

# Going green—are learning professionals ready?

Strategies for taking our learning initiatives to a **new green** level

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When I started an electric bicycle business three years ago and then sold my car, my life changed dramatically. After I became aware of my environmental impact, I couldn't turn back. How could I continue printing the 500-page Adobe PDF document when this very action generates 15 pounds of CO<sub>2</sub>, 50 gallons of waste water, and five pounds of solid waste, especially when there is a better alternative? Or how could I continue commuting 30 miles alone when I knew it generates six tons of CO<sub>2</sub> annually that can easily be cut in half by simply carpooling? Now imagine those numbers when multiplied by 116 million—the number of service-providing workers in the nation.

Every day, in our personal life and at work, we make hundreds of choices that contribute to global warming. Some choices have a bigger impact than others. As learning professionals, we are in a unique position to reduce the carbon footprint of our entire organization. But how green is our training?

## Classroom-based training's environmental footprint

Although classroom training declined from 76% in 2001 to 65% in 2006, according to the American Society for Training and Development (ASTD) 2007 State of the Industry Report, it still makes up the majority of learning hours delivered and has a significant impact on the environment in the areas of travel, facilities, and materials.

Travel is typically the biggest green house gas (GHG) contributor. Using [www.atmosfair.com](http://www.atmosfair.com), you can quickly find out, for example, that a 5,000 mile roundtrip flight from San Diego to New York generates 2.2 tons of CO<sub>2</sub>!

Facilities include training rooms as well as accommodations for learners. To determine the carbon footprint of your classroom training, you can use the Massachusetts Institute of Technology's (MIT) Building Technology Program online simulator at <http://designadvisor.mit.edu/design>. This tool calculates total energy consumption and CO<sub>2</sub> emissions. For instance, a classroom that holds about 20 learners and is occupied during the week from 8 a.m. to 5 p.m. generates one ton of CO<sub>2</sub> per year in San Diego and 1.7 tons in New York. In San Diego, 70% of those emissions come from cooling, while in New York it is 50% heating. In addition to the classroom, emissions from accommodations quickly add up. According to Greenlodge.org, the average hotel stay generates 44 pounds per person per night.

Materials typically consist of printed manuals or handouts. A course with 20 participants in which each person receives a binder containing 100 sheets results adds up to 2,000 sheets or four reams of paper, which equals a quarter of an average tree, based on calculations by Conservatree ([www.conservatree.com/learn/EnviroIssues/TreeStats.shtml](http://www.conservatree.com/learn/EnviroIssues/TreeStats.shtml)). This single course requires 60 pounds of wood use and generates 60 pounds of CO<sub>2</sub>, 200 gallons of waste water, and 23 pounds of solid waste. The Environmental Defense Fund offers an online calculator that provides a detailed break down of the environmental impact of different grades of paper. Check your paper usage impact at [www.edf.org/papercalculator](http://www.edf.org/papercalculator).

The table below outlines the CO<sub>2</sub> impact of a three-day course for 20 learners held every week in a facility in San Diego. For simplification, let's assume 50 weeks. Energy use for computers is not included, because an online version of the course generates similar computer emissions. However, using existing employee's computers reduces the environmental impact of your training, because you do not have to purchase the equipment.

<b>20 learners (1,000/year)</b>	<b>Three-day course</b>	<b>Annual emissions if course offered once a week (50 times/year)</b>	<b>Per learner</b>
Travel (average 2,500 miles roundtrip)	22 tons	1,100 tons	1.1 ton
Facilities Classroom Hotel	40 pounds 1.76 tons	1 ton 88 tons	2 pounds 176 pounds
Materials (100-page binder)	60 pounds	1.5 tons	3 pounds

The tremendous amount of CO<sub>2</sub> generated for this course equals about 200 vehicles driving 12,000 miles a year using 6,000 barrels of oil. If this course is moved online, it not only saves about 1,200 tons of CO<sub>2</sub> but also eliminates more than \$1 million in travel expenses. This savings might be well worth increasing the learning budget. Calculate your learning footprint on <http://learningfootprint.com> to see your impact.

Classroom training programs contribute to global warming by generating a significant measurable amount of greenhouse gases. What can we realistically do to reduce the amount of CO<sub>2</sub> that our training generates?

#### **Take action to reduce our training carbon footprint**

eLearning is inherently green. By moving a course online, you instantly cut the biggest contributor to your footprint: travel.

