hooked up to the sea or the ocean, you would never be able to keep these ponds operating, because, one, the water would immediately evaporate, and two, what does not evaporate would seep into the ground. The second problem, these algae don’t

thrive only on light, they also need to receive nitrogen, phosphorous, zinc, iron, and other materials that need to be delivered to a huge pond. There's a bit of a problem of delivering all these nutrients into very large areas. So you can see that when you achieve an area larger than a swimming pool, we're running into a problem," Patzek stated.

"Algae indeed are very useful at cleaning up sewage streams and can be converted into fertilizer, but that's on a relatively small scale and has very little to do with saving the planet from global CO₂ emissions. In order to absorb the emissions of a coal-fired power plant, you'd have to put a million of these bioreactors side-by-side. It's simply not scalable. People are ready to believe anything. Their deep wishful thinking has been confronted by reality in the case of corn and palm oil biofuels. People automatically reach for the next imaginary solution, and since algae hasn't been thoroughly tested yet, it's the next candidate," Patzek added.

Can Garbage Save the World? [[top](#)]

Gasification was the next entrant into Black Rock City's green science fair. Jim Mason, owner of Berkeley's The Shipyard art studio, showcased an art vehicle known as [The Mechabolic](#), a "trash-to-fuel land speed racer slug." The stupendous, creaky machine was overflowing with gadgetry, a green-tech geek's wet dream.

Powering Mechabolic is a technology that's as old as human societies: [gasification](#). Gasification is a process by which organic material is smoldered in a low-oxygen, high-temperature environment. In the case of Mechabolic, the resultant hydrogen is used to directly power an unmodified internal combustion engine. What's left at the end is a clump of carbon that can be plowed into the ground as fertilizer. (San Francisco mayoral candidate [Chicken John Rinaldi](#), who built a [gasified truck](#) based on Mason's schematics, calls it "plant crack.") Tom Price says that pre-Columbian Indians used to cut down organic matter in the Amazon basin, gasify it into ash, and fertilize the soil.

Thus, with gasification, a vehicle can run on almost any organic material, such as walnut shells or coffee grounds. Price sees gasification as the world's best hope to stop global warming and envisions a future when humans strip-mine landfills for fuel. Mason has made all of his gasification tinkering available to the world for free - open source - which befuddles the investment community.

According to Price, "In May, we took [Chicken John's gasified truck] to the Clean Tech conference in San José - hundreds and hundreds of V.C.s and C.T.O.s and all their multi-million dollar projects. And we pull up front and

Chicken stands in the back in a jumpsuit that says 'Café Racer Crew' on it and he's like, 'We're making open source, carbon-negative renewable energy running on garbage in your parking lot, and we did it with junk we found in our shop in two days. What have you guys got?' And they went crazy, and they kept asking him, 'What's your business model, what's your business model?' He said, 'It's not a business model it's art.' And they're like, 'What's the point of the art?' And he said, 'What's the point of politics? Politics is to divide people. What's the point of art? Art is to bring people together. You and I, we've been brought together by this art. Congratulations, I win, thank you, next customer.'"

On the playa, Mechabolic offered burners the unique opportunity to shove waste into a tank and watch, see, and learn how this both powered the machine and produced a potent fertilizer.

Mason reflected on his experience with Mechabolic: "I demonstrated how to make a carbon-negative flamethrower by combining a trash-to-fuel gasification system with charcoal-based agriculture. Yes, it is odd, but there is a way to 'burn things' that is better for the total carbon cycle than to do nothing. Whether this is meaningful or not has nothing to do the absolute carbon count of the project on the playa, of course."

Patzek is as skeptical about the future of gasification as he is about algae. "If we are running a car on a little bit of biomass to do the absolute minimum amount of driving, I'm all for it. Otherwise, it's another symptom of not understanding the scale involved." Patzek believes that the U.S. and world must radically reduce energy consumption and move toward zero-waste communities that live in harmony with nature's cycles. He says the truly green way for burners to get to the playa is not gasified cars, but cycling.

