SPENDING GREEN

How law libraries can save energy and money with cow-belch consciousness

by Jason Springman

"Don't have a cow, man." – Bart Simpson

If attempting to be prophetic, like his sister Lisa, rather than taunting Homer, Bart might literally be speaking the truth. Each year, a cow generates approximately 110 kilograms of the greenhouse gas methane in manure, flatulence, and burps. Couple that with the 3.6-6.1 CO_2-equivalent kilograms of greenhouse gas expended to produce just one quarter-pound cheeseburger, and clearly burgers are not just bad for waistlines, according to Jamais Cascio's article, "The Cheeseburger Footprint," in *Open the Future* (http://openthefuture.com/cheeseburger_CF.html).

Cost Consciousness Must Include More than Dollars to Make Sense

Some librarians may exhibit miserly traits, perhaps the result of an exorbitantly costly legal and library science education that has tethered them to Sallie Mae servitude. No matter the rationale, this is a sensible characteristic given today's economic climate. Likewise, frugality is an absolute for libraries, far too many of which are operating with depleted budgets and face resource cuts. With volume count gone from the accreditation criteria for law libraries, this is one good excuse for re-evaluating collection policies and practices, writes Rita Reusch in her article, "By the Book: Thoughts on the Future of Our Print Collections," published in the Summer 2008 issue of *Law Library Journal* (www.aallnet.org/products/pub_llj_v100n03/2008-25.pdf). The better excuse is that librarians can save money if they are conscious of their impact on the environment, having cow-belch consciousness.

Perhaps if the topic of cattle seems irrelevant to libraries, then consider monkeys, specifically the Kipunji, a species discovered three years ago. Due to illegal logging and government corruption, their habitat is on the brink of extinction. Another consequence of the depleted resources is that the future livelihood of the people of Tanzania is at risk, according to "The Critically Endangered kipunji Rungwecebus kipunji of southern Tanzania: first census and conservation status assessment," published in the July 2008 issue of *Oryx* (http://journals.cambridge.org/action/displayJournal?jid=ORX).

Still far removed from the calm of a library, maybe, but those illegal logs could possibly be the wood in your desk, the paper in your copy of *Spectrum* or *Tiger Beat,* or the paper in your printer tray. This problem impacts everyone, just as everyone and every cow belch has an impact on the world.

Librarians must have this consciousness and consider the impact of their choices when they enact policies and select vendors, resources, publications, and supplies. Libraries will then account for monetary cost *and* the life-cycle cost of resources.

It sounds like a ridiculous and expensive proposition for libraries, filled with books, computers, and bodies consuming huge amounts of energy in service to patrons. Yet, most green strategies save money or incur negligible extra cost and engender patron service, civic responsibility, and environmental responsibility. To develop this consciousness, an understanding of the impact print and electronic resources have on the environment allows librarians to make responsible choices.

Too many variables and presumptions complicate a direct comparison—Slate's comparison of newsprint versus electronic subscription exhibits some of these complications (www.slate.com/id/2185143) — however, random data, even when not fully quantified, can be effective intimidation for encouraging environmental responsibility. It worked for Al Gore.

The Perils of Paper

The staple of libraries is books, and the cost is immense. Most paper production "begin[s] life in well-managed commercial timberlands…, so deforestation isn't a pressing issue," writes Brendan Koerner in Slate's "Electric Hand Dryers vs. Paper Towels: How to Keep Your Paws Clean and Green" (www.slate.com/id/2193740). "But one must account for the fossil fuels expended on machinery and log transport…, the energy-intensiveness of the pulping process, which can result in the emission of harmful pollutants into nearby waterways…, [and] the cost of delivery."

Making paper suitable for printing also adds bleaches, inks, dyes, and adhesives to the process, which release more toxins into the water supply. In fact, "[p]roducing one ton of virgin uncoated paper…requires three tons of wood; 19,075 gallons of water; and generates 2,278 pounds of solid waste," according to TechSoup's "A Nonprofit's Guide to Green Printing" (www.techsoup.org/learningcenter/techplan/page5675.cfm).

These statistics place the paper industry as the nation's fourth-largest emitter of carbon dioxide, while "[t]he printing industry is the single largest air polluter and the third-largest consumer of fossil fuels in the world after automobiles and steel manufacturing," according to Slate and TechSoup.

Being one of these industry's biggest customers, libraries have a problem to address. The Environmental Protection Agency (EPA) reports that each year the average person uses the equivalent of a 100-foot-tall Douglass fir tree. Imagine what impact each library has on the environment. Coupling these consumption levels with the toxins generated from manufacturing paper, it is amazing that there are any monkey habitats left.