If eLearning is still new in your organization, start with small steps by integrating rapid eLearning authoring as part of an informal learning strategy. You can use programming-free tools like Adobe® Captivate® software to create content ranging from simple software demos to sophisticated branched scenarios, or Adobe Presenter software to quickly get informational presentations into an online format.

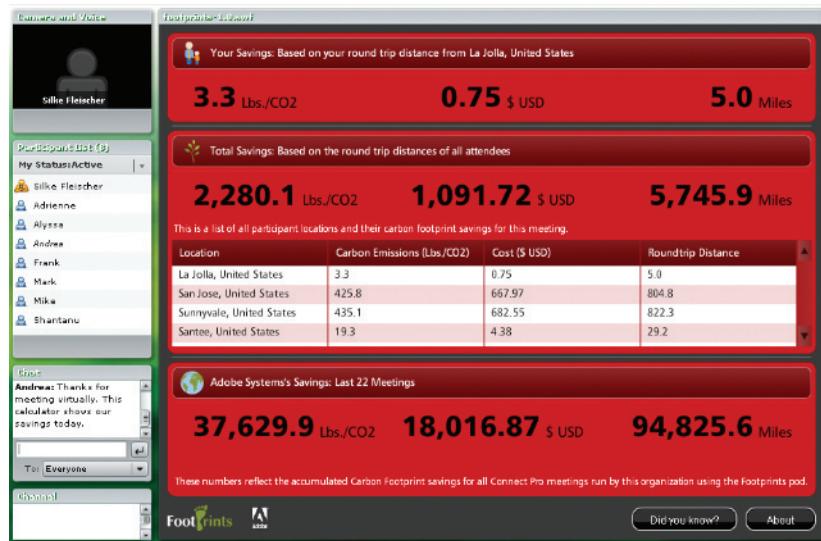
A more gradual approach is blended learning, where you can move the majority of content online and use shortened instructor-led sessions. Or consider moving the classroom instruction online using virtual classrooms or virtual worlds. In an entry posted to [lowerfootprint.com](http://lowerfootprint.com) on May 2008, Tom Raftery noted that Crédit Agricole, the eighth largest bank in the world, is saving \$200,000 to \$300,000 in travel expenses this year alone in a pilot program that holds training sessions in SecondLife. According to the ASTD 2007 State of the Industry Report, "Tailored blended learning saved one organization \$2.8 million in travel and accommodation costs by cutting travel time for a 14-week program from 28 to 7 days."

Using Adobe Acrobat® Connect™ Pro, a powerful virtual classroom and web conferencing solution that uses Adobe Flash® technology, you can automatically calculate your carbon and financial savings for each session and see the cumulative benefits for your entire organization.

*"Many people have the impression that going green means investing hundreds of thousands of dollars. Reducing energy consumption, however, not only preserves our natural resources, it also contributes directly to a company's bottom line. Making small investments, such as lighting occupancy sensors, programmable thermostats, or designing training rooms to be in their own HVAC zone for independent temperature control, can contribute significantly toward energy conservation and results in tremendous cost savings—easily providing a positive ROI on your investment."*

Brian Clark, Facilities Manager, Independent Contractor

The data is based on each attendee's roundtrip travel distance to the location of the session host. RefindData has developed the revolutionizing Footprints plug-in for Adobe Acrobat Connect Pro, which you can download at <http://footprints.refineddata.com>.



Allowing learners to telecommute when taking online courses not only reduces the travel carbon footprint of your organization, but it also gives learners control over their time. Your learners are happier, and you can still track all activities, including scores, using your learning management system.

Including performance support systems into your strategy can help reduce training time by providing information at the point and time of need. Learning 2.0 technologies remove the technical barrier of implementation, and they offer learners powerful functionality, such as context sensitivity, search, collaboration, user commenting, bookmarking, and more. Learning 2.0 technologies include blogs, podcasts, wikis, forums, screencasts created with Adobe Captivate, and online information systems developed with Adobe RoboHelp®.

In the event that you can't go online and have to conduct classroom-based instructor-led training, the following tips might help reduce your carbon footprint.

#### Transportation

- Offer public transit passes or support carpooling and hybrid car rental (reserve on <http://planettran.com>, which exclusively offers environmental-friendly hybrid vehicles).
- Offer carbon offsetting for each traveler via organizations like CarbonFund at [www.carbonfund.org](http://www.carbonfund.org). A carbon offset is a way to reduce greenhouse gas emissions by investing in renewable energy projects such as wind farms or reforestation. Although carbon offsetting is not a solution because you still cause the generation of tons of CO<sub>2</sub>, it is a simple way to take responsibility and support the development of green alternatives.
- Facilitate courses in centrally located areas and shorten travel distances.