Whether algae or gasification plays any substantial future role in saving the planet – or greening Black Rock City – remains to be seen.

Drowning in a Sea of Plastic [[top](#)]

On the parched playa, water is perhaps the scarcest and most crucial resource. Every year, several hundred burners collapse from dehydration and end up in medics' tents on IV drips. "Drink before you're thirsty" is the official survival guide's most prominent guideline for intrepid burners. The alternative satirical playa newspaper [Piss Clear](#) derives its moniker from the same advice: drink enough water literally to piss clear.

Every year, burners haul hundreds of thousands of plastic water bottles to the playa -- everyone is responsible for his or her own hydration. However, is this

particular manifestation of “radical self-reliance” (a stated core tenet of the event) compatible with Burning Man’s efforts to go green?

Not according to the Green Pavilion’s own commentary on the threat of plastic waste. An installation entitled “How does our use of plastic water bottles contribute to the decline of the albatross?” proclaimed the [threat to avian life](#) posed by the ubiquitous bottles that all too often blow or wash into oceans from urban areas.

“[Ingestion of plastic waste](#) is a problem faced by many sea birds, particularly the albatross. As they scour the ocean surface for sustenance, they encounter all manner of plastic debris, often mistaking it for food. The plastic found in the birds’ gullets includes everything from Lego blocks and clothespins to golf balls and water bottle caps. These objects can perforate birds’ stomachs or cause them to choke or suffocate,” explained the installation.

According to the display, such waste has found a new home in the world’s largest dump – the Eastern Garbage Patch, a [floating garbage patch](#) located at the Midway Atoll halfway between California and Japan. It’s about twice the size of Texas.

In a recent [San Francisco Chronicle op-ed](#), Jared Blumenfeld of the City’s Department of the Environment and Susan Leal of the Public Utilities Commission articulated numerous critiques of water bottles: they can leach toxins into the water, are transported from all over the world (using enormous amounts of fossil fuels), and often contain water that’s of lower quality than municipal water sources. Plastic recycling is inefficient and polluting at best, and one billion bottles end up in California landfill every year. Ironically, plastic bottles leak toxins into the groundwater, harming the public water supply.

Can anything be done to green Burning Man’s water supply?

Burner [Matthew “Hitch” McDermid](#) of San Francisco believes so. He proposes that large theme camps could band together to purchase 500 or 1000-gallon containers and truck in fresh water from springs and aquifers in Lake Tahoe area or similar sources. Alternatively, he thinks that the LLC could build the cost into ticket prices and fully centralize water distribution. After all, the LLC already takes collective responsibility for ice sales, coffee sales, and excrement disposal on the playa via the Johnny-on-the-Spot latrines.

“Campers would only need one reusable water bottle...instead of disposing of upwards of 20 or 30 water bottles at the end of the burn,” said Hitch.

Price thinks Hitch's proposal would take Burning Man too far away from the ethos of self-reliance. "We could electrify the entire city, provide water, hand out blinky lights at the gate, we could do everything for people – have stacks of costumes and so forth. What does someone learn by doing that? Do you want to give them fish or teach them to fish?" Price asked rhetorically.

Hitch believes Burning Man needs to evolve from its current emphasis on individual self-reliance to an increased ethos of community self-reliance. "If there were a cultural shift in that direction, we could decrease our ecological footprint every year when we throw the event and increase awareness for people to live in a greener way throughout the year."

Hitch sees individual self-reliance as one of the world's most insidious cultural and economic memes that has destroyed not only the environment, but also people's experience of community, connectedness, family, and spirituality.

"We need to look at the impact of the tenet of radical self-reliance on the planet... Individuals are living alone – in their automobiles, in their apartments, and their homes – they do not have support systems like they had hundreds of years ago. It's contributing to a culture of loneliness all over the world...."

