



## Lighten Up

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Beauty brands taking a serious look at sustainability issues should look on the bright side and welcome timely opportunities for innovation and cost reduction. Here, some sound advice and some savvy solutions...

By **Jamie Matusow, Editor**

Patagonia, a retail visionary that successfully sells products with the environment in mind, was founded on the mission statement, "Build the best product, cause no unnecessary harm, use business to inspire and implement solutions to the environmental crisis." For decades, the outdoors-minded company has relied on ingenuity to recycle used soda bottles and worn-out garments to produce polyester fibers for many of its clothing lines. More recently, Simple sneakers created ecoSNEAKS using 100% sustainable materials such as hemp, recycled car tires and organic cotton. In Europe, transportation has taken an eco-friendly turn with Eurostar trains, the first in the world to make the 100% carbon-neutral claim, and which now travel silently between London and Paris.

There's no doubt that a cultural shift is under way, a move toward saving the planet for future generations, and everyone is now striving to balance social, environmental and economical concerns. While most are far from reaching a perfectly sustainable world in which everyone embraces Patagonia's philosophy, many companies are making efforts in this direction. Innovative breakthroughs in materials, technology and thinking are ongoing, and often adopted from other industries.

Unlike Europe and Japan, the U.S. has been slow to impose strict environmental regulations. When it comes to the cosmetics and personal care packaging industry, it seems consumers are currently leading the eco-friendly trend, accompanied by, of all powers, super-retailer Wal-Mart, which has vowed to reduce its packaging waste by 5% by 2013 (along with other lofty environmental goals) with the cooperation of its suppliers. As a result, the retail giant's powerful influence—and challenging scorecard—have caused many beauty brands and suppliers to take the demands of sustainability very seriously, generating an environmental awareness that many agree is long overdue.

### **P&G Approval**

Clifford Henry, associate director global sustainability, Procter & Gamble, says that his company is supportive of Wal-Mart "because it's driving the industry to improve, to make these things happen. As Wal-Mart begins to drive a change in behavior in packaging, we'll see more of this take place," he says.

Sustainability is not a new concern for P&G, according to Henry, who says that P&G has been focused on this area for years. This year, however, P&G has revised its Statement of Purpose to reflect its commitment. "At first," says Henry, "it stated, 'We will provide products and services of superior quality and value that improve the lives of the world's consumers.' "

P&G has added these words to the Statement: "now and for generations to come."

"P&G, as you know," says Henry, "is fairly disciplined and this principle will be incorporated into our purpose. The company's objective in sustainability," he states, "is to build a business through sustainability based on innovation that will delight the consumer—with no tradeoff.

"I think the tradeoff is key," says Henry, "and important to P&G. P&G still wants to delight consumers, but with no negative consequences. If they purchase this sustainable product, it still must be safe, meet needs and have the same price and quality."

Henry says the company is "on a glide path" to achieving the goal of reaching at least \$20 billion in cumulative sales of sustainable products between now and 2012. "These products will have a significantly reduced (greater than 10%) environmental footprint versus previous or alternative products," he says. Reductions will come through its carbon footprint, water reduction, materials, disposed waste, etc., along

with an increased use of renewable resources.

I asked Henry how many people at P&G work on sustainability. His response was unexpected: He said 138,000—which is all of P&G’s employees.

From organic produce to high-efficiency freezer units, Wal-Mart has become a driving force in the focus on sustainability.



In an organization, says Henry, everyone must be thinking about it. “If sustainability is no more than a title or label coming from a few people in the corporate office, you’ll never integrate sustainability into the DNA—so all employees have to be made aware of it.

“When you look at sustainability,” he says, “if all of us truly believe that our purpose is to delight consumers—past and future generations—we need to inspire all of our employees—and that will have an enormous impact on achieving our goals,” he says.

Henry advises beauty/personal care executives trying to meet sustainability goals to first think more of the strategies—and the methods. For example, what can be done with package optimization? Try to understand holistically what can be achieved.

Perhaps there’s a product and a secondary carton. He suggests looking at optimizing the whole package. Can you get rid of the outer carton?

