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INSIDE

4 DOLLAR STORE
ITEMS RIDDLED
WITH TOXIC
CHEMICALS

REAL GREEN LIVING

6 AGING IN
PLACE AND
COMMUNITY

REAL GREEN INVESTING

8 KATHERINE
COLLINS ON
BIOMIMICRY IN
INVESTING

20 11 TOP
CHEMICALS OF
CONCERN IN
YOUR CLOTHING



4 ECO ACTIONS
11 GREEN BUSINESS NEWS
12 ACROSS GREEN AMERICA
30 LETTERS & ADVICE

Detox Your Closet

The Search for Less-Toxic Clothes



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The High Cost of Clothes

and How Saving Money Turned a Wonk Into a Fashion Advisor



ALISA GRAVITZ

Don't panic—go organic. I often have to invoke this sage advice as I give talks around the country about our food system. As people hear about the personal, environmental, and worker health impacts of the chemical industrial agriculture system, they get very worried—and need to hear how they can stay healthy and become part of the solution.

So be both warned and assured. As you turn the pages of this issue and learn about the toxic industrial clothing system (p. 14)—you might get very concerned. But don't despair: within these pages we also provide a roadmap (p. 22) for making choices about clothes that are healthy for you, the workers, and the planet.

Toxic industrial systems—food, energy, clothes, you name it—provide cheap products at tremendous human health, worker, and environmental costs.

But since the toxic products are inexpensive, people often ask us: How can I afford the things that are healthy and safe? When it comes to what you wear, here's how to make sure you can afford organic and green (p. 26–27) when you decide to buy new clothes:

- **Buy less.** In the US, we toss 11 million tons of old clothes a year (a landfill and greenhouse gas disaster). Many items in most closets have been worn only once—or not at all! Only 15 percent of “I’m done with it” clothes get reused, recycled, or donated. If it doesn’t pass the “I’ll be loving it for many years test,” don’t buy it (p. 30).
- **Swap more.** Itching for something new to wear? Borrow from a friend—or hold a clothing swap in your neighborhood, school, faith community, or workplace. New (to you) clothes at no cost!
- **Buy used.** There are great finds at local thrift, consignment, and online stores (p. 28). The compliments I get on mine make my day.
- **Mend, repurpose, and accessorize.** Small fixes can make a great new look—or make the fit perfect again (p. 29).
- **Skip the dry cleaning**—and another dose of chemicals. Don't buy clothes (even used ones) that require dry cleaning. People spend more for dry cleaning a garment over its life than its original cost.

I promise that anyone can cut his/her clothing budget in half with these five tips—and look better than ever. After I took the “no toxic clothes” pledge, for the first time in my life, people started asking wonky ol’ me for fashion advice—even my beautiful hipster nieces.

Most important of all, you’ll be providing the market pressure for the companies in the toxic industrial clothing system to clean up their act.

So don't panic—take the “no toxic clothes pledge.” You’ll be looking, and feeling, great!

For the future,



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 1612 K St. NW, #600, Washington, DC 20006
 800/58-GREEN fax 202/331-8166
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Dollar Store Items Found to Be Riddled with Toxins



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A February report found that the majority of the 164 products researchers tested from Family Dollar, Dollar General, the Dollar Tree, and 99 Cents Only contained at least one hazardous chemical linked to serious health impacts.

Love bargains? You're right to think twice about seeking deals at your local discount retailer. A February report from the Campaign for Healthier Solutions and HealthyStuff.org found that products from Dollar General, the Dollar Tree, Family Dollar, and 99 Cents Only may be hazardous to your health.

The report revealed the results of toxicity tests the two organizations had conducted on 164 products from the above four major discount retailers. The stores were located in six states, and the products tested ranged from children's toys and beaded necklaces to

kitchen utensils and holiday lights.

"Products were tested for antimony, arsenic, bromine, chlorine, lead, mercury, and tin," said the report. "A subset of products determined to contain polyvinyl chloride plastic (PVC or vinyl) were further tested for the presence of phthalate and non-phthalate plasticizers."

Researchers found a full 81 percent (133 out of 164) of the products contained at least one hazardous chemical of concern. Nearly half (49 percent) contained two or more toxic chemicals.

For example, a table cover and a set of children's jewelry contained excessive

lead, a potent neurotoxicant. A Disney bathtub fingerprint set contained high levels of chlorine and medium levels of antimony and tin. All three are suspected neuro-, cardiovascular-, and respiratory toxicants.

"People struggling to make ends meet are confined to shopping at the Dollar stores," said José T. Bravo, national coordinator for the Campaign for Healthier Solutions, in a statement. "We are already disproportionately affected by pollution and lack of adequate medical care, and now we know we're filling our homes and our bodies with chemicals released from dollar-store products. This needs to stop."

