

Graphics Gone Green

Ways to Go Green Without Losing Your Shirt

By Rita Amladi and Erica Aitken

Design by Erica Aitken

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Introduction

A note from Erica

Last summer, I went to a Norwegian island called Svalbard, near the North Pole, and joined a guided group of hikers. It's a place where there are no roads except in the few small towns, no McDonalds, no big stores, nothing that could remotely remind me of my life here in the States. Out there, nature is majestic. It gives you the impression that nothing we do can bring it down. We camped in two places and hiked from our base through snow and hills, by the sea and up glaciers. We saw polar bears, arctic foxes, birds, and plants. We were immersed in a silence that was broken only by the cry of birds and the crack of glaciers. It is a place of devastating beauty. In Ny-Alesund, a summer town of 120 scientists, I spent a few days with zoophysiologicalist Geir Gabrielsen of the [Norwegian Polar Institute](#). For over 25 years, he and a group of scientists from eleven other countries have recorded the effects of airborne pollutants on the climate, land, and fauna of the arctic. From his first-hand experience, and his pessimistic conclusions, I know without a doubt that this wonderful eco-system is changing drastically, and that even my children will not see it as I have.

Back home, I set out to find out more about the environmental impact of what I'm doing as a graphic designer. What I learned, I had to share in this book, *Graphics Gone Green*. Rita and I chose to produce an

ebook because it can be read on screen, and online if you wish to travel to its many links; but mostly because there won't be a warehouse, somewhere, stocking thousands of copies left over from an ambitious print run. And if you prefer to read the book in print, that won't be difficult. You'll find it at Blurb.com, where books are printed on-demand, one at a time.

If you're a creative professional who's anywhere on the path of a project that's going to press or the Internet, Graphics Gone Green is for you. Our book will give you an understanding of what you can and cannot change, and how to reduce your carbon footprint at work. You'll meet fantastic pioneers who have cut a path in a jungle of bureaucrats, naysayers, and skeptics, always with great determination. You are in good company.

As a graphic or product designer, a photographer, or a print buyer, you are both client and vendor. Help your clients make environmentally safe decisions when they choose paper, ink, and a printer. And when you buy print, turn to the many companies that have taken the lead to reduce the devastating effects of printing on our planet.

Enjoy the book. Don't hesitate to contact us with comments, stories, and feedback. Graphics Gone Green is a live and constantly changing story that you can track on our blog at www.graphicsgonegreen.com. We look forward to hearing from you.

- Erica Aitken

[Svalbard: a trip that made a big difference.....](#)

To become a sustainable green studio requires strategy, order, and planning. Start by developing a comprehensive plan that will be the blueprint of your future workplace. First, examine your power source, energy requirements, web hosting service, and general office practices. Examples of this include lighting, equipment, paper use, office supplies, and your waste stream. Then, set reasonable goals and a timetable for reducing your carbon footprint in each of these areas. Remember that changes make sense if they keep you in business.

Setting up a green studio

Order a carbon footprint audit

A carbon audit—sometimes called a “carbon footprint”— is a way to measure and record the CO₂ (Carbon Dioxide) emissions of an organization. If you have the means, hire an expert to go over your energy reports, observe your workflow, and then produce a report of your carbon footprint. The analyst will evaluate your current source of power and power usage, transportation statistics, waste and recycling policies, and business relationships with vendors and partners. Once the data is gathered, your carbon footprint will be calculated in accordance with ISO Standard 14064. When the audit is complete, the analyst will help you set up a carbon strategy. This is a long-term action plan to reduce your carbon footprint. When you have done all you can to aggressively reduce your carbon footprint, consider offsetting the balance of your carbon footprint by purchasing [carbon credits](#), or investing in [carbon funding schemes](#). However, if you would like to develop your strategy on your own, here are some useful suggestions.

Buy Green Energy


Many energy providers offer options to purchase 100% clean energy from non fossil-based sources. Switching to a clean energy source may be the most cost-effective way to reduce your studio’s carbon emissions.

There are essentially three options: green pricing, green marketing, and purchasing renewable energy certificates. Green pricing means that the customer’s electricity provider will charge a premium to cover the additional cost of purchasing sustainable energy. Green marketing means the customer actually changes electricity providers. Renewable energy certificates, also called green tags, allow a customer to buy virtual green energy, even when a provider is not available in their geographic location.

Green Pricing

Green Pricing is an optional utility service for customers who want to help expand the production and distribution of renewable energy technologies. With green pricing,

 To see what green pricing options are available in your area, visit the [Department of Energy's Green Power Network - Green Pricing page](#).

