A

Recommendation for

An Environmental Production Code

Affecting International Filmmaking

By

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OVERVIEW

Filmmaking generates billions of dollars a year worldwide. Film industries are based in many countries and filmmaking activities take place in even more. And the finished products are consumed in more still. As such, the "movies" are a series of international industries that crosses boundaries in its financing, its production and its exhibition. Yet, unlike most other "industries," it is, on the whole, self-regulated. In fact, as makers of a "cultural" product, the many regulations it does face are often relaxed or non-existent, from looser trade barriers to environmental responsibilities.

In contrast to Hollywood's "environmental" image, the filmmaking process itself uses up enormous amounts of raw materials, gas and electricity, and generates massive amounts of garbage, pollution, and carbon-emissions, known to contribute to global warming. Despite worldwide efforts of environmental and film organizations to promote environmentally responsible film production, actually doing so remains voluntary and unregulated, leaving much room for improvement.

The question then becomes how to get a powerful, trans-boundary "cultural" industry, historically allowed to bypass formal regulation through initiating its own procedures, to "voluntarily" curb its harmful activities on a global scale.

The answer lies not in disrupting the customary arrangement but maintaining it. By implementing what would be essentially a voluntary environmental *reporting* system that self-perpetuates to the benefit of most members, improves the industry's status as an environmental leader, yet avoids imposing excessive restrictions that handicap the creative process or harm its bottom line.

Most filmmaking occurs outside of major motion picture studios, on location. A single film shoot on location can generate millions of dollars in revenue for a region. From the hiring of crew members, to the purchase of products and the use of facilities, filmmaking's economic impact multiplies beyond the actual dollars spent. Filmmaking can also be a boon for tourism, capturing an area's allure on film for all the world to see. The competition -- among cities, states, and countries -- for hosting film production is fierce. Countries attempt to lure productions away from other countries with incentives that range from luxuries and conveniences to financial tax rebates and incentives that can save a single production millions of dollars.

Many locations expedite the issuing of film permits in their eagerness to appeal to filmmakers, who choose where to film as much by the benefits behind the scenes as the scenery in front. In the process, environmental concerns are often neglected by both filmmaker and permit issuer alike.

Yet the permit issuing process may prove be the best opportunity for creating a self-regulating, "voluntary" industry wide environmental program – Yet despite attaching stricter environmental standards to film permits, it would primarily be permit-issuers handling the relevant details, as another incentive offered to filmmakers. In essence, filmmaking itself would not be regulated, only the governmental permits necessary for shooting on location. Combined with the relatively easier environmental recordkeeping of any studio shooting, a production would have what it needs to evaluated for an environmental rating.

This process profits both filmmakers and filmmaking's host locations (not to mention the environment). The hosts have an additional incentive with which to attract

lucrative filmmaking activity and filmmakers essentially relinquish responsibility for the details of being environmentally responsible and its recordkeeping. Yet the filmmaker benefits again in the long run when the film's quality rating affirms to the movie-going public that its maker's are environmentally responsible.

INTRODUCTION

This paper advocates a two-part plan to improve the quality of the filmmaking process on the environment, at the same time increasing environmentalism's public profile. Namely, by infusing "the environment" into a traditionally economics-driven process ─ location incentive programs and expedited issuance of location use permits ─ and then reporting and rating the results. Far from an economic threat (trade and the environment are typically in opposition; what benefits one is perceived to harm the other and vice versa), this system is instead likely to increase the output of goods and services in a film's host location. Meanwhile, producers might face only minimal inconvenience during production yet be rewarded with enhanced publicity.

Part I

The first step involves the creation and implementation of a voluntary ratings system that I call the Environmental Production Code (EPC). Essentially a voluntary "reporting" system, environmentally-relevant activities would be reported to an industry-based association which would then issue a "rating," which a movie could choose, again, voluntarily, to exploit in its promotion. An EPC rating would be based on 1) the total environmental impact generated by any particular film production, 2) minus any reductions in otherwise anticipated impact (to be determined from a "reference amount" based on industry standards). This system would encourage impact avoidance (i.e., having an industry standard for aluminum cans, a production would be credited for not

using any) and reward minimization and compensation efforts, such as recycling or carbon offsetting, in which a production can make up for its environmental harm by contributing an equal amount of environmental "good."

Essential to such a ratings system is the ability to quantify a film's various environmental harms for measurement against an established baseline, thus allowing for comparisons between projects despite distinct differences between films (e.g., budget, size of crew, number of shooting days, location). The baseline would be determined by: 1) systematically categorizing the entire range of filmmaking's environmental insults from garbage (paper for scripts, leftovers from meals) to gas and electrical usage (transportation, lighting, special effects) to the chemicals used in celluloid to damage to the land (many factors); 2) measuring and quantifying these impacts both *per production* and in order to create standardized *reference amounts* (such as by weighing garbage to keeping detailed transportation records); and finally, 3) recommending earth-friendly alternatives for each item on the list that filmmakers can use to reduce their impact and boost their environmental rating.

Such a detailed rating system would also need to develop a method of comparing the different categories of environmental impact against each other in a way that can unify an "Environmental Rating." For example, it would need to compare the relative value of recycling to energy usage to pollution to damages to land/plants/animals.[1] The resulting rating would be voluntarily placed on film advertising and promotional materials, similar to, and alongside, the MPAA rating. Although participation would be "optional", a film earning a high environmental rating would probably seek to capitalize on its achievement

[1] Whether or not a rating should be a simple seal of approval (e.g. "thumbs up" or "thumbs down") or, instead, hierarchical is probably irrelevant to achieving this programs objective -- improving filmmaking's environmental practices while increasing public awareness and interest in environmental issues.

by promoting it. (This differs from MPAA ratings, where a "G" is no more a feat than is a "PG" or an "R"). Similarly, a film warranting a poor rating might choose to reject its negative rating, refusing to saddle its promotion with any rating at all.