Flashdance and *The L Word* star Jennifer Beals, who said her once low-income family used to shop at dollar stores when she was a child, has started a Change.org petition calling on the discount retailers to stop selling products containing hazardous chemicals.

To view the study, visit ecocenter.org/node/523/. To sign the petition, visit <http://chn.ge/1IrawaT>.

The DARK Act: Profit Before People's Right to Know

In 2014, Vermont passed legislation requiring foods containing genetically modified organisms (GMOs) to be labeled. Connecticut did the same in 2013, with Maine following in 2014, although theirs need a minimum number

of neighboring New England states to pass similar laws before they are enacted. But if a bill that just passed the House of Representatives in July takes effect, those “right-to-know” laws will be struck down.

Re-introduced in March 2015 by Rep. Mike Pompeo (R-KS), the Safe and Accurate Food Labeling Act has been termed the DARK Act by activists because it would Deny Americans their Right to Know what’s in their food.

In addition to overturning existing state labeling laws, the DARK Act would block current and future states’ efforts to label foods containing GMOs. To date, 23 states have introduced GMO labeling legislation. Pompeo’s bill, the Senate version of which is currently in committee, would also prevent the US Food and Drug Administration (FDA) from ever mandating GMO labeling, which would remain at the voluntary discretion of food companies.

“This bill would make voluntary labeling for genetically engineered foods the national standard and enshrine in federal law a failed policy that has kept consumers in the dark about what they are eating for two decades,” says Anna Meyer, Green America’s GMO Inside coordinator.

According to OpenSecrets.org, Rep. Pompeo was the top recipient of political campaign contributions in 2014 from the Grocery Manufacturers Association, a Big Food trade association that activists say actually authored the DARK Act for legislators.

“Most often, genetic engineering is used to insert pesticides into food plants or make the plants resistant to copious applications of pesticides and herbicides,” says Meyer. “Plus, the studies that have been done on GMOs (mostly sponsored by the biotech industry) are inadequate to ensure that they’re safe for people and the environment. The DARK Act would make it possible for companies to continue feeding us GMOs without any meaningful regulatory oversight or public disclosure. People have a right to know what’s in their food.”

The Senate version of the bill is expected to go up for a vote in September, says Meyer.

Call 877/796-1949 to be patched through to your senator and tell him/her you oppose the DARK Act.

For more information, visit Green America’s GMO Inside website, gmoinside.org, visit [facebook.com/gmoinside](https://www.facebook.com/gmoinside), and on Twitter @GMOInside.

Chemical Reform Bill Still Fails to Protect Families

Most people assume that the chemicals in use today in the United States—tens of thousands of them—have been well tested for safety. Unfortunately this is far from the case. In June, the House of Representatives passed toxic chemical reform legislation for the first time in decades.

“US policy on toxic-chemical control has been abysmally weak,” says Fran Teplitz, Green America executive co-director. “For decades, there has been inertia at the federal level, and the policy in place since 1976, the Toxic Substances Control Act (TSCA), has given a green light to industry to unleash toxic products on the marketplace without adequate safety testing.”

While the TSCA Modernization Act of 2015 improved upon earlier Senate legislation that has not yet faced a vote, the House bill still needs strengthening. The Senate could vote on its toxic chemical bill this fall. This bill also falls short of truly protecting human health and the environment.

Green America is therefore amplifying our demand—from health care professionals, consumers, business leaders, environmentalists, and many others—for real toxic chemical control that makes the well-being of people and the planet the top priority.

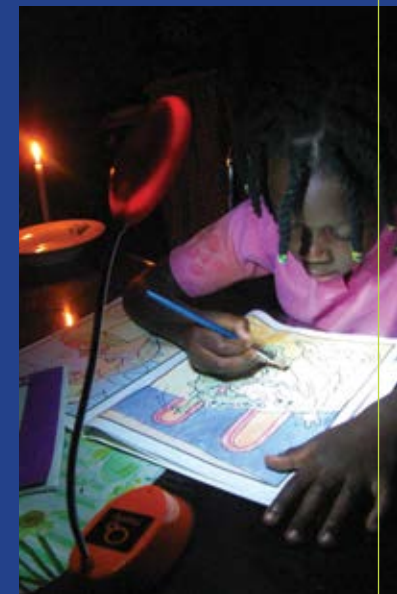
Meaningful toxic chemical control would include provisions such as:

- Ensuring there is reasonable certainty of no harm from chemicals before they hit the marketplace;
- Focusing safety testing on the most dangerous chemicals first;
- Establishing strong deadlines for restrictions, phase-outs, or bans of the most toxic chemicals;
- Adequately funding the EPA’s chemical safety work;
- Protecting states’ ability to safeguard their communities from toxins;
- Advancing “green chemistry” alternatives to toxins.