 To see what renewable energy certificate sellers are available in your area, visit the [Department of Energy's Green Power Network - Renewable Energy Certificates page](#).



you do not have to change your electricity provider. Instead, customers choose to pay a premium on their electricity bill to cover the extra cost of purchasing clean, sustainable energy. As of March 2006, more than 600 utilities - electricity providers in 36 states - offer a green pricing option.

The majority of green pricing programs charge a higher price per kilowatt-hour to support an increased percentage of renewable sources or to buy discrete kilowatt-hour blocks of renewable energy. Other programs have fixed monthly fees, round up customer bills, charge for units of renewable capacity, or offer renewable energy systems for lease or purchase.

Green Marketing

Green marketing is the sale of green power in competitive markets, where consumers have the option to choose from a variety of suppliers and service offerings, much like they can

choose between long-distance telephone carriers. The key difference between green marketing and green pricing is that, with green marketing, you are actually switching electricity providers.

Green marketing is offered in Connecticut, Maine, Maryland, Massachusetts, New Jersey, New York, Pennsylvania, Rhode Island, Texas, Virginia, and the District of Columbia.

Buy renewable energy certificates

If you cannot find an energy company that offers green pricing or do not live in a state that offers green marketing, there is still an option. Renewable energy certificates are a way to buy green energy, even when you do not have access to that energy through the local power grid. Generally, one certificate equals one megawatt-hour of renewable energy, and the money paid for the certificate goes to fund green energy production elsewhere, adding the environmental benefit to the system as a whole.



Switch to a green Internet host

Conventional web hosting consumes very high levels of energy by powering massive computer servers and support equipment. There are currently a small number of green

hosting companies whose servers are powered by clean or renewable energy sources, and who have made other strong commitments to preserving our resources.



What is power management? How can you enable it on a computer?

Power management puts your monitor, hard drive, and computer into a low-power “sleep” mode after a period of inactivity. Then a simple touch of the mouse or keyboard will “wake up” the computer within seconds. There are good financial reasons to do this—not only does it reduce energy use, but it cuts noise, cooling costs, and also prolongs the battery life of your laptop.

To cut your energy costs:

1. Use the built-in power management features present in every operating system and computer. You can save nearly \$75 per year, per computer by simply turning it on.

2. If you’re in the market to replace a device, look for one with an **Energy Star** rating. Energy Star compliant products use 15-25 percent less energy on average than a standard new device.

3. If you’re still using older CRT monitors, upgrade to Energy Star-rated LCD monitors.

4. Unplug devices when not in use. As long as they’re plugged in, they’ll continue to draw power—even when they’re turned off, or in stand-by mode.

To minimize power usage, the monitor should “sleep” after 15 minutes of inactivity, and the system should switch

to “standby” or “hibernate” modes after 30 minutes of inactivity. Modern computer systems will suffer no instability from this scheme of on/off cycling, and the small surge of power required for the on/off cycle is inconsequential. It is not necessary to shut a computer completely down; simply using the power settings to place the monitor in sleep mode and system standby is sufficient. Power schemes can easily be set up so that the computer will “wake up” in order to receive updates.

Tip: Use a power strip to power multiple devices. Then hit just one switch to cut power to all devices.

Field Notes

Top 10 national alternative energy lobbying organizations, ranked by amount given (2008):

1. American Wind Energy Assn
\$1,682,698
2. Solar Energy Industries Assn
\$1,445,000
3. Clean Energy Group
\$1,340,000
4. National Biodiesel Board
\$1,148,806
5. Renewable Fuels Assn
\$563,609
6. Poet LLC \$520,000
7. Rentech Inc \$500,000
8. M&M Energy \$480,000
9. Greenhunter Energy
\$390,000
10. New Generation Biofuels
\$390,000

Source

Energy Regulation

By Rick Zarrella

Federal and State

At the highest level is the Federal Energy Regulatory Commission (FERC). The commission regulates the following actions and issues across state lines:

- Transmission and sale of natural gas
- Transmission of oil by pipeline
- Transmission and wholesale of electricity
- Oversight of financial and accounting practices
- Licensing and inspection
- Siting of facilities

FERC does not regulate municipal power systems or construction of generation/transmission/distribution facilities.

At the state level, commissions, legislatures, and sometimes public ballot measures dictate energy source regulation on a state-by-state basis. Where this is not the case, energy companies have free reign in energy source choice.

Take a state, California, for example

Energy in California is primarily regulated by two entities:

First, the California Energy Commission (CEC), whose responsibilities include:

- Forecasting future energy needs and keeping historical energy data.
- Licensing thermal power plants 50 megawatts or larger.
- Promoting energy efficiency through appliance and building standards.
- Developing energy technologies and supporting renewable energy.
- Planning for and directing state response to energy emergency.