"What I'd like to see is a re-emergence of community: community that would create efficiencies in transportation, in food distribution, in the consumption of water, and other things that are going to reduce the impact on the environment, and would support the individual on a number of levels they need from an emotional, cultural, and spiritual standpoint," added Hitch.

Is it ironic that Burning Man identifies as a counter-cultural event, but in some sense replicates the dominant paradigm of individual as opposed to collective identity and action?

Price didn't see it that way, at least as far as water bottles are concerned. He talked up Burning Man's efforts to persuade area supermarkets to stock large-size water bottles as opposed to the smaller single-serve sizes, and notes that burners who want to could bring their own large, refillable water drums as Price himself has done. "It's not our job to be nannies or babysitters... I don't accept the premise that people can't be responsible for themselves," said Price.

Are Price's comments about the LLC promoting larger water bottles such an insignificant remedy as to constitute greenwash? Wasserman, whose campaign "[Let's Greenwash This City](#)" targets Pacific Gas & Electric's recent [propaganda onslaught](#) in San Francisco, isn't prepared to indict Burning Man.

“Burning Man is not an energy company. When PG&E claims to be environmentally friendly, that is a real risk to society’s ability to address the climate crisis because it deflects attention away from creating better laws such as [Community Choice Aggregation](#), which will move San Francisco to 51% renewable energy. Critiques of Burning Man not being as green as it could be fall into the camp of navel gazing. Don’t criticize this tiny little blip – look at your local government, what are politicians really doing?” Wasserman questioned.

Still, Miss Rosie from San Francisco, who discussed Hitch’s proposal with the LLC’s Green Team a few months before the burn, challenges the LLC to go further and ban the plastic bottles.

“The Earth is basically saying, ‘Hey, get your shit together or you’re not going to make it.’ A lot of people don’t get that because we’re in this little bubble of comfort and convenience. Everything is so accessible and easy for us, and disposable, and we can always get more,” said Miss Rosie.

At the heart of Burning Man’s water debate is a real-life question: at what point should government intervene to force change for the sake of the environment? At what point should legislators ban materials that uneducated consumers will continue to use endlessly, no matter how much education is offered to them? On the issue of plastic bags, San Francisco’s Board of Supervisors has taken the first step: [plastic bags will be banned](#) from all supermarkets by December 2007. Miss Rosie hopes to see disposable coffee cups follow the same path both in the City and at Burning Man.

If the Burning Man community seriously wants to see plastic water bottles go the way of the dodo - as its own Green Pavilion clearly implies - perhaps it will have to, as Gandhi said, “be the change it wants to see in the world.”

Meanwhile, back in the policy trenches, Wasserman wants activists to keep their eyes on the prize. “The climate crisis will not be addressed by people reusing their plastic bag one more time; it’s only going to be addressed by making a fundamental shift to our energy infrastructure, and that can only be done by changing our laws,” implored Wasserman.

Offsetting Apocalypse? [[top](#)]

Global warming is front and center of any environmental discussion these days. Thanks to Al Gore’s efforts, the problem has morphed in the public consciousness from an ignored creature to an unmasked, mythological hopeful monster determined to exact its price. However, the scale of the problem – and

the enormity of the transformations required to overcome it – have yet to be thoroughly explicated by Gore or most popular media.

Guardian UK journalist [George Monbiot](#) makes a valiant effort in his recent treatise [Heat: How to Stop the Planet from Burning](#) (South End Press). According to Monbiot, it is necessary to cut greenhouse gas emissions [an average of 90% in the developed world by 2030](#) or an apocalyptic scenario of runaway global warming will be unleashed.