“We’ll continue to mobilize consumers, businesses, and health care professionals to support toxic chemical control that truly safeguards the health of our bodies, environment, and economy for the long term,” says Teplitz.

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Aging in Place and Community



When it comes to your living situation as you grow older, what would you prefer: packing yourself into a sterile nursing home or pricey assisted-living center, or an arrangement that allows you to stay at home while meeting your needs as you age? Even if you're not near retirement age, you likely have loved ones who are—and you'll be there yourself someday.

The answer to that leading question is likely obvious. According to AARP, Inc., 88 percent of Americans 65 and up prefer to stay in their residence for as long as possible. But the “how?” has been a longstanding conundrum for seniors, who may lose mobility or eyesight as they age, and with them, their independence.

To help elders save money and save their dignity, various “aging in community” initiatives have popped up across

the country. These living arrangements provide seniors the ability to remain in or near places where they've lived most of their lives.

Although they're often referred to as “villages,” these arrangements don't necessarily require residents to move out of their beloved homes or neighborhoods.

“[This type of] village is not a brick-and-mortar place you move into,” explains Natalie Galucia, executive director at Village to Village Network, a national nonprofit that helps communities establish Aging in Community organizations and villages. “It's a network of nonprofit employees and volunteers available to bring you what you need in your home.”

It Takes a Village

Aging in Community senior villages are gaining popularity specifically in

heavily populated cities. The concept seems to really take root in metropolitan neighborhoods because they're often surrounded by people who enjoy volunteer work.

Senior villages aim to solve some of the worrisome issues seniors may have should they remain at home without assistance. Tasks such as cooking, transportation, and household chores become more important but less feasible as we age.

Most senior villages have per-year membership fees, in exchange for which residents benefit from a bevy of volunteer and paid services. Galucia says the current average membership costs are \$450 per year per individual, and \$600 per year for a couple. Each village has a nonprofit central organization, whose paid employees solicit and coordinate volunteer services—from grocery delivery and landscaping to transportation and repair services.

Some village organizations also offer more complex services such as technology classes, medication delivery, and trained volunteers to accompany members to doctor's appointments. Emergency services are available around the clock.

Says Galucia, “You have a volunteer if you need it to drive you to those appointments, ... a volunteer who will sit with you through the appointment, take notes, or maybe even remind you of the questions you wanted to ask your doctor or specialist.”

How much help a senior receives remains at the request of the individual member. Unlike traditional nursing-home options or assisted-living setups, senior villages are structured to encourage independence at home while providing the assurance that needs can be sufficiently met when a need arises.

A Sense of Community at Home

Membership at these villages also helps promote a sense of community for seniors and provides opportunity for continued social development. Volunteers and village organization employees frequently organize events and outings

based on resident interests; these can include trips to the movies, literature clubs, happy hours, specialized support groups, and gatherings for various niche interests.

“Part of the reason why we use ‘Aging In Community’ is to enforce that we’re taking away social isolation—mostly because that very often leads to depression. Obviously depression is terrible for anybody at any age, but the older you get, the more adverse effects that can have on you physically and mentally,” explains Galucia. “That is definitely something that we have to be very cognizant of. Having those social connections is one of the best benefits of being a part of a village.”

Aging in a Rural Community

According to the National Association for Home Care & Hospice, American care workers drive over 5-billion miles per year to care for seniors in their homes. As a result, “Aging In Cohousing” is growing in popularity as an option for seniors in rural areas.

Cohousing is a network of people living in apartments or condos who strive to intentionally provide a community of all ages who support one another. Residents collaborate to design the community, common buildings, and cooperative services—like landscaping, communal meals, and more—to meet their needs and foster a sense of togetherness. Any cohousing “rules” are generally established through consensus.

In cohousing, relationships are forged through daily interactions. Keeping the unit functioning requires everyone to assist in any way s/he can, giving seniors the opportunity to live independently with both purpose and socialization.

The way Ann Zabaldo, a member of Takoma Village Cohousing in Washington, DC, puts it, “The three difficulties of aging are loneliness, boredom, and uselessness. You will never feel lonely, bored, or useless in cohousing.”

Zabaldo, who is 65 years old and retired, has been living in her cohousing unit since 2000. Don Tucker

of EcoHousing Corporation helped establish the community in 1998 with Zabaldo serving as a developer of the community. Currently, Takoma Village is home to over 65 adults and 20 children, with an age range from under 1-year-old to over 80.

While cohousing often doesn’t provide the type of services aging seniors may require as a rule, there’s generally no shortage of people around to ask for help—which is the whole point.

“My house is not only unlocked—the door is open when the weather is nice, and people come in,” says Zabaldo. “It’s like an old-fashioned neighborhood. In fact, we call it ‘the old-fashioned neighborhood of the future.’”