#### Facilities

- Choose energy-efficient, long-lasting hardware like the new CherryPal, a desktop that runs on only 2 watts, lasts 10 years, and costs only \$249.
- Find green accommodations via sites like [www.greenlodge.org](http://www.greenlodge.org).
- Start late Monday morning to reduce the number of hotel nights, and require double occupancy.
- Choose green training facilities or upgrade your own.
- Choose zero footprint catering that uses local produce and reusable dishware.

- When catering, avoid red meat and offer vegetarian dishes if possible. Red meat and dairy are responsible for nearly half of all greenhouse gas emissions from food for an average U.S. household.<sup>1</sup>

Adobe, for example, has made substantial investments in its San Jose headquarters and was the first commercial enterprise to achieve three Platinum certifications under the Leadership in Energy and Environmental Design (LEED) Green Building Rating System in 2006. Investments of approximately \$650,000 for energy and environmental retrofits since 2001 have resulted in a whopping 115% return on investment (ROI). This type of ROI is not unheard of and can be a great way to increase an organization's value in an economic situation where stock market investments are volatile and standard interest rates are below 5%.

### **Materials**

- Avoid printing and shipping. If you need to print, print locally on 80% to 100% recycled paper.
- Offer recycling and educate participants what can and cannot be recycled. This differs based on your area's waste management program.
- Purchase recycled and environmentally preferable products. A good starting point is [www.stopwaste.org](http://www.stopwaste.org).
- Avoid plastics such as extra pens, training binders, name badges, and so on. Plastics are a tremendous problem, and only a very small amount is recycled.

### **Integrate sustainability into your workflow**

The actual training is one aspect of your footprint. Your own workflows and departmental habits are another way to reduce your environmental footprint. Here are some changes you can integrate into your workflow.

#### **Reduce travel during the authoring process**

If you are currently traveling during the analysis and development phase, consider some online approaches. You can start today using free services such as Adobe ConnectNow at [www.acrobat.com](http://www.acrobat.com), which includes videoconferencing with screen sharing and whiteboards.

#### **Reduce printing**

The United States has only 5% of the world's population, yet uses 28% of its paper.<sup>2</sup> The average office worker alone uses 10,000 sheets of paper every year. Some ideas to consider are:

- Use an online collaboration, review, and versioning process. Free online services like Adobe Buzzword® at [www.acrobat.com](http://www.acrobat.com) enable you to work together on documents and easily roll back to previous edits.
- Avoid printing documents that have to be signed—use digital signatures in Adobe Acrobat instead.
- Design your content so that printing is not necessary and content can be easily accessed online.

One impressive example of reducing printing and streamlining processes is the Illinois Department of Human Services (DHS), the state's largest government agency. Case managers, administrators, and citizens alike are working smarter and faster by shifting from paper to automated forms processes with Adobe LiveCycle® ES (Enterprise Suite) solutions, which saves the DHS \$1.2 million annually in printing and distribution costs and \$6 million annually in administrative costs.

#### **Reduce paper consumption**

- Read professional magazines like Elearning! online.
- If you need books, check out online bookstores or auctions to purchase used copies. This is an easy environmental choice and instantly saves a lot of money.

<sup>1</sup> Engelhardt, Erika. 2008. Do food miles matter? *Environmental Science & Technology* (April 16), [http://pubs.acs.org/subscribe/journals/esthag-w/2008/apr/science/ee\\_foodmiles.html](http://pubs.acs.org/subscribe/journals/esthag-w/2008/apr/science/ee_foodmiles.html).

<sup>2</sup> Buncombe, Andrew. 2006. US Population hits 300 million, but is it sustainable? Reprinted from the *Independent*, October 11, [www.commondreams.org/headlines06/1011-08.htm](http://www.commondreams.org/headlines06/1011-08.htm).

**If you do have to print, follow these guidelines:**

- Change to double-sided printing.
- Remove cover pages, reduce margins, and use single-line spacing.
- Move to a lower quality print standard, like draft.
- Print on recycled paper, which uses 60% to 70% less energy to produce.

- Reuse boxes and cartons or offer them free online at sites like [www.craigslist.org](http://www.craigslist.org).