Such a system relies for its success on the internal pressure to conform as fostered by its members. In the movie business, this pressure extends beyond the threat of bad publicity. For example, motion pictures are not *required* to obtain an MPAA rating yet most exhibitors will not show an unrated film, effectively wiping out a picture's audience and, by extension, its bottom line.

The motion picture industry is notoriously influential worldwide -- affecting public opinion on issues both great and small, not only through the subjects of their stories but also the glitteringly seductive role-models whose conduct and opinions, both on- and off-screen, have informed societal behavior for over one hundred years. Entwining environmentalism with motion picture production, without encroaching upon creativity, should increase media attention and succeed in challenging the public to be more environmentally-sensitive themselves. In this way, a film is likely not merely to participate in an environmental ratings system but to endeavor for an environmentally positive production so as to impress its "consciousness" upon theatergoers.

Outside the range of this paper, as well as that of this theoretical rating system, is how to account for treatment of the environment in storylines or subplots within a film. An actually implemented EPC would probably need to incorporate story as well in order to avoid unusual inconsistencies between a production's actual practices and its on-screen treatment of the environment. Nonetheless, this paper chooses to focus on actual, quantifiable behavior directly impacting the environment.

Part II

On a soundstage, controlling and quantifying environmental factors and maintaining any associated recordkeeping can be relatively simple. Most "expendables" are carefully tracked; from the number of soda cans drank by the crew to the amount of paint used on the sets to the footage of film stock running through the camera. On "location," circumstances are more complex; particularly when shooting abroad where environmental standards can vary widely between countries. But shooting on location not only presents environmental challenges but can offer creative, and lucrative, opportunities for environmental improvement.

"On location" means shooting on public lands or private property; essentially, anywhere outside a studio. Local governments form film commissions, which liaison between filmmakers and their local community, primarily by issuing permits. A permit approving use of public lands for film production is typically required to shoot on location.[2] The purpose of a permit is to allow a local government a measure of control over activities within its borders that might harm or inconvenience the community and its resources.

Yet many film commissions relax their permit requirements, in the intense competition to attract valuable film production. Some have even excused environmentally damaging productions from liability to avoid risking scaring away future filmmaking dollars. It is through the permitting process that a proposed Environmental Production Code would be implemented -- buttressed by the fervent willingness of

[2] A permit is generally not required for shooting on private property.

communities worldwide to offer all manner of incentives to movie makers in vying for production dollars.

One such incentive could be, and in some places already is, environmental assistance. A film concerned about its environmental rating might choose to shoot in a location that provided "full-service" environmental support. Maybe this locale wouldn't have been able to afford to offer a producer a financial subsidy, which can be as high as 20% or more, but *can* provide an environmentally friendly location. Through a "one-stop" film commission, which generally requires notification of potentially harmful activity as a matter of course, the record-keeping of environmentally relevant activities could be maintained almost as easily as can be done on a soundstage. In this way, the responsibility of running an environmentally-sound film shoot is reduced for the filmmakers. Yet through a film commission's assistance, a production has what it needs for proving -- and getting -- a good "rating."

Picture the following scenario where a filmmaker has two locations to choose from, one requiring a permit, the other does not. The first demands strict environmental practices. In so doing, records are kept that later confirm those practices and are used for measuring and determining an EPC Rating. The second has no environmental restrictions but no usable records either. A film shooting in location two would not likely be "low impact" and probably unable to verify any positive efforts it might have taken.

Locations seeking to undermine competition by dropping their environmental standards or permit requirements would be trapped by a similar self-implementing process as filmmakers unconcerned about earning a good EPC rating. For a *rogue* (permit-less) location to succeed it would have to attract films that don't need or care

about a rating. These would most likely be low-budget productions or those seeking an environmentally lax standard themselves; perhaps the script calls for large explosions or bulldozed trees.

But such a location would soon find itself the target of outraged citizens and other states, just as the non-rated film would be reprimanded by those in the industry. These locations would realize the need to offer permits and environmental support services to remain financially competitive, in the process becoming environmentally sensitive and self-regulating.

DISCUSSION

Film as an Economic Power

To appreciate how an internationally-implemented environmental movie rating system would operate the economic power and financial interplay between motion pictures and national and local economies must be clearly understood. The economic reach of the international motion picture industry throughout the world is of epic proportions. The United States domestic box office accounted for $9.49 billion[3] in 2006, while worldwide box office hit an all-time high of $25.82 *billion*, a $2.5 billion (11%) increase in a single year, over 2005.[4]

While countries around the world rejoice in record breaking movie-*going* dollars, they battle each other for movie-*making* dollars (mostly American). Movies may generate enormous revenue but making a film is an expensive undertaking. The cost of making and marketing a major Hollywood motion picture is just over $100 million, including $65.8 million in direct production expenditures.[5]

As filmmaking has mutated over the years from primarily mass studio production to project-by-project ventures, much of its work is now "geographically dispersed" and performed "on location" by freelance workers and subcontractors. While the work of

[3] MPA Worldwide Market Research & Analysis, MPA Snapshot Report: 2006 U.S. Theatrical Market Statistics, page 2, July 2006, (available at www.mpaa.org).
[4] Includes U.S. box office. MPA Worldwide Market Research & Analysis, MPA Snapshot Report: 2006 U.S. Theatrical Market Statistics, page 2, July 2006, (available at www.mpaa.org).
[5] The other $34.5 million is marketing. MPA Worldwide Market Research & Analysis, MPA Snapshot Report: 2006 U.S. Theatrical Market Statistics, page 12, July 2006, (available at www.mpaa.org).

major Hollywood studios[6] may be recognized throughout the world as a uniquely American product, their movies are more and more frequently produced in part or in whole outside the United States, bringing to other countries not only American ideals but American dollars. The international film production market is anticipated to grow at an annual rate of 6%, and with it fiercer competition for its increasing production dollars getting and extending to all corners of the globe. [7] In today's globalized[8] world, even countries with their own film industry may generate far more revenue from foreign productions than their own. [9]

The financial impact of these moves can be in the billions.[10]

The direct expenditures of a production are only the beginning as the financial influx prompts a multiplying effect of that spending on an economy (The U.S. Bureau of Economic Analysis calculations multiply wages and salaries, goods and services and tax

[6] Generally thought of as the seven majors, who typically finance, produce and distribute their own projects. These are: Walt Disney, Sony Pictures Entertainment, Metro-Goldwyn-Mayer (MGM), Paramount Pictures, Twentieth Century Fox, Universal Studios, and Warner Brothers. Carine Camors, Industry study, "The Motion Picture Industry in Los Angeles", Institut d'aménagement et d'urbanisme de la région d'Ile-de-France (IAURIF) (in partnership with University of California, Los Angeles), page 2, September 2005, available at www.iaurif.org/en/doc/studies/film-industry-los-angeles/index.htm.