Zabaldo gets a sense of purpose from volunteering in her community—a must for anyone living in cohousing. She’s responsible for organizing events ranging from barbecues to movie nights, and she even recently solicited a contractor to upgrade some of the homes with new HVAC units at a bulk rate.

“I organize a lot of stuff for this community. I’m on the phone a lot and have put in a lot of hours using the skills that I have,” she explains. “It’s an even trade [for the services she gets from fellow community members, like meals and carpools], and that leads to a sense of mutual respect.”

When living in a cohousing apartment is no longer a possibility for Zabaldo and other seniors like her, this unique living arrangement will likely continue to have benefits. Because of the tight-knit relationships often formed in cohousing, there’s generally no shortage of people who have grown to care for a given senior citizen and provide any assistance that s/he might need.

Senior Cohousing

Though most cohousing units in America are intergenerational, Alice Alexander, executive director at The Cohousing Association of the United States (Coho/US), details a more specialized option: “Senior cohousing, also referred to as ‘active older adult

RESOURCES

Cohousing Association of the United States, 812/618-2646, cohousing.org.

Partnership for Affordable Cohousing, 303/881-6138, affordablecohousing.org

Village to Village Network, 617/299-9638, vtvnetwork.org.

cohousing,’ are cohousing communities that have chosen to focus on needs of older adults.”

Most senior cohousing promotes communities with inhabitants 55-years-old and up. As with all-ages cohousing, senior cohousing residents “decide how they want to live together, where they will live, how it should be designed, and how it will be managed,” says Alexander.

If they want to build in specific types of mutual services aimed at their aging population, they can.

Staying Independent Together

Whether it’s being able to age in place or within a cohousing unit, seniors are finding that life after retirement doesn’t have to translate to burdens on them and their families while their health and mobility is still robust.

Raines Cohen, cohousing coach and certified senior advisor with Coho/US, sums up the ethos of the village and cohousing models of “Aging in Community” as “keeping independence through interdependence.”

—André Floyd

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Katherine Collins, author of *The Nature of Investing* (Bibliomotion, 2014).

Biomimicry in Investing

By mimicking the design of a humpback whale’s pectoral fins, a wind power company improved the aerodynamics of its turbines. Choosing racing swimsuits modeled after the texture of sharkskin has given elite-level swimmers a competitive edge. A paint engineered to mirror the dirt-repelling micro-rough surface of a lotus petal keeps home exterior siding looking cleaner, longer. All of these technological innovations are prime examples of “biomimicry”—the conscious emulation of nature’s genius to provide sustainable solutions to societal challenges.

Author and biologist Janine Benyus popularized the concept of biomimicry in her book *Biomimicry: Innovation Inspired by Nature* (Harper Perennial, 2002). In it, she writes of the lessons that nature has to teach us: “Life has learned to fly, circumnavigate the globe, live in the depths of the ocean and atop the highest peaks, craft miracle materials, light up the night, lasso the sun’s energy, and build a self-reflective brain. Collectively, organisms have managed to turn rock and sea into a life-friendly home, with

steady temperatures and smoothly percolating cycles. In short, living things have done everything we want to do, without guzzling fossil fuel, polluting the planet, or mortgaging their future.”

Now, social investment expert Katherine Collins is helping people bring biomimicry principles to their investments through her book *The Nature of Investing: Resilient Investment Strategies through Biomimicry* (Bibliomotion, 2014).

“My work is kind of a mind-body-spirit approach to investing,” she says. “The mind part for me was present all those years of my early career, [which I spent] at Fidelity Investments. The spirit element has been central in my work on socially responsible and sustainable investing, where ethical frameworks are integrated into decision-making. But I was missing the ‘body’—and for me, biomimicry, the study of natural systems, fills this role. It provides a tangible blueprint for decision-making that is aligned with the genius of nature’s design and function.”

Mimicking nature through our investment processes, she says, can help

investors create “a healthy, ongoing, robust, resilient system.”

Collins has developed a philosophy of investing through biomimicry, outlined in six key principles.

1. Be Resource- and Energy-Efficient

“Many of our investment processes include an embedded assumption that more is always better ... but [many] natural systems use the appropriate level of resources and energy, not the maximum,” Collins writes in her book.

Nature itself uses many methods to achieve resource- and energy-efficiency: multifunctional design, low-energy processes, a built-in ability to recycle all materials, and fitting form to functions, says Collins.

Collins advises doing the following to make your investments more efficient:

- **Look for multi-function design.**

Clarify the underlying functions performed by your investments, she says. Are you looking for financial returns? Social benefit? Community building? Environmental sustainability? Find an investment that brings you many benefits at once.

“Nature does not falsely settle on a single function, and neither should we,” she writes.

- **Acknowledge that more isn’t always better.**

“We often take a simple need and match it with a complicated solution or product,” she writes. “Someone just wants to save money for college tuition, and before you know it, they are invested through three layers of advisors in a fund of funds, paying two percent in fees, when they could fulfill the same essential purpose for one-tenth the cost.”