Second, the California Public Utilities Commission (CPUC), whose responsibilities include:

- Regulating privately owned electric, natural gas, telecommunications, water, railroad, rail transit, and passenger transportation companies.
- Plays key role on a number of clean energy related initiatives and policies.

Field Notes

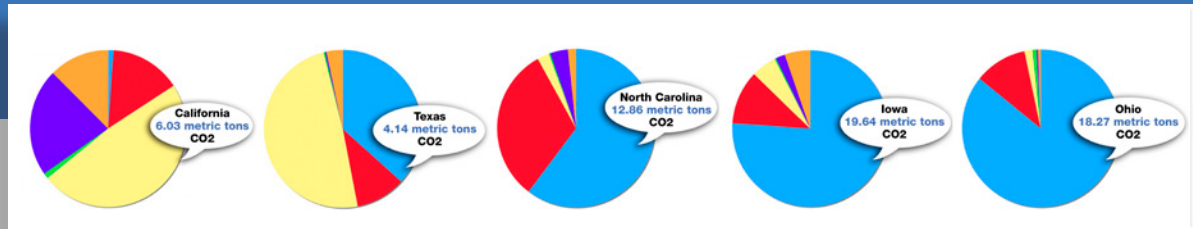
5 people using 22,005 KWh per year in 5 different States. Click on each to see how it breaks down.

The things you can't do much about

There's a lot you can control, but there are things things you can't. Where you live, for example. If you are part of a 5-person agency that uses 22,005 KWh annually, your CO2 footprint is going to be dramatically higher if you work in Ohio compared to California. This is because each State gets its energy from different sources. Coal has

the highest negative impact on the environment, and Ohio uses a lot of coal.

What can you do? Join environmental organizations that lobby States to find alternate sources of energy; and find out more about [Green Pricing](#) and [Green Marketing](#).



Ultimately, energy source regulation in California is a mixture of private company decision-making, state legislative decision-making, and day to day regulation from the CEC and CPUC.

The state legislature provides outlines as to the percentage makeup of energy sources that private companies must follow.

An example of this is the California Renewables Portfolio Standard, or RPS, which requires electric corporations to increase procurement from eligible renewable energy resources by at least 1% of their retail sales annually, until they reach

20% by 2010. It is then up to private energy companies to procure renewables to meet that standard, while the CEC and CPUC provide licensing and regulation.

Examples of other States

Texas, Ohio, Iowa, and North Carolina have multiple state-level commissions and councils that regulate and guide energy source procurement, much like California's CEC and CPUC (See above).

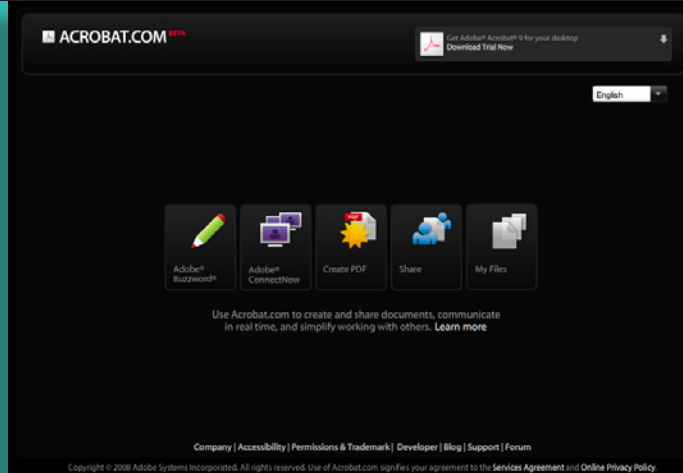
Additionally, Texas, Iowa, and North Carolina have Renewable Portfolio Standards. Ohio just recently adopted one.

Case Study

Acrobat.com

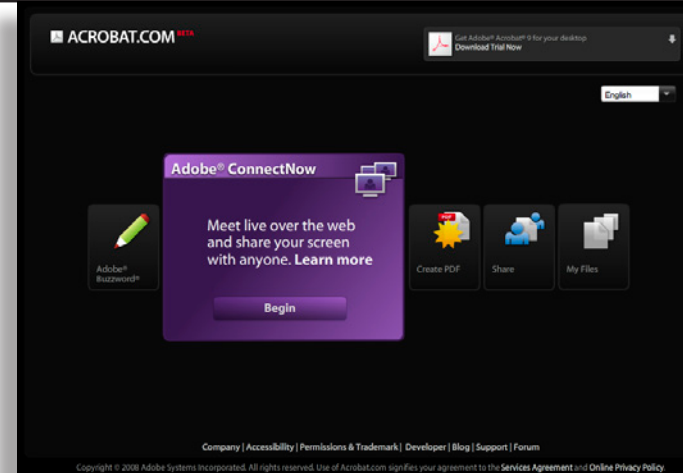
Conduct meetings online

Many creative agencies work with off-site teams, outsourced operations, and outside suppliers. We can thank the Internet for facilitating our new work practices. Well attended meetings in conference rooms are replaced with virtual meeting rooms where team members “attend” by logging in from outside. You no longer have to catch a plane, much less go across town to attend a meeting anymore.