[7] From 2002 to 2007, according to accounting firm PriceWaterhouseCooper. The American and European market's predicted growth is slightly above the international average, at 6.7% and 7.0%, respectively. Carine Camors, Industry study, "The Motion Picture Industry in Los Angeles", Institut d'aménagement et d'urbanisme de la région d'Ile-de-France (IAURIF) (in partnership with University of California, Los Angeles), page 5, September 2005.

[8] The International Monetary Fund defines "globalization" as "the increasing integration of economies around the world, particularly through trade and financial flows." See U.S. Department of Commerce, Report on the Impact of the Migration of U.S. Film and Television Production, note 19, page 56, January 2001. Movies, transboundary in their financing, making, exhibition, and even as carriers of national values, are clearly globalized and may be an excellent tool for globalizing environmental standards, as well.

[9] Projects that are developed in one country but filmed, at least partially, outside of it are called "runaway" productions. The Monitor Group, US Runaway Film and Television Production Study Report, page 6, 1999.

[10] The four biggest hosts for U.S. "runaway" productions in terms of "direct production spending" is 1) Canada -- an estimated $2.24 billion in 1998, 2) the U.K. -- $647 million in 1999, 3) Australia -- $175 million in 1999 and 4) Ireland -- $53 million in 1999. see U.S. Department of Commerce, "Report on the Impact of the Migration of U.S. Film and Television Production", page 46, January 2001.

revenue. For example, in 1998, $1.7 billion in direct production dollars lost abroad totaled $5.6 after applying the multiplier effect).[11]

Much of this money directly reaches the members of the community in which the film is shooting. Behind the scenes, technicians, construction workers, set movers and other assistants are known in the industry as "below-the-line" workers (as opposed to the "above-the-line" workers, generally the producers, writers, director and principal actors. Generally, below-the-line workers are not brought with a production on location but hired locally. One industry estimate is 70-80% of these workers are hired on-location. [cite]

With all this money at stake, States have a significant economic interest in attracting filmmaking. At the same time, States have responsibility to their citizens and their international neighbors to maintain environmentally responsible practices. These could be at odds with each other, sending productions to less demanding locales. Yet a united, and voluntary, effort on the part of the WTO could balance these interests to the benefit of State economies and the environment both.

Incentives

In response to lucrative worldwide wooing, filmmakers will shoot locations for reasons other than what best suits the story or its visuals. This practice may be unnoticeable when a producer chooses between comparable locations, yet may affect a story's visual legitimacy, or merely be ironic, when the story's specific setting is

[11] The Monitor Group, US Runaway Film and Television Production Study Report, page 11-12, 1999.

disregarded in favor of a location with better incentives (consider *New York Minute*, starring Mary-Kate and Ashley Olsen, and *Chicago* (both shot primarily in Toronto). [12]

The business of attracting filmmakers involves not merely local tourism officials but lawmakers passing bills exempting film shoots from sales tax and offering rebates on payroll taxes and discounts on supplies.[13] Locations that cannot afford to offer financial incentives may find themselves in a downward spiral, unable to attract the productions that advance the economy. For example, North Carolina, once the third most filmed US state, went years without hosting a major film production before finally signing into law a 15% tax credit (among other incentives) in 2006.[14]

New York established the first film commission in the country 41 years ago.[15] The Mayor's Office of Film, Theater, and Broadcasting assists filmmakers with production permits, parking tags, the use of public locations and police assistance for traffic and security completely free of charge.[16] Together with New York State, New York City offers films a refundable tax credit equal to 15% of production expenses.[17] In return, motion pictures generate $5 billion in business impact in New York annually.[18]

Since filmmakers have shown a readiness to select locations for reasons that do not (intentionally) show up on screen, an area need not sit back hoping a filmmaker will find

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[12] Richard Verrier, "TV and Film Want to Be a Part of It: New York, New York" Los Angeles Times, February 24, 2006; see also International Movie Data Base under "Filming Locations" www.imdb.com.
[13] Vicky Eckenrode, "Hollywood losing interest in location filming in state", Athens Banner-Herald, August 29, 2004.
[14] North Carolina Film Office at www.ncfilm.com/film_incentives_benefits.asp; see also Vicky Eckenrode, "Hollywood losing interest in location filming in state", Athens Banner-Herald, August 29, 2004.
[15] New York City Mayor's Office of Film, Theatre & Broadcasting website www.nyc.gov/film.
[16] Id.
[17] For qualified productions. A qualified production either spends or shoots 75% of its project within New York City. Of the 15% tax credit, the State provides 10% and the City, 5%. New York City Mayor's Office of Film, Theatre & Broadcasting website www.nyc.gov/film.
[18] Andrea Fuchs, "Beyond the Skyline: Mayor's office brings business to NYC, NYC to the world", Film Journal International, Vol. 6, Issue 10, October 1, 2003.

it "scenic." A filmmaker concerned with his production's environmental performance might consider environmental incentives benefiting his movie's ultimate "rating" when deciding where to film. Environmental incentives can make competitive regions lacking the resources to offer financial incentives.