**Reduce energy use**

- Choose energy efficient hardware.
- Reduce the number of printers in your office and remove faxes (switch to [www.efax.com](http://www.efax.com) or [www.Fax.com](http://www.Fax.com)).
- Remove duplicate files and reduce the number of storage servers.

**Motivate others through your leadership**

As a learning professional, you understand how to change behaviors. You can utilize these skills and experiences for your green initiatives. According to [www.elearningguild.com](http://www.elearningguild.com), currently 68% of its members reach more than 1,000 learners, and 20% have contact with more than 25,000 learners. Any training that you develop likely touches thousands of learners. Even providing a small fact can sometimes make a big difference in someone's decision.

**Encourage sustainable choices among learners**

- Design your content in a reusable and easily accessible way so that printing is not necessary. Instead of a print button, include a bookmark button.
- Provide links to online resources and online books or encourage buying used books.
- Include "Please recycle" and "Printed on recycled paper" messages on each printed document.

**Inform learners about the impact of each decision**

- Let learners know about the environmental impact of printing or traveling.

**Lead with sustainable processes and green initiatives**

- Track the costs and environmental impact of your department.
- Publish articles about going green or present your ideas at conferences.
- Require green practices from your suppliers or contractors.
- Become the model in your organization by implementing the strategies outlined in this article.
- Develop an online learning module to train employees on more efficient paper use and printing practices. Or work directly with your IT department to set up all print and copy devices to default to sustainable practices.
- Provide incentives or contests around green initiatives and reward employees that implement the new practices.
- Enroll in an online course on corporate social responsibility and sustainability. These courses include topics such as lifecycle costing and sustainable strategies that you can implement in your organization. Every pound of waste generated by an office worker impacts the bottom line of your organization.
- Start a green team and organize events around earth day or bike-to-work day. Employees will appreciate your efforts and the organization's commitment to the environment.

**An international law firm makes it happen**

Bryan Cave LLP, an international law firm, has implemented several strategies to reduce printing, travel, and energy use. Wide use of Adobe tools is helping Bryan Cave to reduce its carbon footprint and gain cost efficiencies in the process. A typical technical product rollout previously required hundreds of paper pages per user. Now, with Adobe Captivate simulations and training cards available online in Adobe PDF, paper use for those resources has dropped by nearly 90%.

"We have made enormous leaps forward in our practice since we adopted Adobe Captivate and Acrobat Pro," says Tom Pullen, engineer for Bryan Cave Learning Systems. "The firm has realized huge time savings with more rapid development cycles, reliable delivery of highly engaging eLearning content, and streamlined workflows across the enterprise."

### **Getting management onboard**

Developing more eLearning and offering less instructor-led classroom training, switching to environmental authoring and delivery practices, and improving training facilities to become sustainable might require additional investments currently not available in your budget.

The environmental benefits are tremendous, but if management is not yet including social responsibility in their agenda, presenting a simple lifecycle costing (LCC) analysis and talent management strategies might provide the necessary arguments to approve the investments and changes.

LCC is used to evaluate if an energy-saving investment will pay off over time. It assesses the initial cost of the investment, any additional ongoing costs, all cost savings you achieve, as well as the discount or investment rate, which reflects the opportunity cost of money over the time of the investment.

As a result of LCC, you can determine the ROI as well as the net present value (NPV), which demonstrates the profitability of your investment. Using the simple calculator at [www.energytools.com/calc/EnerEcon.html](http://www.energytools.com/calc/EnerEcon.html), you can calculate the ROI and NPV of a proposed project. If your planned project results in a positive NPV, it should be implemented from a pure financial standpoint, because the project more than pays for itself. If your project shows a negative NPV, you may want to reconsider the investment or show how the environmental benefits and other positive soft factors, such as company perception and happier employees, outweigh a negative cash flow.

Implementing environmental initiatives can play an important role in your talent management strategy. In *The Sustainability Advantage*, Bob Willard not only examines the cost savings of sustainable leadership, but also outlines three benefits critical to every human resource manager: easier hiring of the best talent, higher retention of top talent, and increasing productivity. In detail, he quantifies savings for cost of recruitment and turnover, increased individual and team productivity, and bottom-line benefits of improved working conditions. Based on a hypothetical Fortune 500 company with 120,000 employees, the annual benefits quickly add up to hundreds of millions of dollars. Worksheets at the end of the book can help you calculate the potential benefits for your organization.

### **Global warming is a choice**

The knowledge about the effect of every choice we make is available in today's instant access world. "We don't have an excuse anymore because we know better now," said Rob Gillespie, director of Energy Efficiency & Engineering, Center for Sustainable Energy California.