Acrobat.com, Adobe’s free online service for document creation, web conferencing, PDF conversion, and file sharing and storage.

Here are some of the online services that offer file sharing, online meetings and video conferencing: [Google Docs](#), various services by [WebEx](#), [eStudio](#), and [Acrobat.com](#). Services range from hosted virtual meetings in which participants create a chat room and exchange typed messages in real time, upload project files for group collaboration and annotation, to full-blown web conferencing involving streaming video, VoIP, screen sharing, and recorded meetings.



Click the Adobe® Connect now button, and respond to the prompt to start an online meeting and share your screen with up to 3 participants.

Set up an online meeting on Acrobat.com

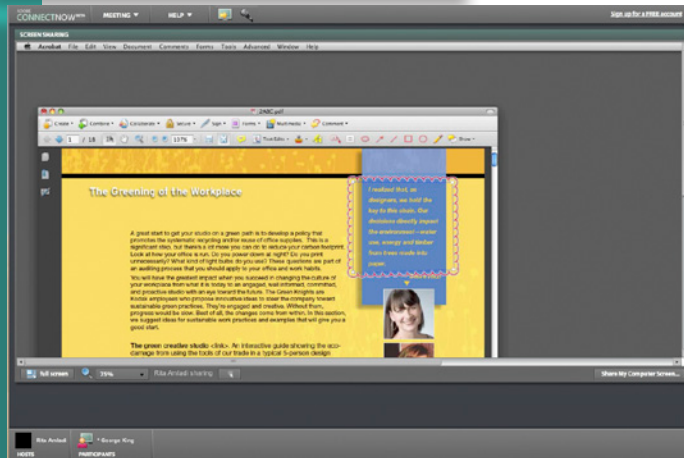
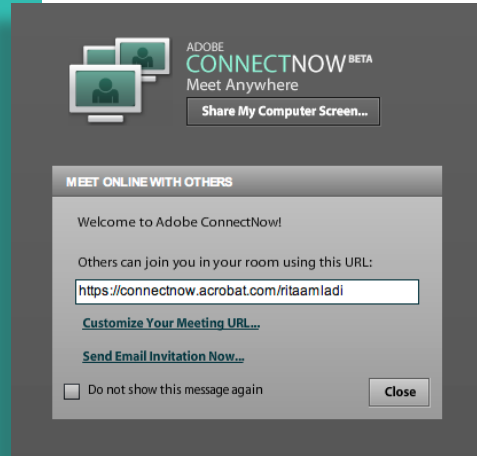
Adobe Systems, Inc.’s [Acrobat.com](#) is a set of online services that includes file sharing and storage, a PDF converter, online word processor, and web conferencing. Currently in beta, all services are free and robust enough to be used immediately. When a user signs in using an Adobe ID, or registers on Acrobat.com, they receive 5GB of free storage for uploading and sharing documents. The service includes free access to Adobe



Case Study Acrobat.com

To invite participants to join your meeting, send an email invitation with a link. You may customize your meeting URL with your branding.

You can share your screen in a meeting while talking over the phone, or use the built-in microphone to chat instead.



Buzzword (online word processing software), and Adobe ConnectNow, used for meetings and web conferencing. Additionally, users can create 5 free PDFs on Acrobat.com. What's most compelling is that you don't need Acrobat software on your computer— with only a browser, you can log in from anywhere if there's an internet connection.

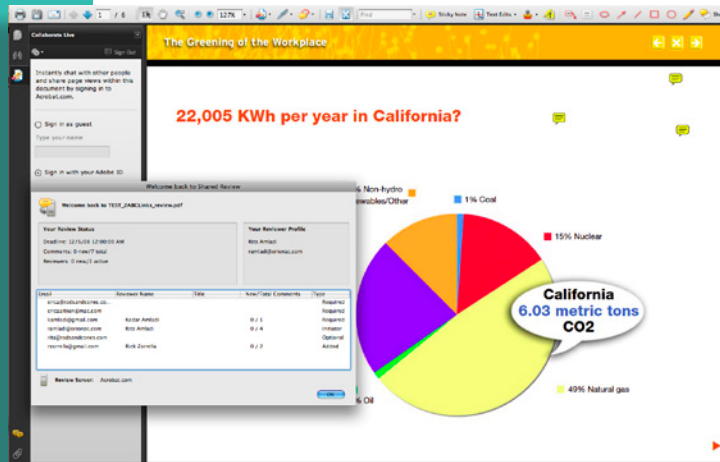
Click the Adobe® ConnectNow button to initiate a meeting with two other participants.