New Mexico, for example, offers a "Green Filmmaking Program" mobilized to "educate and encourage" productions about environmentally-friendly practices, including "rainwater harvesting."[19] The State's program, although voluntary and unrelated to permit requirements, represents an early stage of my proposed permit plan in which States offering environmental assistance to a production have a financial incentive to do so, in the form of employment of local resources.[20] Filmmakers could be required to pay some, none or all of the costs of depending on the locations ability or willingness to subsidize these activities itself. I believe until productions have stronger incentives to shoot "green," its economic rewards will remain untapped and progressive approaches to environmental filmmaking, like New Mexico's, must remain merely "informational."

Environmental Impact

Behind the glitz, glamour and million dollar paydays, motion picture production is indeed an industry, churning out hundreds of films every year. Each film shoot potentially involving upwards of a hundred people working in dozens of locations for months at a time. According to UCLA Institute of the Environment director Mary Nichols, whose department released a study evaluating pollution in six industries

[19] New Mexico Film Office website www.nmfilm.com/filming/green-filming, last viewed May 7, 2007.
[20] Id. The film office's website claims, "[we] will continue to explore new ways to inform and encourage environmentally sensitive productions and will examine new business opportunities created through servicing these productions."

including film, "People talk of 'the industry,' but we don't think of them as an industry…We think of the creative side, the movie, the people, the actors. We don't think of what it takes to produce the product." Yet, like other manufacturing industries, the process is wrought with potentially significant environmental impacts. This sizeable effect might be obscured by the project-by-project nature of filmmaking.

A study by the University of California Los Angeles (UCLA) Institute of the Environment found the Los Angeles-based film industry responsible for sending 140,000 metric tons of pollutants into the atmosphere every year, topping hotels, aerospace, and apparel and semiconductor manufacturing in pollution and probably second only to petroleum refineries (no comparable data).[21] Emissions from trucks and generators used on movie sets as well as pyrotechnic explosions for special effects contribute to the layer of smog that hangs over Los Angeles. The industry generates roughly 8.4 million tons of greenhouse gases.[22]

Common products used by cast and crew behind the scenes of a movie can last hundreds of years if not properly disposed. These include cigarette butts (1-5 years), plastic bags (10-20 years), aluminum cans (200 years), plastic 6-pack holders (400 years), plastic bottles (450 years), monofilament (fishing) line (600 years), and Styrofoam cups (undetermined).[23]

Consider the amount of these items used daily by crews in the tens and hundreds and multiply by the number of days of filmmaking around the world and one can begin to imagine the extent of environmental damage that can be reduced through environmental

[21] UCLA Institute of the Environment, Southern California Environmental Report Card, Page 7, November 2006.
[22] Id.
[23] Heal the Bay, a non-profit Southern California environmental organization, see website at www.healthebay.org, last updated March 21, 2007.

best efforts.[24] Not to mention the film stock running through the camera on which all the actors, sets and locations are captured. According to Kodak, the number one supplier of motion picture film stock:

> "One feature film may use millions of feet of film and its processing uses chemicals that contain silver. The discharge of silver to the environment is highly regulated; however there is economic benefit to be gained by recovering silver from the waste solutions and all reputable film processors do this. Wet-gate printing to minimise scratching uses perchlorethylene, a strictly regulated solvent suspected to be a carcinogen. Good environmental management is necessary when handling this chemical. For any feature film, there will be considerable waste film generated. When no longer required, the film content can be destroyed and the film base recycled or burnt as an alternative source of clean energy."[25]

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[24] There were 31,570 shooting days on location in New York in 2005 (that figure does not include shoots in studios or soundstages). Richard Verrier, "TV and Film Want to Be a Part of It: New York, New York" Los Angeles Times, February 24, 2006. In 2006, the City of Los Angeles (and unincorporated Los Angeles County) had 8,813 days of permitted location filming. Prior years in Los Angeles have been even higher -- 1996 ending just shy of 14,000 days. There were 54,876 total shooting days in Los Angeles in 2005, including studios and soundstages. FilmL.A., Inc. at www.filmla.org. The French Riviera hosted 934 shooting days in 2003. **[cite]**

[25] Kodak, see website at www.kodak.com.

[26] Heal the Bay, a non-profit Southern California environmental organization, see website at www.healthebay.org, last updated March 21, 2007.

Consider these items being used up numerous times daily by crews and multiply by the number of days of filmmaking around the world and one can begin to imagine the extent of environmental damage that can be reduced through environmental best efforts.[27]

Other environmental damage can be attributed to movie makers egos run amok – and unchecked. The natural beauty of two peaceful settings in southwest China was the victim of a hasty motion picture production which left in its wake large set pieces, garbage and damaged trees. Before "*The Promise*" began shooting at a park in Beijing, its crew painted trees and plants yellow in preparation for replicating an ancient battle. Afterwards, the painted trees remained leafless. At a remote lake in Shangri-la, the crew constructed a road out of sand and stone destroying azalea patches then left behind after shooting a steel structure and a wooden bridge broken in two. According to the film's producer, the $35 million production[28] paid the local government to do the clean up. Such people were offended by such "justifications"[29] "Are they thinking that they can pollute the environment at will as long as they pay?" one asked.[30] A report criticizing local officials for not protecting the scenic spot ordered local authorities to dismantle all

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[28] Ding Wenlei, Beijing Review, "Blogging for Fun and Profit", Science/Technology, updated December 20, 2006, see www.bjreview.com.

[29] Lu Ling, Beijing Review, "Aftermath of Moviemaking", see www.bjreview.com, last viewed May 4, 2007.

[30] Id.

remaining structures.[31] Called a "scandal," the incident triggered debates throughout China.[32]

Similar reaction was generated by the Hollywood movie "*The Beach*" starring Leonardo DiCaprio when it shot on location on Phi Phi Island in Thailand (discussed in more detail below). Environmental activists sued the filmmakers for damage to the coastal ecosystem.