He says P&G will be looking at reducing the amount of virgin fiber used, for instance, and increasing the amount of secondary fiber. They’ll continue to investigate how to optimize or substitute materials and make things more concentrated (such as P&G did with laundry detergent). He says in Europe, where there’s less product handling and thus, less damage in transport, shrink-wrapping products rather than using containers has eliminated millions of pounds of packing materials.

I asked Henry what a good starting point would be for beauty companies following the path to sustainability. “The thing I would encourage anyone to do,” he says, “is to move from thinking of sustainability as something that you need to do. Step back and ask: Is there an opportunity to build your business through sustainability? How can we best use what we have to find sustainable products that delight consumers? And then build social wealth as well as products.”

### Stop, Look, Listen & Strategize

Bruce McIntyre, leader of sustainable business solutions for PricewaterhouseCoopers, heads up a consulting division that advises companies on sustainability issues. Like Henry, he suggests “Instead of reluctance, look on the opportunity side—reducing waste, decreasing transportation costs, things that save you money—not that necessarily increase your costs.”



Zero waste is the governing principle at Pangea Organics, according to the company.

He also says, “Think strategy. Regardless of Wal-Mart, the green movement is being driven in large part by society, with a systemic shift to a green environment. Companies must sit back and make an assessment of risks and opportunities.”

“Know your customer, know who you’re doing business with on both sides, says McIntyre. “Be comfortable with your supply chain, and identify any point of risk in it—high carbon footprint, etc. Then minimize the risks,” he advises.

Risk assessment is critical, according to McIntyre, because you’ll have to back up what you say, especially, he says, in light of the FTC’s new focus on looking into “green” claims.

### Reduce, Reuse, Recycle

Think sustainability, and these three Rs are likely to come to mind. According to EPA figures, recycling is a necessity, and Americans are catching on, if slowly. Agency data show that in 2006, the U.S. produced more than 251 million tons of municipal solid waste—everyday trash items. The good news is that Americans recycled 82 million tons of it, about 32.5%. That breaks down to approximately 4.6 pounds of waste per person per day (of which we recycled about 1.5 lbs). The EPA estimated that containers and packaging accounted for 31.7% of the 251 million tons at 80 million tons). According to the EPA's ranking of these methods—Reduce, Reuse, Recycle—Source Reduction (including reuse) is the preferred method, followed by recycling.

While the list of today's sustainability buzzwords goes on and on, John Delfausse, vice president of global package development and chief environmental officer Estée Lauder, speaking at HBA's spring conference, said there's been a paradigm shift in cosmetic packaging from Reduce/Reuse/Recycle to Design/Reuse/Recover—capturing materials at the end of their cycles and recycling them. Aluminum, for example, he said, can be used again and again—thus, Recapture and Reuse. Design to take it back at the end of its life, he proposes, as with Estée Lauder's award-winning Donna Karan Gold fragrance in which the metal sleeve detaches from the glass at the end of its life, so both materials can be recycled.

Going a step further, says Delfausse, there's zero waste: If you can't re-use it, repair it, recycle it or compost it, don't use it.

### Molded Fiber Packaging

Zero waste is the governing principle at Pangea Organics. Heather Lieder, director of public relations and marketing for Pangea, says Pangea's product boxes are made using a new zero-waste process with 100% post-consumer paper and water, then embedded with organic seeds like edible sweet basil or flowering amaranth. Lieder says Pangea invented the world's first plantable packaging. "We actually convinced our supplier (UFP Technologies) to do it!" she says.

JOMO's materials are ecological and lightweight.



Pangea's facial and body oil products are bottled in amber or dark green glass, which is infinitely recyclable, and then boxed. Cartons are designed to make sure there is no waste on the sheet. Several other Pangea products are bottled in HDPE #2 plastic, which is easily recyclable in most communities, according to Lieder.

Molded fiber packaging like Pangea's has caught on quickly. Joshua Onysko, Pangea's founder and CEO, said at HBA that he heard that 178 companies plan to launch molded fiber packaging this year.