Once you're logged in, you are assigned a unique URL for your private meeting room. You can customize this with your company name, and invite two participants by Email.

Participants join the meeting by using a call-in number if they prefer to connect by phone, or they may use the built-in microphone for VoIP technology. Once your meeting is in progress, you can share your screen—or access your participants' screens with permission—and collaborate live on a document.

Case Study Acrobat.com

Participants in the Shared Review can download the shared PDF document to their own computers to annotate it, while viewing comments from all other reviewers.



If your computers are equipped with a webcam, you can also conduct a video conference. “Pods” are tools that allow live chats, annotations, and a white board for illustrations, making them an appealing and useful replacement for face-to-face meetings with small groups. If your meeting has more than 3 participants, Adobe also offers a paid upgrade service called [Acrobat Connect Pro](#).

Document reviews using Acrobat PDF technology

Acrobat users can collaborate and conduct document reviews using email reviews, shared reviews on a server, and by using Acrobat.com.

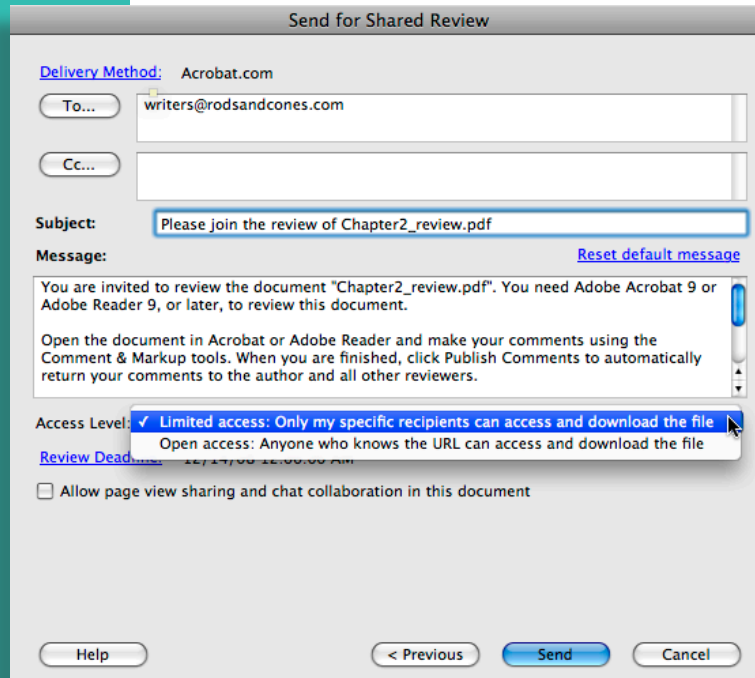
Conducting a Shared Review on Acrobat.com

When our 3-person team needed a way to collaborate on our ebook content, we set up Shared Reviews using Acrobat.com. With previous versions of Acrobat, we might have set up a Shared Review using a dedicated web server like our iDisk. With Acrobat 9 and Acrobat.com it took mere seconds to share a PDF file with our team and allowed us to use all the annotation tools available in Acrobat 9 and the free Adobe Reader on our own computers.

When the draft was ready, the writer chose ‘Send for Shared Review’ from the ‘Comments’ menu in Acrobat 9. Recipients were added and she gave limited access to

Case Study Acrobat.com

Adobe Acrobat 9 emails recipients a link to access the Shared Review located and managed from Acrobat.com.



the shared document. A two-week long review deadline that was automatically entered could be changed at any time by the initiator.

Reviewers received an email with a link to participate in the Shared Review. Once they downloaded the Shared Review to their own computers, they could comment and annotate the document using the full suite of commenting tools in Acrobat 9. Two of the reviewers used Acrobat 9 while one reviewer downloaded and used the free Adobe Reader 9 to no disadvantage. Once the review was complete, they clicked the Publish Comments button on the tool bar to add their comments to the review hosted on Acrobat.com. When all the comments were received, the writer ended the review and made the required changes to the document. The group had collaborated using clear, visual communication. All comments were tracked, resulting in a smooth and efficient review cycle.



www.MarkMahaney.com

Chris Hacker

Watch Chris Hacker's interview at the **LOHAS 9 Forum**. Chris tells how sustainability and profitability are linked at Aveda.

 **Part 1**

 **Part 2**

“You may choose to recycle, buy organic produce at the farmers’ market, or drive a Prius, but as Chris will tell you, your choices as a designer—small commitments you can make to each project and client—will make a bigger impact than all your other actions combined.”