The Deputy Director of Yunnan Provincial Environmental Protection Bureau, Gau Zhengyi, captured the delicate balance at the heart of most location shooting, "[M]oviemakers can help a region's economy prosper, especially in terms of tourism development. However, they often neglect the environmental problems film shooting may cause."[33] Avoiding incidents like these is in the best interest of government and filmmaker alike. While both parties already have external incentives to promote environmentally responsible film production, the location itself in the best position to ensure a production is environmentally compliant. Sometimes filmmakers move on leaving local officials to deal with the remaining controversy, but with an environmental rating system, their production misdeeds threaten to follow them all the way to the box office.

The issue here is to take factors that support environmental vigilance by both filmmaker and government and then expand it into a universal policy. The industry's lack of a unified environmental strategy is a barrier to improvement according to UCLA's Mary Nichols. "Our overall impression is that, with a few notable and inspiring

[31] Minnie Chan, SCMP, August 12, 2006, available at www.zonaeuropa.com/culture
[32] Lu Ling, Beijing Review, "Aftermath of Moviemaking", see www.bjreview.com, last viewed May 4, 2007; also Zhu Moqing and Zhang Liuhao, Shanghai Daily, "Filmmakers despoiled Shangri-La", May 11, 2006 (available at www.zonaeuropa.com).
[33] Lu Ling, "Aftermath of Moviemaking", last viewed May 4, 2007.

exceptions, environmental considerations are not high on the agenda in the film and television industry." [34]

The UCLA study found the problem attributable to the transient nature of production companies, saying that "the degree to which work is controlled by short-lived ever-changing production companies" and "independently functioning units" made it "difficult to institutionalize best practices" and hard to regulate.[35]

However, a worldwide film production standard could be implemented voluntarily and without regulation by filmmakers motivated by the goal of good "green" ratings selecting locations based on the quality of their environmental incentives, and local governments providing those services with an eye towards improved public relations and generous economic rewards.

The value of an environmental ratings code encouraging better production practices is supported by successful examples of some producers' commitment to filming *green*. The makers of the *Matrix II* and *III* arranged for the recycling of more than 97% of their set material ─ some 11,000 tons of concrete, steel and lumber. Thirty-seven truckloads of lumber were re-used in low-income Mexican housing.[36]

The makers of the 2004 movie "***The Day After Tomorrow***," which portrayed the cataclysmic effects of global warming, offset the carbon dioxide emissions caused in making the movie (estimated at 10,000 tons) by vehicles, generators and other machinery

[34] nbc4.tv, Study: Television, Filmmaking Industries Are Big Polluters, 11/14/06.
[35] UCLA Institute of the Environment, Southern California Environmental Report Card, Page 9-10, November 2006; *see also* nbc4.tv, Study: Television, Filmmaking Industries Are Big Polluters, 11/14/06.
[36] Id.

by paying $200,000 to plant trees and other climate-friendly investments.[37] "Syriana" and "An Inconvenient Truth" offset their carbon emissions as well.[38]

Independently made low-budget films have can offset their emissions as well. The $1 million-budgeted "*Sweet Land*" reportedly spent an additional $15,000 offsetting 8 tons of carbon emissions by investing in reforestation in Germany and windmills and fluorescent lighting in Jamaica.[39] The film's director calls filmmaking "a messy, pollution-spewing process. The lights, the cameras, and the action suck electricity, burn fossil fuels, and release thousands of pounds of heat-trapping greenhouse gasses into the atmosphere."[40]

The production employed CO2 saving measures like using sunlight instead of generators and film lights as often as possible; carpooling to the set; buying fewer airline tickets by not flying people home on the weekends; and being efficient with the schedule by "shooting out" a location before moving the mini-city of 11 trucks and trailers, 40 cars and 95 cast and crew to the next location. After the shoot, every mile driven, every airline ticket, every gas receipt, every foot of film processed was calculated and analyzed to determine that "Sweet Land" still generated 8 tons of CO2.[41]

Warner Brothers' 108-acre motion picture facility, a hotbed of manufacturing, construction and production activity, has been "a waste reduction and recycling leader" since 1993.[42] Warner Brothers increased its waste reduction rate from 7% in 1992 to

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[37] UCLA Institute of the Environment, Southern California Environmental Report Card, Page 9, November 2006.
[38] nbc4.tv, Study: Television, Filmmaking Industries Are Big Polluters, November 14, 2006.
[39] Sweet Land Press Notes (press kit), available at www.sweetlandmovie.com/presskit/press.htm
[40] Id.
[41] Id.
[42] California Integrated Waste Management Board, Waste Reduction Award Program (WRAP) at www.ciwmb.ca.gov/wrap.

40% in 2007; saving nearly $140,000 a year in hauling fees and generating nearly $50,000 a year from the sale of recyclables.[43]

The Environmental Media Association ("EMA") in Hollywood is a non-profit organization founded in 1989 on the concept that the entertainment community could influence the environmental awareness of millions of people. The EMA encourages better practices behind the scenes, advising filmmakers on ways to improve their relevant activities.[44]

Besides recycling and carbon emission reduction efforts, a production can also reduce its impact by eliminating disposables, using recycled content products, energy efficient lighting and office equipment, non-toxic paints and cleaning supplies, composting food scraps, and discarding hazardous wastes at drop off centers.[45] EMA also encourages purchase of FSC-certified wood products. [46]

Similar organizations around the world inspire environmental responsibility within their own film industries. New Zealand, for one, has created an "Environmental Toolkit for the Screen Production Industry" with tips for filming in environmentally sensitive locales (such as a designated site with a protective lining for refueling vehicles to contain

[43] California Integrated Waste Management Board, Waste Reduction Award Program (WRAP) at www.ciwmb.ca.gov/wrap.
[44] Environmental Media Association (EMA.org) website.
[45] Id.
[46] Id. FSC-certified timber companies have practiced forestry consistent with FSC's high standards, ensuring forestry is practiced in an environmentally responsible, socially beneficial, and economically viable way. Forest Stewardship Council (FSC) is an international non-profit organization devoted to encouraging the responsible management of the world's forests. Greenpeace, National Wildlife Federation, The Nature Conservancy, Sierra Club, and World Wildlife Fund all support and encourage FSC certification. *See* FSC's American website at www.fscus.org.