Runaway global warming is when human-caused warming triggers environmental changes that lead to more warming, leading to further environmental changes and more warming - in other words, a positive feedback loop. For example, if the planet warms more than two degrees centigrade over preindustrial levels, [the Siberian permafrost is expected to melt](#), releasing 70 billion tonnes of methane from the western portion of the bog alone. (Methane is a greenhouse gas that traps heat 23 times more effectively than carbon.) This enormous exhalation would be equivalent to 73 years worth of human-caused CO₂ emissions at current levels – a disaster to say the least. In such a scenario, temperatures would immediately jump from two degrees over preindustrial levels to three degrees, and this would cause something else akin to the permafrost to disintegrate, notching another degree of warming, and onwards.

“Two degrees [centigrade] is the point beyond which certain major ecosystems begin collapsing. Having, until then, absorbed carbon dioxide, they begin to release it. Beyond this point, in other words, climate change is out of our hands: it will accelerate without our help,” Monbiot explains.

Thus, two degrees is a line in the sand we musn't cross. If we do, the best-case scenario is a nightmare of hundreds of millions of environmental refugees and vast swaths of coastal regions underwater from rising sea levels (including [half of Florida and large sections of the San Francisco Bay Area](#)). The worst case is the [end of the earth's capacity to sustain life](#).

Monbiot argues that we can avert eco-apocalypse only by an enormous transformation of our entire industrial infrastructure: massive public works projects to build public transportation, a complete replacement of our auto fleet with smaller, seldom-utilized electric cars, and a blanket of solar panels, wind turbines, tidal energy, and other renewable, sustainable energy sources across the nation and the world. According to Monbiot, cars powered by fossil fuels must be phased out as they cannot achieve the necessary emission reductions. Most environmentalists say [nuclear power is also out of the question](#) due to its connection to weapons and toxic waste.

What, therefore, is an effective way for burners to tackle their contribution to global warming? The [Cooling Man](#) project is an independent effort initiated by environmental scientists and economists David Shearer and Jeff Cole of San Francisco to persuade burners to purchase “carbon offsets” to cancel out their playa-related greenhouse gas emissions. As many frequent flyers know, carbon offsets are offered by various companies as a way to make up for the global warming-related impact of personal transportation and other activities. For instance, [Native Energy](#) offers to offset the two tons of carbon that a traveler emits by flying round-trip from New York to Reno (the closest major airport to Black Rock City) for \$36. The purchaser has the option to channel the funds into projects such as a wind turbine farm on Sioux land in South Dakota, or a rural Pennsylvania family farm methane-capture system that will generate electricity from manure.

Shearer notes the importance of purchasing offsets that create real change and projects that otherwise wouldn't have been funded. (Tree-planting schemes have a dubious reputation at best.)

“The opportunity is to be strategic and fact-based in how you use the offsets.... If every burner invested in .7 tons of carbon offsets, we'd be the first carbon-neutral city on the planet. If every burner invested in one ton, we'd be carbon negative,” Shearer claimed. Cooling Man reports that it helped to offset 780 out of the 33,250 estimated tons of greenhouse gas emissions generated by Burning Man 2007.

But are carbon offsets a legitimate way to stop global warming? According to Monbiot, no way.

Take, for instance, airplane travel: every year, over 6,000 burners fly across the country and the world to attend the event, billowing out tons of greenhouse gases. Monbiot reports that [airplane travel is the single most offensive and unredeemable sector of the economy](#). Unlike automobiles, there isn't even a glimmer of a green techno-fix: as the Intergovernmental Panel on Climate Change stated, “There would not appear to be any practical alternatives to kerosene-based fuels for commercial jet aircraft for the next several decades.” The only apparent option would be to switch from jets to [Zeppelins \(hot air balloon ships\)](#).

Heat states that if we wish life to continue on earth, we must renounce most if not all airplane travel – the runways will have to be closed. Protestors at London's Heathrow airport recently held a [Climate Camp](#), the world's first [nonviolent direct action against jet aviation](#).

Thus, according to Monbiot, to achieve the necessary 90% emission cut to stop runaway global warming we must *both* build wind turbines *and* stop flying. To do only one and not the other is to consign future generations (and perhaps ourselves) to a future that will make Katrina look like a minor weather event.