Recycling lessens the impact. Recycled paper production takes 40 percent less energy, and recycling 1 ton of paper saves 17 mature trees; 7,000 gallons of water; 3 cubic yards of landfill space; 2 barrels of oil; and 4,100 kilowatt-hours of electricity—enough energy to power the average American home for five months, according to the EPA.

Even better, using Forest Stewardship Council (www.fsc.org) certified paper lets consumers know that the paper, both virgin and recycled, did not come from illegally logged or irresponsibly managed forests. There are other production methods that ensure you are using recycled, sustainable, and/or toxin-free paper, but the best cure is to reduce use of paper altogether, avoiding the impact of production, recycling, or perils of byproducts and eventual disposal.

Electronic Evils

Electronic resources can be cheaper and cleaner than paper, if produced and used responsibly. Yet the impact on the environment is still severe, from mining the resources and manufacturing the plastics and metals for the circuits to disposing broken or antiquated gear. Production of just one single silicon wafer uses 0.26 pounds of chemicals and 3.5 pounds of fossil fuel and creates 70.5 pounds of waste water, reports the Environmental Literacy Council's "Computer Chip Life Cycle" (www.enviroliteracy.org/article.php/1275.html).

"The average desktop computer and monitor requires at least 10 times its weight in fossil fuels and chemicals to manufacture, much more materials-intensive than an automobile or refrigerator…the energy savings potential of reselling or upgrading is some 5-20 times greater than recycling," according to the United Nations University newsletter (http://update.unu.edu/archive/issue31_5.htm).

PC and laptop component manufacturing has not significantly changed in the past decade, thus there has been minimal improvement in the environmental consequences of manufacturing. Still, this is only part of the equation, the other half being the cost of operating the electronics. A computer with monitor and printer uses approximately 110-330 watts to power while in use, notwithstanding stand-by power; if average power use is 220 watts, using a computer 30 hours a week for 45 weeks a year at about $0.090/kWh is $26.73. This figure neglects the additional cost of cooling the room as a result of heat dissipated by the computer, writes Michael Bluejay on Saving Electricity (http://michaelbluejay.com/electricity/computers.html).

Now consider the cost from all the computers at your library and how responsible purchasing and usage could easily halve the cost. The energy expended in use of electronic products is improving, generally through EnergyStar (an Environmental Protection Agency and U.S. Department of Energy standard) compliance and initiatives to design devices that draw only 1 watt of power when off. These initiatives are attempting to make a dent in the average annual American household's electricity consumption of 10,000 kwh, according to Slate.

Librarians do not need to know what *all* these figures truly mean or be able to recount exactly what impact cow belches have on the environment, but it should sound ominous, inspiring concern so that the practical needs of a library will entail consideration of environmental impact.

How to Make Change Make Cents

Fundamentally, libraries provide access to information for patrons. In determining how best to serve patrons, librarians are continuously debating the print versus electronic battle. However, patrons will actually be the ones to choose the winner, and it seems that online research is gaining ground. The rub is that patrons may not be mindful of the environmental consequences; they only know and care about what works for them, even if that resource is not actually the best for research. So, librarians must acknowledge the trend and accommodate with the greenest options possible.

The American Library Association's Association of College and Research Libraries predicts that the trend and presumptive shift for law libraries is to retain topical print monographs, as well as administrative and legislative codes relevant to their state and region; there will also be increased need for preservation and enhancement of local digital archives; and consortia for sharing resources and negotiating better database pricing will likely proliferate. Given this need to accommodate the trends, here are 10 recommendations for implementing your cow-belch consciousness:

1. Printing. From the manufacturing and maintenance of paper and printers, to the impact of deforestation and need to recycle, printing is detrimental, and libraries do an excessive amount of it. Libraries should ensure that recycling bins are convenient and easy to use, but also enact policies that encourage the use of electronic documents rather than printing in order to reduce consumption.

Request that faculty accept electronic assignment and/or exam submission, or ask attorneys to accept electronic documents, with encouragement not to print. When printing is inevitable, enact print limitations that defer cost to users who are irresponsible in their printing habits. Also, urge patrons to reset margins from default to 0.5" or less, use smaller fonts, and print single spaced and doubled sided.

The extra cost of environmentally-friendly copy paper is negligible, if not cheaper, so stock your printers accordingly. Strive for paper that is 100 percent post-consumer waste (PCW) paper, processed chlorine free

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(PCF), uncoated, FSC certified, and made by renewable energy sources. Also consider alternative inks, like soy; check out "Our Recipe for Sustainable Paper" at www.re-nourish.com/sustain.

Ultimately, development of better computers should help to minimize paper consumption; the more tablet computers improve functionality, portability, and resemble tangible paper, the more likely users will be willing to settle for a screen as opposed to paper. Help facilitate this transition by cutting your dependence on paper.