JOMO Thermomolding's EcoEva molded fiber material comes from the shoe industry. The brainchild of sisters Dagmar Mohrbach and Andrea Mohrbach Escudero, this new material, which originated in Germany and now has worldwide sales and production facilities in Germany, Brazil and Romania, is based on pre-consumption waste coming from the shoe industry, specifically that left behind when cutting insoles for sports shoes. JOMO transforms this waste into a molded material that is recycled and 100% recyclable. Not only is it ecological, it is also lightweight, durable, impact-resistant, hygienic and stable. According to the company, it is also non-toxic and made mostly of 100% polyester material.

EcoEva is being used in packaging containers, including lipstick cases, product "boxes" and cosmetics bags.

### Into the Woods

PaperFoam is another environmentally friendly molded packaging solution, and one of the alternatives to plastic offered by Shorewood Packaging, a business of International Paper. Robert Anstine, Shorewood's vice president of marketing and business development, says there's been a lot of interest from customers about the implications of Wal-Mart's scorecard. They can't suddenly start spending a lot more money, he says, but there are things that can be done that are affordable and that can move them in the right direction—there are a lot of choices out there.

"Once the customers know that," he says, "they breathe a sigh of relief. Anstine says Shorewood's Greenchoice program helps customers evaluate their options in six key areas, including: packaging materials, inks and coatings, designing to lightweight the package and new materials that can be injection

molded.

Curtis made this eco-friendly packaging for Elizabeth Arden.



One promising material that can be injection molded, says Anstine, is PaperFoam, which is made out of paper starch from the Netherlands. (According to PaperFoam, the industry can now offer 100% paper-recyclable packaging at prices on par with those of conventional plastic packaging.) Two advantages of PaperFoam, according to Anstine: It's 100% recyclable with paper and it's light, so it reduces shipping costs. In addition, Anstine says PaperFoam can take the place of polystyrene—such as the tray used to hold iPods, and it's injectionable and renewable. Another recyclable option from Shorewood takes recycled PET from water bottles and uses it for trays.

Anstine says that Wal-Mart understands that achieving sustainability is a gradual process. Cost is definitely a concern, but packaging still must protect the product and provide aesthetic appeal, he says. "This is a learning process for them and their customers," he notes, "and the scorecard provides a benchmark that helps model different approaches." The most important thing, advises Anstine, is to lighten up: Have a good product-to-package ratio."

Paperboard is also the most important raw material used by Connecticut-based Curtis Manufacturing, which for the past five years, according to marketing associate, Rosanna D'Oleo, has taken a proactive approach to deliver sustainable packaging to its customers. D'Oleo says Curtis is also the first company in the industry to be 100% carbon neutral, use 100% renewable energy, and be certified by the Forest Stewardship Council. Whenever possible, says D'Oleo, the company sources materials from responsibly managed forests and uses paperboard with high post-consumer waste (PCW).

Curtis' cosmetic/personal care customers include Elizabeth Arden, Estée Lauder, Coty, Beiersdorf, and Crabtree & Evelyn. D'Oleo notes, "Cosmetic and personal care packaging has traditionally been high-end, which usually implied not very eco-friendly substrates." However, she says, this situation is changing, as sustainable raw materials that are up to the standards that the industry demands are being introduced to the market. She also says that while green alternatives tend to be more costly than traditional materials, "as consumers demand that companies do more for the environment, green alternatives will become more readily available, which could result in a decrease in price."

D'Oleo also points out that there are additional economic opportunities for companies who practice sustainable corporate policies. In addition to using renewable energy and neutralizing carbon dioxide emissions, D'Oleo says Curtis has installed an efficient lighting project that was subsidized in part by the Connecticut government and an income-generating waste recycling program. "Companies sometimes ignore the different government programs to promote environmental sustainability," she says, "and the cash potential that simple things like recycled office paper present. The important thing is to make a real commitment and start doing something, even if it is a small step."