Monbiot argues that the danger of carbon offsets is that they could serve as [a modern “indulgence,”](#) invoking the 15th-century church scams wherein priests sold a clean conscience to sinning parishioners for a few ducats.

Shearer disagrees with Monbiot. “The difference is you actually do something that does reduce the amount of emissions that you release. Unlike absolving sin in the church, you are literally putting projects on the ground that have to happen.”

Revealingly, play a life imitated metaphor at the Green Man Pavilion’s [F.I.R.E. \(Future Impact Reduction and Education\) nexus](#). Established by students, alumni, and faculty of Dominican University’s Green M.B.A. program, the learning center prominently featured an “Eco-confessional booth” which implored burners to “confess your eco-signs and be forgiven.”

The author of this story stepped behind the curtain and begged faux-Father John Stayton of Dominican to forgive invented sins such as flying halfway around the globe for a brother’s wedding in South Africa, and collecting unlimited numbers of toys. The Father’s prescriptions generally focused on taking positive steps in other areas of life, but balked at challenging the idea of runaway consumption. (What in heavens would anti-consumerism preacher and long-time burner [Reverend Billy of the Church of Stop Shopping](#) say in response to such heresy? [What would Jesus buy](#), perhaps?)

“It’s a playful way of helping people to recognize that a lot of us who’ve had our awareness raised then carry around a sense of guilt of our own impacts. The fact is, everybody in our culture is having a larger impact than is really sustainable. We want people to become aware of their ecological impacts and process those feelings – but do it in a lighthearted way,” said Stayton.

In response to Monbiot’s muckraking of aviation, Stayton expressed concern that if he (in a priest role) offered such harsh information to confessors, it might turn them off to ecological lifestyle changes. “The best thing I can do...is have them find other ways in their lives to take actions they’re ready for and stretch them from there, but not by setting a bar that’s so high that they’ll have a negative reaction to it.”

If Monbiot's numbers are to be believed, just doing "good" is not enough: giving up big pieces of our fossil fueled lifestyles is necessary. For Monbiot, it is the wedding jaunts and family reunions – [the "love miles"](#) – to which we must bid *bon voyage*.

Father Stayton says we don't have to give up love miles so long as we do good deeds in other areas of our lives. "If in your heart, you feel like you're doing the right thing, then you have not been eco-sinning," he coos reassuringly.

Monbiot castigates such platitudes: "Our state of mind makes no difference to either exploited people or the environment. Thinking like ethical people makes not a damn [bit] of difference unless we also behave like ethical people."

[J. Karen "Velocity" Thomas](#) and [Colette "Happy" Divine](#), Los Angeles burners and proud owners of an electric vehicle who were featured in the documentary [Who Killed the Electric Car?](#), listened to a debate about the validity of carbon offsets between David Shearer and the author of this story (who argued Monbiot's position by proxy). They expressed openness to the idea of a move away from jet aviation and perhaps instead to an old technology: [Zeppelins \(hot air balloon ships\)](#), which were abandoned in the 1930s at the dawn of the commercial aviation age.

"What can we do to reduce our addiction to instant gratification? The idea of dirigibles, blimps, to travel across the world in a slower amount of time – yet still get there – well, that's fascinating. In some ways, we humans, as we move faster, we also have to be willing to move slower," said Velocity.

"Ultimately what it's going to take is not waiting for the will of the people, but legislating what the people will and must do. And slavery is a perfect example: was everybody on board with getting rid of slavery? Absolutely not!" stated Happy.

Which brings us to a broader question: what will actually be necessary to stop global warming? Monbiot's proposals make it clear that governmental intervention will be necessary – in addition to enormous new regulations, a [Sustainable New Deal](#), in this country and [throughout the world](#).

Berkeley geographer and historian Gray Brechin of the [Living New Deal Project](#) commented: "Our existence is threatened by climate change, and we need to mobilize millions of people to do what needs to be done. And capitalism isn't going to do that – it can't deal with the scale and it needs to make a profit, so it's going to require a publicly-financed effort. The New Deal provides a model."