— Michael Hodgson, Designer

Sustainability starts at the beginning

Chris Hacker’s role at Johnson & Johnson is to make the creative process a competitive advantage through strong design, brand identity, and sustainable practices. He leads all creative composition processes for brand identity, packaging design and brand imagery. Prior to joining Johnson & Johnson, he was Senior Vice President of Global Marketing and Design for Aveda™, where he was responsible for everything from product development to store design, advertising, and global consumer marketing. In fact, he made a green brand even greener, and at great profit. His work has been featured in the Whitney Museum of Art and showcased in Industrial Design magazine, and his visionary ideas have won many awards including the Smithsonian Cooper-Hewitt’s prestigious National Design Award for corporate excellence in 2004.

Chris Hacker passionately wants to change the way that designers and corporations think about sustainability. “I’m on a mission to tell designers that sustainability has got to be a part of what they do.” To this end he framed a set of questions that all designers should ask themselves before beginning a project.

11 Questions to Ask Before You Design, Specify, or Buy Anything

1. Do we need it? Can we live without it?
2. Is the project designed to minimize waste?
3. Can it be smaller, lighter or made from fewer materials?
4. Is it designed to be durable or multi-functional?
5. Does it use renewable resources?
6. Is reuse practical and encouraged?
7. Are the product and packaging refillable, recyclable, or repairable?
8. Is it made with post-consumer recycled or reclaimed materials and how much?
9. Are the materials available in a less toxic form? Can it be made with fewer toxic materials?
10. Is it available from a socially and environmentally responsible company?
11. Is it made locally?



Rizco Design's Beleaf

In May 2007, Rizco Design launched an environmental mission with a measurable plan of action, called Beleaf. Beleaf's end-goal was to educate clients about the positive impact that "green" design, paper purchases, and printing have on the environment. It also encourages the elimination of deforestation, which negatively reshapes our climate, geography, and biodiversity. As part of Beleaf, Rizco Design created an online report card which grades the sustainability of each project once it's completed. The Beleaf program also helped educate both clients and other designers through speaking engagements at seminars, events, and conferences within the printing and design industry.

Rizco Design's Beleaf Report Card for Clients

Rizco Design shows how a creative services firm with a strong commitment to sustainable practices can take it a step further. In addition to working with the government on such programs as the EPA's Climate Leaders partnership, Rizco design implements its own in-house environmental initiatives. When a project is completed, Rizco Design fills out an "environmental report card," to quantify how well the project did.

The report card grades a project in three main areas: Rizco Design's eco-friendly practices; sustainable design choices; and green printing. Owner Debra Rizzi says she did a lot of research to come up with key components in each of the "tiers," or stages. For example, in the second tier (the design phase), they list seven key decisions that designers must make in the course of any sustainable print project: Colorization, Size, Resources, Comps, Printing Process, Product Recyclability, and Client Awareness regarding the recycling process. Each decision is assigned a percentage of total points, based on research that showed how making a positive change in each area helped the environment over time. They also examined the resources used in creating the product, such as energy and water use in making the paper, as well as the fiber content.

REPORT CARD

CLIENT: Rizco Design PROJECT DATE: May 15, 2007
 AGENCY: Environmentally-friendly Agency PROJECT JOB CODE: 10005
 PROJECT NAME: Beleaf Report Card Project

BUSINESS SECTOR:
 CONSUMER HEALTHCARE B-to-B FINANCIAL NON-PROFIT

TIER ONE: GREEN OFFICE Accounts for a fixed rate of 20% on each job includes:
 Recycling: Paper, glass and plastic & paperless products Ink Toner Cartridges: Hewlett Packard Recharging Program includes recharging, reuse, repair and recycling of used cartridges
 Shipping Services: FedEx 10% Paper and Imaging Products: EcoPrint Generation Copy Paper: 100% Recycled Postscript New Life 200 White Plus/Supercop OHP Equipment: Donated to local high school art department
 Paper Creators: Sustainable Forestry Partnership Member 100% Wire Power through N.E. Wind

Total Green Office **20%**

TIER TWO: GREEN DESIGN Accounts for 30% of Total Score

1. Colorization: Was the design published around fewer colors (2%) Yes No
 2. Size: 100% (10) or a smaller size to eliminate waste (2%) Yes No
 3. Resources: Was the price designed to maximize natural resources (10%) Yes No
 4. Comps: Were PDFs used to demonstrate more comps (2%) Yes No
 5. Printing processes: Were decisions made to minimize printing processes? (2%) Yes No
 6. End Product is Recyclable (10%) Yes No
 7. Advise Client About Recycling Process (2%) Yes No