2. Duplicate Prints and Databases. Don't.

3. Computers. For academic libraries, enact a policy requiring students to purchase specific (at a minimum, Energy Star-certified) laptops, which draw less power than desktops, and remove all but a few desktop computers from labs and public spaces, thus eliminating constant power consumption.

At student orientation, provide students with a 1- or 2-GB USB drive with all orientation documents and software (such as Antivirus) to encourage digital data storage rather than printing. IT departments should optimize all computers for energy efficiency and provide support for student laptops throughout the three years of law school.

For all computers, set them up with sleep or hibernate modes to reduce their energy use by 60 to 70 percent. Note that screensavers do not save any energy, so turn off your computer, preferably at the power strip, when not in use for extended periods, according to the U.S. Department of Energy's, *A Consumer's Guide to Energy Efficiency and Renewable Energy* (www.eere.energy.gov/consumer/your_home/appliances/index.cfm/mytopic=10070).

4. Use Your Green to Make Them Green. Let vendors know that they will receive more of your business by being green. Select vendors that design modular devices for easy upgrading and that plan for obsolescence.

Between five and seven million tons of electronic consumer waste was put in landfills in 2001, a number bound to increase dramatically with the mandated HDTV/digital television switch in 2009, reports Giles Slade in, *Made to Break: Technology and Obsolescence in America.* Establish a policy that electronics should be upgraded instead of replaced whenever feasible.

If equipment must be replaced and isn't broken, donate it. Create a list of local attorneys or organizations to redistribute these electronics; this goes for print resources as well. If the equipment is broken, find a recycler, such as Electronics TakeBack Coalition, National Center for Electronics Recycling, and state or local programs.

Confounding the problem, technology is quickly obsolescent. Consumers must place increased responsibility on the manufacturers to design products for disposal, or planned obsolescence, writes William McDonough and Michael Braungart in *Cradle to Cradle: Remaking the Way We Make Things.* For instance, the layers of some potato chip bags have compounds too difficult to separate for recycling, and computers have components that cannot be broken down, thus the only remedy is disposal rather than recycling or reuse.

"Adhesives, bindings, and foils used in printing and packaging can [also] render the final product unrecyclable, virtually guaranteeing that it will end up in a landfill," writes Willow Cook on TechSoup (www.techsoup.org/learningcenter/techplan/page5675.cfm). "There, petroleum-based inks can cause lasting damage to the environment, leaching volatile organic compounds—which can cause cancer and birth defects…"

Let manufacturers know this is unacceptable. Librarians can also urge publishers to take a cue from *Cradle to Cradle,* which is a treeless book, "printed on a synthetic 'paper,' made from plastic resins and inorganic fillers, designed to look and feel like top quality paper while also being waterproof and rugged," says William McDonough. "And the book can be easily recycled in localities with systems to collect polypropylene, like that in yogurt containers."

5. Ownership. Law librarians must begin comprehensive plans to own and share resources to cut costs, the most obvious method being consortia. Ownership of digital resources will reduce costs by avoiding subscriptions to duplicate resources. It will develop self reliance and allow librarians to network with one another on collective projects, and, more importantly, those resources will be free.

Local ownership gives control back to the librarians, and digitization reduces inter-library transit of physical documents. These projects help develop librarians' expertise and avoid the complications of keeping up-to-date on the vendors' constantly-evolving database interfaces.

Ownership also facilitates teaching, providing another reason librarians should be in the classroom teaching legal research skills that will maximize law students' online research skills and thereby reducing energy consumption.

6. Low-Key Operation. Those visiting Portland for AALL's Annual Meeting this year might have read about the green theme prior to

arrival but not noticed many changes at the convention because it was so well integrated into the program. Merely the row of printers stood out, but this saved AALL from printing excessive handouts, forcing responsibility on the attendees to acquire what they desired, rather than discard what they didn't. With recycling bins convenient throughout the convention center, nothing felt burdensome.

The endeavor was low-key and altogether effective at helping to raise consciousness and change behavior. Carry the same principles over into your library when making change, being careful not to over-publicize and exude smugness or sloganeering.

7. The Next Best Thing to Rebuilding. Have your building assessed with an industrial grade audit (IGA), looking for water and energy improvements. A recent IGA at the University of Arkansas campus in Fayetteville found $40 million of improvements that will be carried out with energy performance contracts (EPC). Contractors will do the work, financed through bonds at the University of Arkansas, which will be repaid within 10 years due to the money saved from the improvements. The contractors are not paid until the energy bills go down, and they receive the difference in cost savings until the debt is fully paid.