But with over [50% of the U.S. budget tied up in the military](#), is it even possible? No way, says Brechin. “It’s such a perversion of our priorities...and an extravagant use of energy to maintain a global empire.” Indeed, Monbiot is harsher on war machines than any other sector: according to his analysis, we must choose between militaries and the planet.

Brechin is dubious that our current crop of politicians would have the chutzpah to push such a public effort. “We’re going in precisely the wrong direction.... For young people who don’t think history is important, they have no concept of what real leadership for the public good can accomplish because they’ve never experienced it. I don’t blame them for being cynical.”

Speaking of leadership, one of the biggest problems right now with global warming is the enormous gulf between what is perceived to be politically possible and what the science demands. No industrialized government in the world – [not even the marginally more eco-conscious ones in Europe](#) - has set an emissions reductions goal that would actually be compatible with the reductions necessary to stop global warming. No government proposes to slow the enormous growth in air travel, much less close runways. And according to Monbiot, [doing “something” without doing “enough” is ultimately equivalent to doing “nothing.”](#) That is to say, if we don’t do enough, we’ll still trigger the runaway climate change tipping point.

According to Shearer, average temperatures already hover at .8 degrees centigrade over preindustrial levels, with another .8 already loaded into the atmosphere based on extant emissions that have yet to fully attenuate. That means we have only .4 degrees to play with – and the drastic cuts and enormous transformations must begin *now*.

Monbiot’s calculations postulate that if we are to achieve the necessary 90% cut, every person on the planet must be allocated a greenhouse gas emissions budget of 1.33 tons annually. According to Cooling Man’s [estimates](#), the average burner emits .64 tons of greenhouse gas emissions traveling to and from and participating in the event. Thus, Burning Man participants blow nearly six months’ worth of emissions in *one week*. (As a frame of reference, one cross-country round trip flight more than exceeds the entire budget.)

“Any scheme that persuades us we can carry on polluting delays the point at which we grasp the nettle of climate change and accept that our lives have to change,” says Monbiot. “But we cannot afford to delay. The big cuts have to be made right now, and the longer we leave it, the harder it will be to prevent runaway climate change from taking place. By selling us a clean conscience, the offset companies are undermining the necessary political battle to tackle climate

change at home. They are telling us that we don't need to be citizens; we need only be better consumers."

Meanwhile, back on the playa, Shearer hopes that next year carbon offsets will be built into Burning Man ticket prices. Chicken John, on the other hand – who was scheduled to debate Shearer on the validity of offsets - thinks Mechabolic holds the answer. Virgin founder and billionaire Richard Branson has offered [a \\$25 million reward](#) to anyone who can devise a scheme to remove a billion tons of CO₂ annually from the atmosphere. Chicken says Branson owes Mechabolic creator Jim Mason a call. "Where's Mason's \$25 million, bitch?" Chicken cackled. (Perhaps Mason will face stiff competition: Monbiot's book could be entered into the contest as a proposal to ground Branson's Virgin Airlines.)

Green Living 101? [[top](#)]

Much could be said about how the LLC and many theme camps made valiant efforts to bring other environmentally conscious practices to the playa: solar cooking, solar hot water, wind turbines, greywater systems, composting, recycling, and a community bicycle program. However, these initiatives appeared to be confined to small corners of Black Rock City; for most burners, it was (wasteful) playa-life-as-usual. Many burners said that the green theme made little to no impact on their experience.

In truth, Burning Man is not and (for the foreseeable future) cannot be green: 90% of the event's reported ecological footprint is due to the enormous fossil fuel expenditure required to transport 45,000 people to a far-flung region that is not convenient to public transportation.