Total Green Design **30%**

TIER THREE: GREEN PRINTING Accounts for 30% of Total Score

1. Files uploaded to FTP vs. burning to disk and shipping (5%) Yes No
 2. Colors: (Earn Maximum of 5%) 1-2 (2%) 3-4 (2%) 5-6 (2%) 7-8 (2%)
 3. Paper Stock: (Earn Maximum of 25%)
 FSC Certified (10%) Yes No
 Recycled Content (15%) Yes No
 Top seed Paper (5%) Yes No
 Paper Mill Uses Wind Power/Sustainable Power Source (15%) Yes No
 List Brand: Askwell Options 70% "red"

4. Type of Printing Process: (Earn Maximum of 5%)
 Digital/Direct Imaging (10) (5%) Silkscreen (2%)
 Letterpress (2%) Offset (2%)
 Engraving (1%) Hot Stamp (1%)

5. Used FSC Certified Printer (2%) Yes No
 Vendor Name: Digital Printing Corporation, Matthews, NC

6. Coatings: (Earn Maximum of 5%)
 No Coating (5%) Varnish (2%)
 Spot Varnish or Aquapack (1%) Yellow Ultra-Violet (UV) (2%)
 Inks (1%) Laminates (1%)

7. Binding: (Earn Maximum of 5%)
 5% 4% 3% 2% 1%
 Straight Trim Die-cut Saddle-stitch Wire-O/Serial Perfect Bind
 Emboss O-Ring Eyelet
 Deboss Greenlet

Total Green Printing **28%**

BELEAF TOTAL 78%

Lifecycle Recommendations:
 Considerations have been taken to extend or reuse your end-product where ever is allowed
 Congratulations you surpassed the 70% sustainability benchmark! Please let your letterhead tell your clients too. Thank you!

TURN OVER A NEW LEAF.

To see a sample Beleaf report card, [click here](#).

When Rizco Design's clients receive an estimate from the firm, they read about the **Beleaf program** that states Rizco's commitment to educating clients. It also tells how Rizco's office operates, and how their project will be designed and printed.

They studied the impact of working with a FSC-certified printer, different ink types, papers, coatings and bindery, and applied specific percentages.

Working backwards

Debra says the report card is useful in planning for the job, and in helping clients make sustainable choices. "In creating this grading system, not only are we able to assess the environmental impact of the project, but we can show the client just how many decisions went into the job, and the impact those decisions have on the environment," says Debra. Rizco Design did some pro bono work for the Art Director's Club of New Jersey. They created a few pieces for their annual show, such as the cover of the awards booklet, a call for entries postcard, and the invitation. By using the report card and planning in advance, they produced the project sustainably. They sized all components to fit on one press form, avoiding waste in many areas. They also minimized inks and chose a carbon-neutral, 100% recycled, **FSC-certified** and **Green-e**

certified paper stock. "All in all, it helped us to really take stock of all considerations for the project," says Debra.

Report card for Clients

New clients are advised that they will receive an electronic "report card" at the end of the project that states all the decisions that went into their project. "It's not voluntary," says Debra. "Every client is emailed a report card at the end of a project. That's just how we conduct our business." She says clients have shown different reactions to the report card, ranging from no reaction at all to high engagement—where they want to make sure they score higher next time.

Debra concludes that the report card doesn't hinder her creativity in any way because the paper industry now offers many choices for eco-friendly paper. Also, there are a large number of FSC-certified printers to choose from, and clients are eager to learn and participate. Rizco Design urges all designers to incorporate similar measures in their own planning stages and when they meet with their clients.

Case Study

Sustainable projects by
Michael Hodgson of **Ph.D**



Michael Hodgson is a past president of the LA chapter of the **AIGA** and recipient of the prestigious AIGA Fellow Award. He has taught at **Art Center College of Design**, the **Otis School of Art & Design**, and is on the advisory board of **AIGA's Center for Sustainable Design**.



Michael Hodgson's design for the DVD case and tray insert.

Michael Hodgson runs Ph.D, A Design Office in Santa Monica, CA. The design firm develops visual personalities for companies and business visionaries. He was always interested in sustainability, long before it became trendy. Last year, Michael joined the **Designers Accord** as a founding member and pledged to adopt its principles. He believes it has come at a crucial time for designers interested in sustainability. It wasn't always easy to get clients to follow their lead. Now, using solid guidelines and directives prescribed by the Designers Accord, they can talk about it publicly and with clients. Michael shared a couple of his recent sustainable projects.

DVD tray insert for **Nomad Editing Company**

During initial discussions, Nomad's only concern was cost. This solution cost a bit more, but as the package was smaller and weighed less, they saved in shipping costs. Nomad went for it, and has since reported that it is a conversation piece for their clients.