spillage) and other tips specific to the behind-the-scenes departments of make-up, wardrobe, art, lighting and camera.[47]

But the evidence suggests that despite a concerted willingness in Hollywood and other film production capitals towards the *greening* of production, it is not quite yet an industry-wide movement, as the bottom line competes with global warming. The salvaging and recycling of the "Matrix" sets at a cost of $450,000 may not have happened at all were it not for the county and city where the films were made "really leaning on Warner Brothers (the films' production company[48]) to step up."[49]

Perhaps realizing that incentives beyond green idealism will needed to maintain such a conscious effort, New Zealand encourages sound environmental practices "for good business reasons such as increased competitive advantage and reputation."[50]

Any effort at an industry-wide environmental initiative must avoid forcing high costs or effort upon movie makers. Filmmakers who will travel across world to save money and aren't likely to respond favorably to increased budget challenges.

Cost might very well be the deciding factor tipping the scale at some point either toward voluntary industry participation or government enforced regulation. Certainly, it is more costly to run an environmentally sound production than not. The additional time required, such as for dismantling rather than destroying sets, can also increase a project's cost in terms of additional and costly studio time or location days. If these costs are

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[47] Greening the Screen website, http://www.greeningthescreen.co.nz/behind_screen, last viewed on May 4, 2007.
[48] International Movie Database (IMDB.com) website.
[49] Ted Reiff, President of ReUse People of America. As potential landfill, the sets represented about 10% of Alameda, California's annual solid waste. *See* nbc4.tv, Study: Television, Filmmaking Industries Are Big Polluters, November 14, 2006.
[50] Greening the Screen website, http://www.greeningthescreen.co.nz/about/purpose, last viewed on May 4, 2007.

significant, as they can be, filmmakers as a whole are not likely to maintain environmentalism without some form of external pressure (public or regulatory).

But my proposal would have some or all of such associated costs absorbed by the host locations through "environmental subsidies." This arrangement would direct regulatory pressure at local film commissions in standardizing location permits; and public pressure reserved for the filmmakers, in the form of an environmental rating system. At its core such a system would inhibit locales from supporting environmentally irresponsible behavior in their frenzied attempt to seduce film producers; producers who without being held accountable by a future rating might otherwise be tempted to hit and run.

This balance was disrupted in a landmark case of a government turning its back on a movie shoot's environmentally troubling activities. Thailand's Forestry Department gave *The Beach* permission to film on the island of Phi Phi Leh, in exchange for payment of four million baht[51] plus a five-million baht bond to be returned once the island was restored to its natural state.[52] To make the island look more like paradise during its two-week shoot, the $40 million Twentieth Century Fox production was allowed to plant 60 coconut palms trees on condition they be removed after filming. Plants uprooted in the process were stored for later replanting. Protesters carried banners reading "Change your

[51] Approximately $120,000 (according to google.com, 1 million Thai Baht = $30,552 U.S. on May 5, 2007).

[52] From the English translation of the agreement between Thai officials and producers of "The Beach" on a website run by the students of Sriwattayapknam School in Thailand. "Permission for the Beach Productions to film in Maya Bay",at http://thaistudents.com/thebeach/agreement.html (last viewed May 5, 2007).

script, not our beach,"[53] while local environmentalists protested what they saw as Hollywood buying a license to mess around with nature.[54]

Pre-production on *The Beach* was halted for two weeks for an environmental report, and a court case filed against the producers and the authorities who approved the filming. While not typical of most film production experiences, it serves as an example of what can happen when there is no check on local authorities approving undesirable environmental activity.

Permits

Location permits are at the core of the entertainment industry ─ local government connection, a mutually beneficial relationship. For example, the California legislature has codified that "motion picture production in California provides unique and significant contributions to the economy" and considers a "one-stop permit" a "key element…in support of the undertakings of the motion picture industry in this state."[55] Permit ordinances allow locales a level of control over the work done within their borders. An important purpose for film permits according to one source is "[p]rotecting the community from improper conduct or significant disruptions", particularly given a single film's "vagabond" existence.[56]

[53] Emily Barr, "Beach Boy", The Guardian (UK), March 6, 1999.
[54] Id.
[55] California Government Code §14998, the Motion Picture, Television, and Commercial Industries Act of 1984. See Department of Parks and Recreation, "Guidelines for Filming in California State Parks", page 31 (1998) available at www.parks.ca.gov
[56] Jon Garon, "Star Wars: Film Permitting, Prior Restraint & Government's Role in the Entertainment Industry", Loyola of Los Angeles Entertainment Law Journal, 1996.

Currently, film commissions race to make simplify permitting, which could, in some occasions, involve getting permission from multiple agencies. Filmmakers barely need concern themselves with film permits as commissions offer to relieve filmmakers of such details. Consider Madera County, Florida where "[a]ll county agencies, particularly the sheriff, fire and road departments, were directed to designate a film liaison to speed up on-location permits," or the Michigan Film Office which "grease[s] the skids" to get filmmakers into production or Entertainment Industry Development Corp. (EIDC) in Los Angeles, which merged the city and county film offices "in order to better coordinate and streamline the permitting process to encourage film production and economic growth."[57]

The risk of attaching environmental factors to film permitting is the danger of complicating a process that film commissions and filmmakers alike are seeking to expedite. In one case, Warner Brothers relocated a planned production because of delays in obtaining permits, when local residents opposed the filming.[58] A spokesman for the studio complained, "The system is not working properly when such a tiny minority can decide the fate of a project like ours."[59] While the studio's expectation that locations simply "part the waters" for film production may be arrogant, the cost of scaring away even a single production could cost a region as much as an estimated $5 million, as in the Warner Bros. project.[60]

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[57] See Charles McCarthy, "On-site filming liaisons created Madera Co. hopes to hasten the permits for movies, commercials", Fresno Bee, June 8, 2005 (Madera County) and John Agar and Shandra Martinez, "'Road to Perdition' is paved with gold, Moviemaking gives a financial boost to the area", Grand Rapids Press, June 13, 2001 (Michigan); Roberta Morgan, "The Balancing Act", Hollywood Reporter, December 1, 1997 (Los Angeles).