Short of an IGA, discuss plans to maximize your building's energy and water consumption. Some costs of operation may be disassociated from the library—perhaps heating and air conditioning, water, and lighting—requiring a more coordinated effort with landlords, administrators, or other departments in the building to optimize energy use. If you are fortunate to get a new space or rebuild, design for Leadership in Energy and Environmental Design (LEED) certification (www.usgbc.org).

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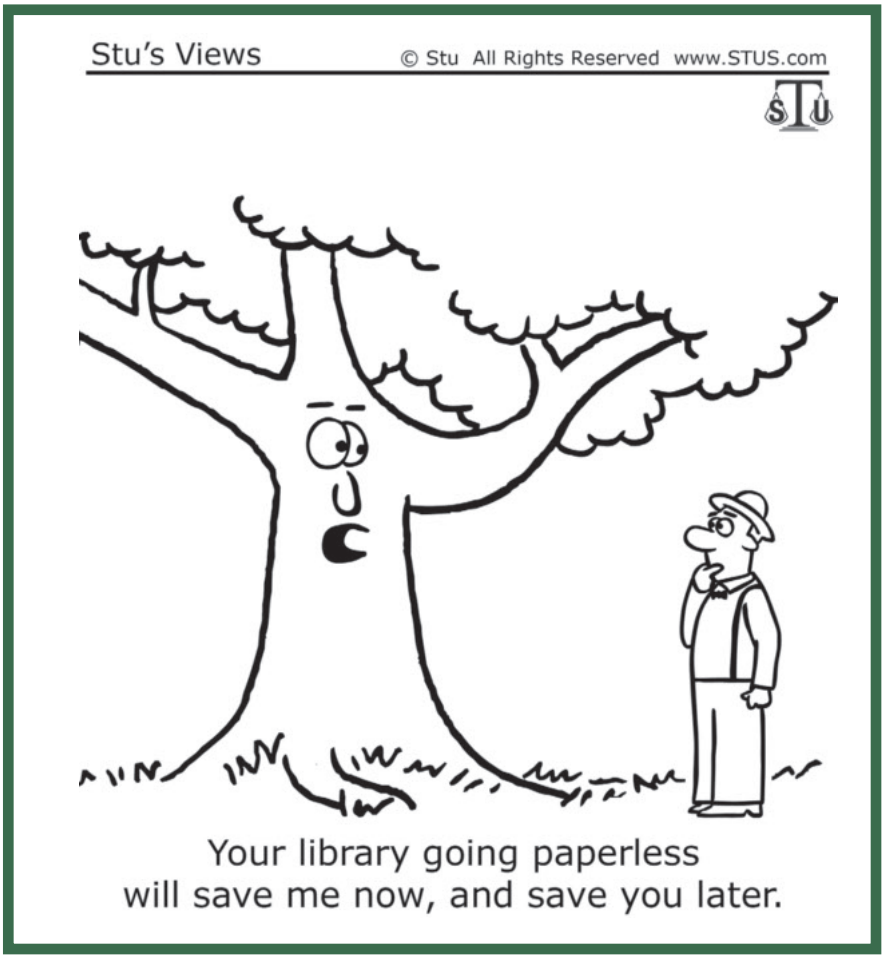
8. Consciousness. Consider sustainability as a factor in every action and every purchase. Helping the library save money and operate more cleanly is second nature when you engage in these habits personally. You do not need sustainability to dominate your mindset, but it must be a strong enough impulse to inspire action. Educating yourself on why and how to be green provides that impetus.



The information in this article is merely a primer; review the Web sites cited in this article for more extensive information. Knowing the impact of your actions is beneficial, too. To assess your personal impact on the environment, try one of the Internet-abundant carbon footprint calculators:

- www.epa.gov/climatechange/emissions/ind_calculator.html
- www.footprintnetwork.org (select "Your Footprint")
- www.Conservation.org/Carbon Calculator
- www.MyFootprint.org.

9. Making a Difference. Librarians are not powerless to make significant contributions to implement change. Coping with the trends limits options only to the extent users' choose paper or electronic resources; your library will inevitably contain some of both, so maximize them both for sustainability. Speak out to publishers, vendors, and equipment manufacturers that you want more cow-belch conscious alternatives.

These tasks may seem overwhelming, but through consortia and organization —perhaps an AALL committee or special interest section could take on the issue —libraries can be a powerful force. Implementing some of these suggested changes may seem frivolous because of the paltry savings, but all your effort will cumulate into significant savings and environmental benefit.

10. Tending to the Cow. As natural resources are depleted, operational costs will rise, but don't count on the budget to compensate. Needless to say, "[d]on't have a cow, man," this time literally and figuratively. Counting calories is like being green; instead of minding your waistline, you are minding the bottom line of a library. If you go green, you will save money for the library. Stated more succinctly, cow-belch consciousness saves. ■

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