### Integrated Packaging

Suzie Fenton, director of marketing for integrated packaging supplier TricorBraun, shares Anstine's outlook on a need for balance when it comes to achieving the best Wal-Mart rating possible, while still protecting the product in distribution. "If the product is destroyed by packaging that is not strong enough or complete enough to get the product in usable form to the consumer," she says, "the efforts to be more sustainable have been more than lost, they have been, in effect, been put into a negative state. Now all the resources that went into the packaging are wasted and the energy and resources to make the product have been wasted."

Fenton says that the simplest, most economical, most efficient change regarding sustainability that almost any company can make in its packaging, is to use "a recyclable and/or recycled resin for plastic packaging and light weighting their plastic and glass packaging wherever they can."

Recently, TricorBraun, a member of the Sustainable Packaging Coalition (an industry group that provides information about sustainability through its partners), merged light weight with sustainability for Amazonia Nutrients, Inc.'s launch of hair care products packaged in containers that are both recyclable and protective

of ingredients. Amazonia Nutrients uses natural ingredients native to the world's largest rainforest in its hair care products. All ingredients are certified by the Forest Stewardship Council.

Amazonia is packaged in aluminum, the ultimate "recapture and reuse" packaging material.



TricorBraun's challenge was to develop packaging that was as environmentally friendly as its contents. Much of the packaging that TricorBraun developed for Amazonia relies on the material that Estée Lauder's Defausse mentioned as being the ultimate when it comes to Recapture and Reuse—aluminum, which can be used again and again. Amazonia's shampoo, conditioner and detangling spray are contained in 8oz. aluminum cans; shine serum, in 2oz. aluminum cans. High-density polypropylene bottles contain color-protecting shampoo and conditioner; other products in the line are housed in low-density polyethylene tubes and an 8oz. Coronado jar from a TricorBraun mold that features a 4oz inner jar with a 70mm polyethylene closure.

### Aluminum Gains Ground

Estée Lauder and TricorBraun are not the only companies harnessing the lightweight, recyclable properties of aluminum. A new report by Global Industry Analysts, Inc., projects that metal packaging materials for the world market will reach over \$108 billion by 2010.

Aluminum is the material most frequently used by Seidel GmbH + Co., headquartered in Germany, whose ecological philosophy is based on the fact that "no damages to nature generated by our production processes are accepted." In addition to the material's crucial advantage of repeated recycling, Frank Beinborn, Seidel's marketing manager, says the raw material for aluminum—bauxite—"exists in a huge dimension." What's more, says Beinborn, there are energy savings up to 50% associated with aluminum's recycling. And as far as waste, Beinborn says that aluminum trim generated during the deep-drawing process is separated from the lubricant (oil), the trim is compressed and given to recycling companies. Seidel also has an in-house oil treatment facility, so the lubricant is re-used after being cleaned. The raw metal parts are anodized in order to obtain a hard and scratch-resistant surface, to apply various colors or to get a shiny or matte finish on the aluminum. "During the anodizing process," says Beinborn, "we work with sulfuric and phosphoric acids. Both acids are part of our natural system and harmless. Our principle is to avoid any hazardous material in our processes instead of intricate disposal."

The company has now invested in a new R&D center with the objective of developing resource-saving production methods.

### On Board with Biopolymers

Another ecological solution for achieving lighter weight comes from NatureWorks LLC, whose idea of "how to do business today" is reminiscent of Patagonia's: "To make contemporary goods with a natural origin, to bring performance without compromise and to make products that have a powerful environmental message to the consumer who is looking for a means to choose better."

NatureWorks PLA is polylactide, a resin derived from starch byproducts. "Ingeo [the company's PLA brand name] products," says Stefano Cavallo, European business development manager for the firm, "are made from 100% annually renewable plant sugars, not oil; it's a simple, environmentally sound solution for a wide variety of packaging and product applications."

NatureWorks' biopolymer has a green profile as it is made from plant sugars. The company also purchases wind power to help offset carbon emissions.