[58] Jim Doyle, "Film Studio Pulls Out of Plan to Make Movie in Mendocino", The San Francisco Chronicle, December 5, 1997.

[59] Warner Bros. spokesman Michael Walbrecht, in a letter to Mendocino officials. Jim Doyle, "Film Studio Pulls Out of Plan to Make Movie in Mendocino", The San Francisco Chronicle, December 5, 1997.

[60] Jim Doyle, "Film Studio Pulls Out of Plan to Make Movie in Mendocino", The San Francisco Chronicle, December 5, 1997.

Yet, it is beneficial to both sides when locations assist filmmakers in their environmental and permitting responsibilities, particularly through the use of their local resources, such as workers.

Some of the environmental concerns of location shooting include use of natural resources, production of waste, pollution, and risk of environmental accidents. Some areas have their own specific concerns such as absorption capacity in wetlands, parks, or heavily populated areas. The California Department of Parks and Recreation has issued "general guidelines" which covers the use of fires, smoking, pyrotechnics, gunfire, animals, set building, among others, but does not specifically impose penalties beyond halt[ing] filming when a production company violates conditions and restrictions of the permit."[61] Yet, California has no official environmental standards for denying a film permit.[62] By requiring permitting agencies to list and quantify all environmental factors on their film permit forms creates a "one stop" statistical record of environmental information valuable to both parties.

Legality of Permit Restrictions

Concern that putting restrictions on environmental conduct through permit issuance effectively influences what, where and how filmmakers shoot, thereby interfering with their First Amendment storytelling rights, would be misguided, because film permit ordinances are content-neutral. The reasonableness of such an ordinance is explored in

[61] Department of Parks and Recreation, "Guidelines for Filming in California State Parks", page 8 (1998) available at www.parks.ca.gov.
[62] Id. §14998.8(b) for valid reasons for denying issuance of a film permit.

United States v. O'Brien[63], which put forth a test for regulating conduct as a form of speech. The Court held that a government regulation is sufficiently justified if it is within the constitutional power of the Government, if it furthers an important or substantial government interest, if the government interest is unrelated to the suppression of free expression; and if the incidental restriction of First Amendment freedoms is no greater than needed to further that interest.[64]

Considering the factors of *O'Brien*, it would be appropriate to incorporate environmental regulations into film permitting. The quality of the environment is a substantial government interest and requiring a film production meet related target criteria furthers that interest without suppressing a filmmaker's artistic expression.

A multi-national permitting standard would be a natural vehicle for quantifying, controlling and improving the environmental effects of the filmmaking process. Permits are an international safeguard -- required most everywhere independent filmmakers and Hollywood studios shoot their films -- from remote Wakatipu, New Zealand[65], to the Czech Republic[66] and Romania.[67]

Since permits are already a normal part of film production activity worldwide, using them to "regulate" and record the environmental impact of on-location film productions would appear to be constitutional in the United States and abroad as well.

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[63] 391 U.S. 367 (1968). Court articulated standards for regulating conduct that has the effect of speech in upholding conviction of O'Brien for burning his draft card on the steps of a courthouse.
[64] Id. at 376-77.
[65] Where "Lord of the Rings" was filmed. Andrea Deuchrass, "Film-makers flocking to Wakatipu", Southland Times (New Zealand), January 16, 2007.
[66] Prague has hosted "The League of Extraordinary Gentlemen", "Van Helsing", "Alien vs. Predator" and many others. Doris Toumarkine, "Going for the Gold: European Locations Compete for Big Movies", Film Journal International, July 1, 2004.
[67] Oscar-winning "Return to Cold Mountain" was shot in Romania. Klara Smolova, et. al., "Money behind make-believe", Prague (Czech Republic) Tribune, May 1, 2004.

The "Environmental Ratings Code"

After a film's environmental pros and cons have been recorded they can be tabulated resulting in some type of a rating. An environmental rating system need only be voluntary to encourage film productions to be more environmentally responsible. Consumers have demonstrated a marked willingness to reject environmentally harmful products in favor of beneficial ones, even at an increased cost. Even assuming filmgoers would not choose which movies they watch based on a "green" rating, I argue that the mere presence of such a rating system will exert subtle pressure on the movie industry to improve its environmental practices. Plus, it is the type of solution the motion picture industry would likely adopt on its own if under pressure to take significant action.

To appreciate the why integrating an environmental element into motion picture ratings is distinctly possible as I put forth in this paper requires some understanding of the history of the modern American content rating system and the societal factors which influenced its development, which are similar to the environmental movement pervading society at the start of the 21st century.

In the early days of motion pictures, the film industry was faced with demands for a moral code, in response to a perceived immorality permeating society, supposedly exacerbated by the new medium. Fearing government interference, the industry instead chose self-regulation. Known as the "Hays Production Code" it laid out in specific detail ─ and controlled ─ what was and what was not considered appropriate content. [68]

[68] Jack Valenti, Ratings born of conflict (setting up movie rating system), Variety, December 4, 2006.

Then, in the aftermath of 1960s-era controversy over recent movies with nudity and offensive language[69] a number of municipalities set up their own review boards, finding many films unfit by local law to be seen by children. The American film industry reacted. Jack Valenti, Chairman of the MPAA, realized, "unless we took preemptive action, we would be overrun by a babel of voices, all of them unsuitable to our future."