- **Fit form to function.**

Similarly, Collins suggests determining what you need out of your investments, rather than choosing “the most innovative, most clever, or most popular possibility.”

2. Support Life-Friendly Chemistry

Nature is incredibly skilled at nontoxic production and has found a way to

do amazing things without poisoning people or the planet. Collins gives peacock feathers as an example: Their brilliant colors aren't the result of a toxic rainbow of chemicals.

"The pigment in those feathers is actually brown," she writes. "It's the structure of the feathers that reflects light to display all of those brilliant blues and greens."

When it comes to investing using this principle, Collins advises investing in the "direct transactions and primary relationships that form the authentic core of investing. ... Community of people, links between individuals and all of their various needs, contributions, and endeavors."

For example, consider the mortgage loan. It's simple and straightforward, and if done with integrity, it helps people buy and invest in a home. It's what Collins points to as a "life-friendly creation".

Subprime mortgage-backed securities, on the other hand, have been pinpointed as a prime cause of the 2008 financial crisis—making them decidedly unfriendly to living beings. These toxic investments were backed by mortgage loans. The trouble was that the loans were sliced, diced, and then abstracted into synthetic financial bets. Meanwhile, some of the original loans were predatory in nature and many lacked standard verification processes, so defaults were higher than anticipated. Under normal circumstances, loan defaults are serious business but manageable for all parties. With the over-processed approach to mortgage securities, the pain was magnified.

When Collins first heard about these securities before the 2008 crisis, she sensed right away that they might be too good to be true. The securities added together and rearranged individual loans "in a purely manufactured way" she says.

In short, to make your investments life-friendly, she advises: "If we've been solving a problem with a synthetic solution, we demand an organic one, one that is simpler and yet just as effective."

3. Integrate Development with Growth

When it comes to your investments, many people believe that "if some growth is good, more is better." Nature, on the other hand, has a much different view. Collins believes the best growth for your investments is the kind of sustainable, holistic growth seen in nature.

When nature grows, the function of the whole is optimized through the actions of its individual members. One plant doesn't generally grow at the expense of the systems that support it.

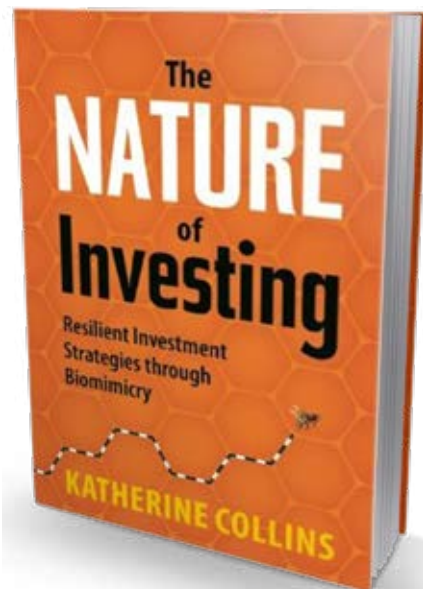
"The idea is not merely to grow larger, but to grow in ways that are repeatable and that fit together as an organism grows," says Collins.

This type of thinking shifts the conversation from "How fast is this investment growing?" to "Why is it growing?" and, more importantly, "How?" Because, as Collins writes, "Unlimited growth in investing is thought to be nirvana, but unchecked growth in nature is, quite literally, disease."

Collins uses the concept of high-frequency trading (HFT) to flesh out the concept. HFTs are transactions completed in milliseconds, at times even microseconds. They are usually based on automated, quantitative trading algorithms that are built to cycle through opportunities at surreal speeds.

HFT systems were developed to focus solely on volume and speed, and their share of total market activity grew unchecked. Once there was instability, this focus on speed and volume increased disorder rather than restoring it.

The unchecked use of HFT in the market created instability and, at the least, played a part in the "flash crash"



of 2010. Just before that, 2009 saw HFT grow to a record 61-percent of the market volume.

HFT systems were developed to grow solely through spreading—and spreading rapidly, she says. The amount of unchecked trades ballooned, and the entire system became disorganized. Once there was instability, the system couldn't react quickly enough.

4. Be Locally Attuned and Responsive

Collins explains the concept of local attunement in one's investments as encompassing a more complete view of life in context. "...We often focus on what can be transacted across great distances, rather than on what can be connected," she writes.

Collins introduces us to the Namib beetle, which instinctively uses a cyclical process based on local conditions to survive in harsh deserts where water is scarce at best. The beetle

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takes advantage of fog that sweeps over the sand dunes at dawn by lifting its shell, allowing water to condense on its surface. The bumps that cover the beetle's shell funnel the water droplets into its mouth. The beetle's investment of energy is connected to a natural, cyclical, local occurrence, which has no adverse effects on either.