Implementing sustainable strategies affects more than the environment and profits; it also influences employees and can have significant consequences for organizations. A 2007 study by MonsterTRAK ([http://findarticles.com/p/articles/mi\\_m0EIN/is\\_2007\\_Oct\\_3/ai\\_n27394645](http://findarticles.com/p/articles/mi_m0EIN/is_2007_Oct_3/ai_n27394645)) showed that 92% of young professionals prefer working for a company that is environmentally friendly. Another study by Kenexa Research Institute in 2008 (<http://www.kenexa.com/content/PressReleases/2008/08apr18.aspx>) shows that organizations that support the environment have a significant influence on employees' engagement levels and views of senior management. "Today's employees are considering the reputation of an organization in their decision to join, and the positive influence of a company's green policy relates to a more favorable reputation," said Anne Herman, research consultant of Kenexa Research Institute.

The shift of organizations to go beyond merely looking at profits, but also at the people and the planet, the so-called "Triple Bottom Line," offers an unprecedented opportunity for everyone to make the right choices.

## Product selection guide

The following table provides a basic overview of Adobe tools and how they can support your workflow or authoring process.

Your task	Possible solution
Performance and gap analysis and general data and survey gathering	Adobe Acrobat Professional to develop online forms and Adobe LiveCycle to deliver and process the forms and collect the data
Storyboarding and prototyping	Adobe Captivate to quickly develop branched storyboards Adobe FrameMaker® to develop structured templates for reusable content
Blogs and informal learning delivery	Adobe Contribute® to create media rich blog entries without HTML skills
Rapid content authoring	Adobe Captivate and Adobe Presenter to support the authoring process, from demonstrations and presentations to quizzes and simulations Adobe Visual Communicator® to easily create professional video newscasts
Software and IT training	Adobe Captivate to create screen recordings and software simulations Adobe Acrobat Connect Pro Training server to deliver the content and track learner progress
PowerPoint conversion	Adobe Presenter to add audio and quizzes Acrobat Connect Pro Training to deliver the content and track learners
3D immersive environments	Adobe Director® for advanced, rich multimedia authoring and native 3D
Games and simulations	Adobe Captivate for basic branching and simulations Adobe Flash and Director for complex games with adaptive learning and multivariable-based branching (requires programming)
Softskills and scenario training	Adobe Captivate with built-in branching and multimedia support Adobe Soundbooth® to edit audio and effects (phone voice) Adobe Premiere® Elements to edit video
Web pages and HTML content	Adobe Contribute for easily developing and updating media-rich pages without HTML or scripting skills Adobe Dreamweaver® for professional authoring
Collaborating with subject matter experts and team members	Acrobat Connect Pro for a complete collaboration solution, including session recording, whiteboards, notes, and more Acrobat.com free services: <ul style="list-style-type: none"><li>• Adobe ConnectNow (up to three attendees) or offering screensharing, web cam video, voice over IP, and chat</li><li>• File sharing</li><li>• Adobe Buzzword to collaborate on documents online</li></ul>
Sharing files online	Send links instead of e-mail attachments with full access control free when using Acrobat.com
Reviewing and approving content	Adobe Acrobat to manage document reviews
Audio recording and editing	Adobe Soundbooth with powerful editing functionality, noise reduction, and audio effects
Video recording and editing	Adobe Premiere Elements for standard video-editing tasks (Adobe Premiere Professional for advanced editing) Visual Communicator for creating video presentation programming free Adobe After Effects® for professional motion graphics and visual effects
Image editing	Adobe Photoshop® Elements to edit images and apply effects
Virtual classrooms and online seminars	Acrobat Connect Pro to deliver virtual classrooms and self-paced courses Adobe Captivate and Adobe Presenter to create interactive learning objects for use inside Acrobat Connect Pro
Single media-rich file distribution	Acrobat to combine multiple documents and media in a portfolio
Performance support system with user commenting and powerful navigation for instant access	Adobe RoboHelp with Adobe AIR™ publisher to develop easily searchable online information systems
Online performance reviews	Acrobat and LiveCycle to create online forms and enable digital signatures, encryption, and forms processing
Training manuals	FrameMaker to develop large, structured documents for static print or media-rich online PDF delivery
Learner tracking	Acrobat Connect Pro Training to manage learners and online courses (tracks detailed score content developed with Adobe Captivate or Adobe Presenter)