The solution quieted the concerned voices of parents and filmmakers alike. On November 1, 1968, the MPAA announced the modern ratings code, "to provide information to parents…in determining the suitability of individual motion pictures for viewing by their children."[70] Movies would be rated according to one of four categories (Today's system is essentially the same but PG and PG-13 replaces M and NC-17 has since replaced X):

G - General Audiences

M - Mature Audiences

R - Restricted Audiences

X - No one under 17 admitted

By its actions, Hollywood, through the MPAA, protected its own best interests. The board considers theme, sex, violence, nudity, language, sensuality, drug use and other elements.[71] when "assign[ing] the rating the Ratings Board believes would best reflect the opinion of most American parents about the suitability of that motion picture for viewing

[69] Specifically, Michelangelo Antonioni's "Blow-Up" and Mike Nichols "Who's Afraid of Virginia Woolf", respectively. Id.
[70] Motion Picture Association of America (MPAA) and National Association of Theater Owners (NATO), Classification and Rating Rules, Revised April 1, 2007. Available at www.mpaa.org.
[71] Motion Picture Association of America website, www.mpaa.com (last viewed March 07, 2006).

by their children."[72] Ratings allows the movie industry flexibility while placing the responsibility on parents to decide which movies their children should see. At the same time it frees filmmakers of governmental or industry content restrictions. As Valenti noted, "If we didn't act to self-regulate ourselves others would do it for us."[73]

An Environmental Rating System

The US film industry, as its history shows, would likely choose self-regulation if faced with public and governmental pressure (such as the voluntary ban on direct tobacco placement payments for onscreen brand appearances that Hollywood adopted in 1989)[74].

One obstacle to integrating an environmental element into content rating is that it might exceed the scope of the MPAA ratings, designed specifically to warn parents of content possibly objectionable to children under seventeen. Incorporating a general interest element into an "objectionable content" rating might threaten to undermine the purpose of the system as well as expose itself to criticism of censorship.

Perhaps a point system could better overcome the difficulty inherent in both assessing and balancing a film project's level of environmental impact. For example, both Canada and England, in efforts to control the amount of domestic content shown on television, have established content requirements determined by a point system. As a result of the Broadcasting Act of 1968, at least 60% of all broadcasts must contain Canadian content.[75] Each broadcast earns a number of points for every director,

[72] Motion Picture Association of America (MPAA) and National Association of Theater Owners (NATO), Classification and Rating Rules, Page 6. Revised April 1, 2007. Available at www.mpaa.org.
[73] Jack Valenti, Ratings born of conflict (setting up movie rating system), Variety, December 4, 2006.
[74] The Associated Press, March 13, 2002. Id.
[75] Canadian government. "Broadcasting Act of 1991", Article 3.1d.

producer, actor who is Canadian. These points are added up to determine if a show has enough national content to be eligible for a subsidy.[76]

As with elements in a domestic content point system, some categories of environmental impact may deserve more "points" than others in order to properly categorize a production's overall environmental success. For example, Does a film which provides recycling bins for glass and bottles deserve the same designation as one that recycles its construction materials? Is bringing used wardrobe to a thrift store "recycling?" What about comparing the impact value of electrical usage and pollution? Points would also have to be proportioned to compensate for meaningful differences between productions, such as the size of the budget, before a rating could be issued.

Resisting Opposing Arguments

The film industry has an advantage over industries that are responsible for offsetting the costs associated with their negative environmental impacts. Film is a "clean" industry among "clean" industries, because of a lesser degree of environmental risk compared to "dirty" industries.[77] The odds are that filmmaking's economic benefits (increased tourism, new high-paying jobs, higher hotel revenues, purchases of local products and services) to a region will far outweigh its deleterious environmental effects.[78] Unlike highly regulated chemical and metal-based agriculture, hi-tech and petroleum-based industries that incur high costs offsetting their enormous environmental impact, a

[76] Andy C. Pratt and Galina Gornostaeva, London School of Economics, The film industry-re-considered: commodity chain analyses and beyond, page 3, 2005, available at http://www.lse.ac.uk/collections.
[77] Edith Brown Weiss, Environmentally Sustainable Competitiveness: A Comment, 102 Yale L.J. 2123 (1993).
[78] Dirty industries, like agriculture, often have expensive environmental side effects that can absorb a large portion of its economic gain. Clean industries do not have the same degree of negative environmental effects as dirty industries. Id.

voluntarily program by the motion picture industry can greatly reduce its environmental impact at a relatively minor cost yet benefit from the nearly automatic public awareness and resulting good will generated by being a high profile industry. Therefore, tracking and controlling filmmaking's environmental impacts will prove relatively easy. Thus locations are agreeable to hosting filmmaking than other riskier activities and are in a position to handle the related recordkeeping.

Potential problems with a green rating include comparing studios with significantly larger budgets have larger crews than independent productions. A responsible system would need to compensate so as not to automatically favor minimally sized productions. Smaller productions have less crew members using and interacting with a location and fewer transportation needs.

Also, rating a film's behind-the-scenes environment behavior without factoring in environmental content in the storytelling could result in apparent inconsistencies threatening the authority of a system that might punish a film about saving the rainforest for excessive carbon emissions while rewarding an explosion-filled war film for recycling.

A *green* rating system could possibly affect a filmmaker's creativity if it influences on-screen decisions, such as rejecting certain special effects as too environmentally costly. Some films may even choose digital scenes to avoid difficult live scenes. An industry-wide movement in this direction could have the ironic effect of reducing environmental impact but leaving locations without a major revenue source.

Ultimately, my proposal to improve filmmaking's effect on the environment succeeds or fails on the Environmental Rating Code's significance to the public. If the

public seizes it as an indicator of environmental responsibility and a role model for their own behavior, it can be an encouraging step toward a more sustainable environment.

Which all comes down to a self-sustaining system based on "voluntary" participation, whether individual films want to be rated or not. As Jack Valenti noted, "The movie rating system is voluntary. No one is compelled to submit a film for rating. I know the counterargument: 'If I don't submit for rating, my film will have trouble getting theater play dates.' But that's a decision to be made by theater owners, not the rating system."[79]

[79] LA Times.com, Valenti Defends Ratings System, February 28, 2007.