The principle of being locally attuned also centers on connectedness, even beyond being strictly local.

Satisfying this principle through your investments helps move them from transactional to relational, which ultimately moves them away from unnatural disconnection and closer to natural reconnection.

"If I can't describe how my investment is visible in the world, that's one strike," explains Collins. "If I can't explain its direct and indirect effects (hopefully benefits) in some detail, that's two strikes. If I can't explain how it works, that's three strikes."

5. Adapt to Changing Conditions

"When I think about the basis for most of our economic activity, we're seeking this cushion, this ability to adapt to changing circumstances and thrive. Biomimicry is a roadmap to resilience," she says.

In the book, Collins lays out ideas to apply to your own investments to achieve true adaptability and resilience.

"Consider our own bodies, healing cuts by marshaling all sort of different resources to clot the blood, fight infection, and for new skin and scar tissue around the wound," she writes.

While conventional investors often try to manage and adapt to risk by considering the short-term, they often

don't look to long-term risk management. One might invest in a fossil-fuel company, for example, that looks healthy for the next few years, but because of the environmental degradation that comes with drilling for fossil fuels, the fact that the world is depleting the supply of oil and natural gas, and the undeniable connection between fossil fuel use and the climate crisis, the industry cannot continue with business as usual indefinitely—not without destroying the planet. Hardly a sustaining investment.

"Regeneration has thankfully become a more active term within sustainable investment circles," says Collins. "Some of our activity focuses on doing a little less harm, but regeneration asks, 'How can I create an outcome that is additive, that is actively positive?' This has the added benefit of flipping us into a space of creativity and solutions, rather than blame and guilt."

6. Evolve to Survive

From the snowshoe hare's development of larger back feet and claws to bears shedding fur in warmer seasons, nature is full of examples of animals

evolving to survive. The same can be done in investing.


Collins suggests thinking about the long-term evolution of investments by being clear on what constitutes success.

"In evolutionary terms, success is usually defined as survival," she explains. "What would success look like for your investing?"

Ask yourself if your investments "walk the walk," suggests Collins. Do they achieve your financial goals *and* help create the kind of world you want to see in the future?

Investing for the World

The most resilient organisms survive and evolve because they capitalize on these six principles of transformation.

Through biomimicry, "we can engage in a rebirth of creative, independent investment thinking," writes Collins. "We can take up our responsibilities—to ourselves, to each other, to our home. We can unbox our decision-making. We can weave our loose threads of investing back into the fabric of the world." 

—André Floyd

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Stay Vocal CEO Launches Reuse! Documentary



Photo from Alex Eaves

Conant Metal & Light CEO Steven Conant, featured in the documentary film *Reuse!*, shows off some of the light fixtures, wall decor, and whimsical items offered in his store, which transforms used lighting and furniture into creative new items.

StayVocal™ founder and CEO Alex Eaves has been a fan of reuse since he was a kid—when his father would rescue and fix broken Matchbox cars from yard sales and then make him obstacle courses from paper towel tubes and shoeboxes. As he grew older, he turned his interest into a passion: Stay Vocal rescues used or irregular T-shirts and adds screenprints and patches to remake them into something new.

Now, Eaves is spreading the word about others who are embracing reuse rather than recycling through his new documentary film, *Reuse!*, which was funded in part by a Kickstarter campaign. Green America's own Alisa Gravitz and Todd Larsen make an appearance in the film.

"I thought about how impacted by documentaries I have been, and I [realized] there's

nothing out there for the reuse movement," says Eaves. "Whenever anyone asks, 'What can I do for the planet?' people automatically think recycling. That's not the best or easiest resort."

He points out an example from the film that reusing a glass bottle uses 90 percent less energy than recycling it.

Reuse! tells many stories of the innovative ways people across the country are embracing reuse. For instance, Montana's Bayern Brewing buys its glass bottles back from customers, sanitizes them, and bottles its beer in them again and again. Conant Metal & Light in Burlington, VT, hires art students and engineers to remake old light fixtures and furniture into beautiful new items.

"A customer will walk in and be thinking they want a light for over the bathroom, and they've been to Home Depot and Lowe's

and all those places. Then they come in here and are just amazed at the prospect of something that can have character and feel good, and there can be a story behind it," says Steven Conant, CEO of Conant Metal & Light, in the film.

After the film's release on Aug. 16th, Eaves will be embarking on a fall promotional tour across the US.

"Not all reuse is perfect, but [the film is about] getting that concept out there and having it become more mainstream and more thought about," he says.

Visit: reusedocumentary.com.

Green Business Network® Unveils New Website

This summer, Green America's Green Business Network® (GBN) unveiled a new website. GreenBusinessNetwork.org now features a beautiful new design and contains loads of information to help you learn more about green companies and, if you're part of one, how to get yours certified through Green America.