Cavallo says NatureWorks LLC has provided input into the development of Wal-Mart's scorecard and data regarding NatureWorks' biopolymer. "Today," he says. "Wal-Mart has numerous applications within its stores that utilize NatureWorks biopolymer, based on its environmental benefits (made from plant sugars, reduced greenhouse gases and decreased usage of fossil fuels)." This compostable resin requires 20-30% less energy to produce than plastics made from petrochemicals. NatureWorks also purchases wind power to help offset carbon dioxide emissions at both its corporate and manufacturing facilities.

The Italian Leoplast group produces Cargo's award-winning Ingeo Plant Love lipstick casings, made from 100% Ingeo biopolymer. Recently Leoplast launched three new packages: two compacts for powder and eye shadow, and a jar for cream. These "bio-stone" containers, says Cavallo, "are colored with natural masterbatches, derived 100% from the vegetable based colorants chlorophyll green, indigo blue, curcuma red and mineral sources such as mica pearled white.

NatureWorks is also supplying the PLA resin that Alpha Packaging uses for molding several sizes of bottles and jars using its existing tooling. Alpha also runs HDPE and PET bottles with various percentages of post-consumer regrind (PCR), a resin that Alpha defines as one that's been used in commercial consumer applications and returned in community recycling programs to be made into new products. Alpha has just produced 100% post-consumer resin PET bottles for a new Lush cosmetics' line. Additionally, Alpha has made strides in eliminating extraneous exterior packaging and reducing the amount of corrugated cardboard cartons used to ship empty bottles to filling plants.

MeadWestvaco (MWV), which has a sustainability philosophy similar to P&G's, also uses NatureWorks' versatile corn-based polymer in its NatureSource visual packaging. The solution is just one of many eco-friendly choices on the company's list.

"Sustainability is part of MeadWestvaco's DNA," says Robert A. Feeser, president, packaging resources group and head of MWV's sustainability packaging advantage team.

Like other suppliers included in this article, MWV meets recognized forest certification standards, providing customers and consumers with knowledge that the fiber in their paperboard package was sourced from a responsibly managed forest. In addition to paperboard, MeadWestvaco also uses plastic, both separately and in combination, most often in plastic folding cartons, cosmetic-quality paperboard folding cartons and rigid set boxes, and in injection molded plastics.

Alpha Packaging supplies 100% post-consumer resin PET bottles for Lush.



Whether it's to comply with Wal-Mart's packaging scorecard or address a customer's particular sustainability goals, MWV works with its partners to meet their specific needs by creating innovative packaging solutions. Examples include Evolution boxes, which use solid bleached sulfate (SBS) blanks; Natralock Security Packaging, a clamshell alternative, that's a renewable solution using 50-60% less plastic on average than clamshells; Klafold paperboard, which delivers on strength and printability, while requiring less fiber than competitive boards; and Calmar pumps and dispensers—which take the longevity approach to sustainability—as they are made from high-quality resin and are meant for long-term re-usage. (According to Mintel, refills are now used as standard by many key global players in body care—notably Unilever, which is at the forefront of developing bath, shower and soap products, all in refill packs.)

In addition to materials, MeadWestvaco's sustainability strategies encompass packing methods and transportation. For example, Feeser says MWV built on its success of their Evolution line of luxury folding cartons, and unveiled Evolution2, a paperboard package that provides the same premium look as a rigid set box (the standard for prestige packaging promotions), but costs less to produce and maximizes efficiencies in the transportation process. Up to three times as many Evolution2 cartons can fit in a truck as the same size set box. Recently the company concluded a trial to replace truck shipments with railroad transportation, which will reduce pollution, save fuel, and take trucks off the highways.

MeadWestvaco's Evolution boxes use solid

bleached sulfate (SBS) blanks.



Going forward, Feeser suggests that beauty companies should aim to strike a balance between efficient use of materials and innovative package design. “A proactive shift toward packaging efficiency is a good first step towards sustainable packaging,” he says. “This means balancing the important role that packaging has in protecting the product and promoting the brand with the use of sustainable materials.”