Even the man himself – though he glowed green at night – was less than environmentally friendly. Tom Price states that despite vigorous efforts, the LLC was unable to obtain an effective green neon glow material that did not contain mercury, a toxin with a reputation for inducing brain damage. (Price says that the amount was small enough not to pose a hazard.) Ironically, blue would have been a greener choice.

Most burners I spoke with – including Burning Man founder [Larry Harvey](#) – argued that the real value in the green effort was not in how it altered life on the playa, but how it might educate and influence people to change their lives and take action back home. Harvey conceived the theme as an exploration of "humanity's relationship to nature." One burner I met at Camp Hook-up's green building workshop said his boss had paid for his Burning Man ticket in order for him to learn how to make a resort chain in Arizona more environmentally

sustainable. Solar PV engineer Peef reported several inquiries on how to install solar panels back home.

The Green Pavilion was closed for more than half the festival due to [the premature immolation](#) and Burning Man's prioritization of rebuilding the man. When the pavilion was accessible, kiosks and art displays offered a variety of educational resources: from descriptions of environmental crises, such as the unsustainable harvesting of hardwoods, to proposed solutions such as kite-powered cargo ships.

Whereas overt political debate was a rare bird at previous Burning Man festivals, the Green Pavilion prominently featured the game of [Myopoly](#), a parody of the board game Monopoly but with unsettling facts and figures about the consequences of capitalism and the U.S. Empire. Clayton Muller-Thomas of the [Indigenous Environmental Network](#) offered this unsettling warning: "The Kyoto protocol [a highly inadequate global treaty to reduce greenhouse gas emissions, which the U.S. has refused to sign] has put its faith in markets. How can we as indigenous people put our faith in these approaches when it is the market's unquenchable thirst for consuming resources that has caused the problem in the first place?"

"This has been an opportunity to have a public conversation. More people are talking about this issue than I've ever heard before, and that might even offset [Burning Man's] impact," said LLC spokesperson Andie Grace. "I don't think we're in such dire circumstances that art has become irrelevant."

As is always the case at Burning Man, art played a prominent role in exploring the theme. Karen Cusolito and Dan Das Mann's *Crude Awakening* made the most magnanimous statement about the environmental trajectory of Western Civilization ([click here for separate story](#)).

One of the author's favorite installations was a plastic sculpture of a human-sized corn husk with a vaguely feminine face and body, which proclaimed in a chilling, computerized voice: "Human person, come closer... I am experiment in genetics... I am the smartest corn... When the wind blows, I pollinate... I hope to have many daughters... Would you eat me?"

Opportunities for education abounded all over the playa. One late night, as the author was pedaling around the playa – dominated mostly by the throbbing sounds of techno music and flashing neon lights – he caught a few scenes from Russel Berns's documentary [EcoSutra](#). The film proposes an integrated and holistic answer to the planetary crisis: the global creation of a network of locally organized, sovereign, sustainable, intentional communities underpinned by

permaculture and alternative energy design. Berns says that the latest permaculture science can rejuvenate twelve inches of topsoil in six years, whereas it would usually take the Earth 600 years to revitalize one inch. Bioremediation is another key to the *EcoSutra* future, such as using mushrooms to remove petrochemical toxins from the land. The film showcases Kibbutz Ketura, an Israeli village that invites Jews and Arabs to live onsite and learn sustainable living practices together. Along the same lines as *EcoSutra*, a kiosk describing famed green architect [William McDonough's proposal](#) for zero-waste intentional cities comprised of “buildings like trees” elicited oohs and aahs from passers-by.

Mechabolic artist Mason reflected on the Green Theme, “Burning Man is a yearly ritual space to contend, explore and mix whatever the issues of our contemporary concern. Somewhat like a secular religious festival for post-theists. Its effects, or lack thereof, are really outside of itself - somewhat like church, back when thinking people went to such. Therefore we should judge Burning Man’s success on this or any theme on how well it orchestrates this social and existential processing. No one asks if church is efficient or not. In general, it is highly wasteful in absolute terms. Kinda like Burning Man.”