The site boasts several new features:

- inspiring profiles of GBN companies, demonstrating the green difference our business members are making in the world.
- news briefs on the green economy.
- Green America's Standards for Green Business Certification.
- groundbreaking research like our "Big Green Opportunity Report," which details how green businesses are booming and can continue to succeed.

"We're proud to serve the green business community with a brand new website running on cutting-edge technology. Our Green Business Standards have never looked better!" says Misha Clive, communications and marketing manager for Green Business Network. "It's been an awesome project to bring to fruition."

Visit: greenbusinessnetwork.org.

Green America Celebrates Our New Executive Co-Directors



Photo by André Floyd

Long-time Green America staff members Todd Larsen and Fran Teplitz have stepped up to become executive co-directors of the organization.

It is our pleasure to introduce you to two of Green America's familiar faces stepping into new roles within the organization: Fran Teplitz and Todd Larsen. As Green America continues to grow and develop new ways to create social and environmental change and sustainability, we also do the same with our staffing structure.

Fran has worked as our social investing and policy director for more than 15 years. Her work in socially responsible investing and leadership through multiple divestment initiatives has brought awareness and change to a difficult-to-change sector. This made Fran a perfect fit for the position of executive co-director for business, investing, and policy.

For 16 years, Todd Larsen has led our staff as managing director, and then stepped into the role of campaigns and climate solutions director. In the latter position, Todd used his experience and connections to build campaigns that scored an impressive track record of positive environmental and social change.

Todd's role as executive co-director for consumer and corporate engagement will help further that aim.

Green America president/CEO Alisa Gravitz continues in her role, working closely with Fran and Todd as our executive team.

"Creating executive co-directors for our key leadership roles speaks directly to Green America's collaborate values and cooperative roots," says Alisa Gravitz. "Fran and Todd have worked closely together for over 15 years. They are already making a big difference for Green America. Please join us in celebrating this new Green America leadership power!"

With Fran and Todd both lending their individual expertise in newly expanded roles, Green America looks forward to furthering our push for change in new and exciting ways.

To send a congratulatory message or a note of encouragement, reach Fran at fteplitz@greenamerica.org and Todd at tlarsen@greenamerica.org.

VICTORY: Campbell's Removes GMOs and more

Campbell's is one of America's most iconic brands. The company famous for soups also produces thousands of other food items, including Pepperidge Farm and Prego products. While the company has purchased farm-fresh and organic companies like Plum Organics and Bolthouse Farms, many of its main products are still made with artificial ingredients, high-fructose corn syrup, and GMOs (genetically modified organisms).

That's about to change. In August, Campbell's made several major announcements about improving the sustainability of its foods, including significant steps toward going non-GMO and organic.

Over the past year, Green America's sustainable food teams have been meeting with Campbell's about a transition to non-GMO and organics across its main product lines. We highlighted the growing concerns around GMOs and pesticides, and the need to include healthy ingredients in all Campbell's products—and connected the company with key sources of organic and non-GMO ingredients. We talked with Campbell's at a time when it was looking to innovate, and the company was ready to hear the call to action and practical advice of our teams.

In August, Campbell's announced it will be launching several lines of organic kid's soups, and removing MSG from all its kids' soups. This summer, the company introduced Campbell's Organic soup for kids in three chicken noodle varieties that will be non-GMO and certified organic.

Its Pepperidge Farm branch will be launching several organic wheat versions of its popular Goldfish Crackers. Look for organic wheat versions of regular, cheddar, and Parmesan Goldfish in the coming year. Our team is still holding Campbell's accountable for removing GMOs and going completely organic with the rest of its ingredients.

In August, Campbell's also released statements that it will be:

- Removing artificial colors and flavors from nearly all of its North American products in the next three years.

- Removing high-fructose corn syrup from Pepperidge Farm fresh breads over the next two years.
- Increasing the transparency of its ingredients, including a new website, WhatsInMyFood.com, which tells consumers the ingredients in its foods, starting with several major products.

“Like all major food companies in the US, Campbell’s has a long way to go to be truly sustainable. These announcements are an important step forward,” says Todd Larsen, Green America executive co-director. “Green America will continue to engage with Campbell’s with a goal of more products that are non-GMO and organic in the months to come.”

Visit gmoinside.org for the latest on Green America’s GMO Inside campaign.

“Cocoa Barometer” Report Predicts End of Chocolate

Our new report spotlights the uncomfortable truth about chocolate: cocoa prices are too cheap to be sustainable, and the damage those low prices do could jeopardize the future of the entire chocolate industry if things don’t change.

“The Cocoa Barometer”—produced by a network of European nongovernmental organizations (NGOs) and written in partnership with Green America, International Labor Rights Forum[™], and Oxfam America[™]—semi-annually reviews the cocoa sector.