### Colorful Choices

Clariant Masterbatches also provides products and solutions that can help reduce the volume of packaging, increase the use of renewable, degradable and compostable bio-polymers like PLA, and

take maximum advantage of recycled materials. Color masterbatches developed especially for Mater-Bi, PLA, PHA, PHB and other bio-plastics, are based on either standard pigments and additives or all-natural components that are as environmentally compatible as the materials they are used in. Additive masterbatches, like CESA-extend, can actually rebuild polymers on the molecular level, and can be used to increase the melt strength of PLA, recycled PET and other condensation polymers so that they can be used in a broader range of applications, including foamed packaging. Clariant's Hydrocerol chemical foaming agents make it possible to reduce the density and weight of blow-molded bottles and sheet packaging.

Clariant Masterbatches provides a wide range of colors for bio-polymer based packages.



### Eco-Friendly Tubes

Tubes also offer a lightweight option for cosmetics and personal care packaging. World Wide Packaging, Inc.'s WWPledge line features tubes made of post-consumer (recycled) plastic resins (PCR). The first product in the line is a 60mm tube, made with 85% PCR. Small compacts made of biodegradable plastic resins (PLA) are also available.

### Heavyweights Count, Too

While glass certainly can't meet the lightweight advantages offered by other materials, it holds many advantages for beauty and personal packaging in the luxury market. According to Muncie, IN based, Saint-Gobain Containers, the glass industry is now celebrating its 400th year. The company points out that glass continues to be made from domestically abundant, naturally

occurring minerals, is one of the safest packaging materials available, and is 100% recyclable. The EPA estimates that 26.3% of all glass bottles and jars sold in the U.S. were recycled in 2000.

Internationally renowned luxury packaging designer Marc Rosen has worked with glass for many years. He says with the move toward sustainability, we have to find new ways for luxury and sustainability to coexist. “Marketers and designers have to step back and think about what's appropriate,” says Rosen. “If we can't be completely sustainable, how can we talk about luxury in a sustainable way?” He also looks at it as an opportunity to stretch and come up with new ways of thinking about luxury. He suggests an interim step: “Build things into your design that imply luxury, without dismissing the sustainability issue.

The WWPledge line, from World Wide Packaging, features tubes made of post-consumer plastic resin.



“Luxury,” says Rosen, “must be redefined for a new generation, which may become more interested in sustainability than luxe.”

### Labels Tell the Story

Dion Label Printing, Inc. has responded to the fight against global warming both in its internal practices as well as in its printing and labeling solutions. According to Stacy Santos, Dion's marketing coordinator, this progression started when the company decided to transform its waste into energy pellets and also when it introduced its first digital press. “Being able to print digital labels cuts back our waste tremendously,” says Santos. “Setup waste is nearly 250-500ft per color setup on a flexographic press. On the digital press, it's



merely 0-80ft to setup all colors.”

Dion also offers water-based adhesives, which allow labels to be washed off their containers, so the recycling process for containers is much simpler, and uses water-based, solvent-free inks in its flexographic printing operations. Bulk shipping is available for customers who are willing to mix items in their shipping, allowing a cutback on boxes and shipping paper.

Santos says that Dion is currently working with an organic soap company using biodegradable PLA film as their stock. Another customer is using Dion to print organic personal care labels because Dion’s digital stock is coated using wind power as well as the fact that digital printing produces less waste.

Santos says that Dion supports Wal-Mart’s push in the sustainability direction and echoes the opinion of P&G and others that the decision to change must come first. “Without the mindset that new ways can be found, change will not thrive—in printing or elsewhere,” she says.

### **Lots of Choices Out There**

This article just touches on the many solutions that beauty companies and suppliers are introducing on almost a daily basis. And as many speakers at HBA’s spring conference stressed, if you want to find sustainable solutions for beauty and personal care products, they’re out there; you just have to do a little investigative work—and start somewhere.

With 44% of respondents to a Mintel study saying they’re more concerned about the environment than they were a year ago, it’s clear that sustainability is no longer a passing trend. “ ‘Green’ ” behavior by corporations,” says Mintel, “will no longer be a rare achievement to be rewarded by consumers. Instead, consumers, regulators and the investment market will begin to expect good environmental behavior as a basic component of good business practices.”

Patagonia, it seems, had an enlightened view decades ahead of the pack.