 **Michael describes his design process.**



Case Study Michael Hodgson



Watch Michael outline the parameters of this project.



20th Century Fox packaging

Michael was approached by the company to design a box set that would hold a twelve feature-film DVD collection and two large trade paperback books, featuring the work of F.W. Murnau (silent movies), and Frank Borzage (silents and early talkies), all made for the Fox studio. Ph.D was to propose a design structure for the packaging and the book design, while making sure that it would also hold the DVDs.


The first part of the design was to create the actual box structure, which the team did, using just book cloth, board and paper. The books were very simple “trade paper backs” printed on Mohawk Via, 30%PCW. The trick with any DVD packaging is how to hold DVDs in place without using plastic or any kind of grommet. Ph.D did this by die cutting a half-circle into the board with a small thumb hole at the top and mounting this to a backing sheet. This whole box is easily recyclable, assuming anyone would ever recycle a \$250 box set!

Spotlight On

Don Carli compares direct mail to e-mail campaigns.



Don Carli is a Senior Research Fellow at the [Institute for Sustainable Communication](#)

 *For the full interview, please click [here](#).*

“We really need to think very carefully about the full life-cycle impact of media, whether it’s print or digital. We may find, in some cases, that if your paper is from a sustainably managed source, and if it was sourced local to the point where you manufacture the printed product, and the printing environment was using energy that came from wind power or solar, if you use effective targeting, customization, and print-on-demand technologies, you could be producing a product that was needed, wanted, and used with little to no waste and nominal expenditure of energy and materials that could readily be recycled at the end of its useful life. In many cases using print media in this way could be environmentally preferable to many digital media alternatives. Whether you communicate through print or digital media, energy, materials, and human effort are required. And neither the molecules nor the electrons are free, regardless of whether it’s print or digital.

For example, consider the case of e-mail vs. direct mail. Let’s suppose that I’m a political candidate, and I’m going to spend \$50 million on a direct mail campaign. I could buy 100 million pieces of mail for \$50 million. According to the US Postal Service, it’s approximately 20 grams of CO₂ per piece of mail just to deliver it. So, at the end of the day, I create 2000 tons of CO₂ emissions for 100 million pieces of mail. And at \$5 a ton, we’re really talking about

\$50,000 would be the cost of offsetting that. On the other hand, if I have \$50 million to spend, how many emails would I send and how many would never be opened or be considered spam? I wouldn’t send just a few million. I’d probably send a few billion because there’s no cost, is there? However, there is a cost. Recent analysis conducted by the consulting firm IFC estimates that each legitimate email has a carbon footprint of 4 grams of CO₂.

[...] And if you think about what we do today with physical mail, we pay for each piece. With email, we’ve been given the impression that it’s free, and it’s not. It’s just that we haven’t accounted for the true costs. Imagine that we were going to have physical mail, and we wanted to encourage people to use it by letting people buy one stamp a month for \$25. With that one stamp, they could send as much mail as they want to as many people as they want, regardless of what it weighs, anywhere in the world. That’s what we did in creating the current situation for email. But the assumption that sending email is “free” is a false assumption. In fact, there are physical and energy resources that are required for each email sent, for each email stored, and increasingly we’re going to have to recognize and pay for those costs. It’s the fallacy of digital media being environmentally benign that I’d like people to think about. I’m not saying that they must stop using email; I want them to use all media responsibly.”

Glossary

A

ACF (Absolutely Chlorine Free) Adjective describing pulp or paper that is bleached without using chlorine or chlorine compounds.

Acid-Free Paper Paper consisting of pulp with little to no acid content. Appropriate for archival use, acid-free paper resists deterioration.

Adobe Founded in 1982, the company was based on the question of “how could text and images on a computer screen translate beautifully and accurately into print?” The company has launched widely used standards and technology, such as PostScript and PDF. Adobe also works to be environmentally friendly, diverting up to 95% of its waste from landfills, and has won multiple awards from the U.S. Green Building Council.

AOX (Adsorbable Organic Halogen) A general term describing the amount of chlorine compounds bound to organic matter.

B

Biomimicry A philosophy of green design which asks the question, “How would Nature design that?” This philosophy takes nature’s best ideas and then imitates the designs and processes to solve human problems, including issues of how to make things slippery/sticky, flexible/rigid, or any of a host of other properties of materials and products.

Board Paper *see paper board*

C

Cannabis *see hemp*

Canola oil Plant oil used as a conveyance material for inks, as an alternative to petroleum.

Carbon Footprint A layperson’s term for “greenhouse gas inventory,” usually referring specifically to the amount of carbon dioxide emitted by an individual, business, or product over a given span of time, usually a life cycle.

Colophon

Design Strategy

Collaboration

Ebook Production

Print on Demand

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