“More generally, I find trying to run a green experiment in the midst of the most highly consumptive collection of creators to be a rich contradiction. A contradiction that is likely to produce things of interest. Green gestures are so often tinged with Ludditism, human loathing, and general defeatism. It is usually a narrative of ‘do less, be less.’ What happens if the people who are about ‘do more, be more,’ with a major theme of burning things, want to also be green? That’s a mess. It’s much more truthful to our situation. Thus why the theme was so rich,” Mason concluded.

Life After Burning Man [[top](#)]

Other long-time burners say they’ve had it up to here with Burning Man. Kachina Katrina reflected after the burn, “I saw a lot of participants not contributing to the whole green movement. I don’t think that there was a lot of care and consideration given by the organization.”

Kachina Katrina believed the LLC could have done a lot more, despite inherent limitations. “We all know it’s not an event that can be 100% greened, but judging by the participants’ take on it, it’s got a long way to go.”

Price was taken aback by Kachina Katrina’s criticisms. “There were four full-time employees - 15% of the total Burning Man staff - working on [greening the

burn]. Of course there's more that can be done, but I think we did substantive, far-reaching work."

For Kachina Katrina and other disaffected burners, it's off to...well... greener pastures. "Some friends and fellow colleagues in the greening Burning Man movement are starting a new festival called Water Woman – where they'll take all of these ideas and values we proposed to green Burning Man and incorporate them into a festival-like atmosphere. This isn't the only festival that is going to be more ecological – others such as Future Now, Entheon Villagers, and Symbiosis are creating eco-gatherings."

Kachina Katrina is pleased to have experienced some new eco-practices this year on the playa – she's planning to bring her updated greywater know-how to the kitchen at Symbiosis.

[Water Woman](#) founder and creator Ray Cirino, a twelve-time burner, talks about how different his baby will be from life on the playa. "Instead of building a city and tearing it down or destroying it, we're going to keep the city. Burning Man says leave no trace – every single drop of 'trace' we're going to be recycling or composting."

Cirino says the festival will be goddess-focused, "very yin oriented as opposed to the yang energy of Burning Man. And the primary goal is for people to be self-reliant with sustainable practices, particularly permaculture. [Permaculture](#) is our base, our core. Water Woman will set up Burning Man in a beautiful way – ours will be in spring, for growth, before the fall and the burning. We'll be building a food forest as well." Cirino reports that he's been flooded with volunteers and he hopes to hold the festival in Northern California as soon as late spring 2008, after Memorial Day.

Cirino says the Water Woman city will include a cultural and learning center, and be built on a depressed property that needs help. Cirino is especially looking for indigenous land and to resuscitate a watershed.

"People's ticket money will be an investment in their education, and also, they'll be able to come back during the course of the year to learn as much as they can," said Cirino. The festival will encourage children and family participation, will be promoted as totally substance-free, and all music will be unplugged. He hopes that after a five-year cycle, Water Woman will move to resuscitate other ecologically distressed properties.

Kachina Katrina, who recently moved into an eco-focused co-operative community in Oakland, concluded, "I think Burning Man is such a huge

distraction to people in their lives, it's an enormously wasteful party. I'm so thrilled to be back to my life – no more Burning Man. It's time to think about what's really going on on this planet. Bring it back home, to your home.”

At its core, Burning Man remains an event conducted largely without reference to the sustainable capacities of Mother Earth. Of course, the same could be said of Western Civilization.

Will Burning Man be remembered as one of the U.S. Empire's more profligate vomitoria, or as a transformative, radical community experience where the roots of an ecologically vibrant world improbably grew amidst the wreckage of modernity? If we are blessed, it will be both.

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About the author: Matthew A. Taylor is a UC Berkeley peace and conflict studies student who has installed solar photovoltaic panels on his roof and indefinitely renounced jet aviation.

He can be contacted via his [web site](#).

Also read Taylor's story on [Crude Awakening](#).