The most recent edition, released in June, found that current low cocoa prices are made possible by the extreme poverty of West African cocoa producers. More than 50 percent of the world’s cocoa is produced by farmers in Ghana and Côte d’Ivoire, with per-day average incomes of 84 cents and 50 cents, respectively. This puts West African cocoa farmers well below the globally defined poverty level of \$2/day.

In spite of increasing demand for cocoa worldwide, younger generations of potential cocoa farmers are choosing other occupations, as they’re realizing that cocoa farming won’t provide a viable livelihood.

In addition, child labor in West Africa is still on the rise, as documented by Tulane University, which found 2.03 million children to be working in hazardous conditions in the cocoa sector in West Africa.

“Around the world, child labor is a symptom of extreme poverty and limited

opportunity,” says Elizabeth Jardim (formerly O’Connell), campaigns director at Green America. “To prevent child labor, we must ensure that farmers, including women, sharecroppers, and tenant farmers, are earning enough to harvest cocoa sustainably.”

To this point, the industry has attempted to solve the problem by calling for increases in cocoa farmers’ productivity. However, the report notes that increasing farmers’ yields without affording them higher pay ultimately leads to the same issues.

“There are two fundamental reasons to advocate that smallholder cocoa farmers should earn a living income: the business imperative to ensure the long-term viability of the cocoa supply chain, and the value-based imperative to ensure the fundamental human rights to a decent livelihood,” states the report.

The report recommends stakeholders work together on the following actions: 1) Create a living-wage model for smallholder cocoa farming; 2) Address the price-setting mechanisms to increase prices for farmers; 3) Move from voluntary to mandatory sector-wide solutions.

“Increased awareness among chocolate-loving consumers has gone a long way to get major chocolate manufacturers to accept responsibility for abuses in the cocoa sector,” said Jardim. “Now these global companies need to act, collectively and in partnership with governments and civil society organizations, to create lasting change for farmers and their children.”

Read the report at cocoabarometer.org.

Spring People & Planet Award Recognizes Green Celebration Companies

Two small businesses in Illinois and a third in Florida have won Green America’s Spring 2015 People & Planet Awards, which focused on “green celebrations”—specifically, small businesses that built social and environmental considerations into their catering and event services.

The three winners, selected by the public during a month-long online voting period, are: Collective Resource, Chicago, IL, which delivers collection containers to homes and businesses, and returns



Photo from Collective Resource

Pictured left to right: Mary Beth Schaye, Erlene Howard, and Becky Brodsky of Collective Resource, one of three Spring 2015 winners of Green America’s People & Planet Award.

to pick them up once they’re filled with food scraps and other organic waste for composting. The company will also ensure the sustainable disposal of all waste at large events.

Big Grove Tavern, Champaign, IL, serves fresh farm-to-table New American Cuisine from local suppliers.

Sweet Peas Café is a community-centered, organic, café located in Dunedin, FL, which goes the extra mile to provide a parent-friendly setting. The café hosts environmentally responsible parties and community events.

Danielle Pastore, owner of Sweet Peas Café, said: “We are very honored to accept this award. For four years, we have had a plan to use the west side of the property as an organic garden space where customers are able to eat, party, and play where food is grown. Thank you for helping to make our dream into a reality, to help us to give our customers a unique experience.”

For more information and to vote in the Winter 2015 cycle of the People & Planet Awards, visit greenamerica.org/peopleandplanet/.



Certified members of Green America's Green Business Network® use eco-friendly fabrics and low-impact dyes and finishes. Pictured left to right: Models wearing clothing from HAE Now™ (haenow.com), Nui Organics™ (nuiorganics.com), Mehera Shaw™ (meherashaw.com), Under the Nile™ (underthenile.com), and People & Planet Award winner Ash & Rose™ (ashandrose.com), formerly known as Nancy's Gone Green.

DETOX Your Closet!

Creating clothes from field to factory can result in a whole lot of toxins being unleashed on workers, on the planet, and even on you and your family. Here's how you can avoid fashion disasters.

The toxic chemicals used to make clothes are hidden in farming and manufacturing processes. All shoppers see when they get to the store are the bright colors, trendy styles, and manufacturer labels—what's going to flatter and make you feel good, and what just isn't your style. What the labels don't tell you is that fashion is one of the most polluting industries in the world.

It's no secret that conventional cotton and polyester result in a host of pollutants being unleashed on the environment (see p. 16 for more on fabric impacts). But once the fabrics are woven, even more chemicals get piled on: heavy metal and azo dyes that are linked to cancer and neurotoxicity; trichloroethylene, used by manufacturers to launder textiles before sale, is a highly dangerous chemical that's toxic to nearly every system in the body; and flame-resistant and wrinkle-, stain-, and water-repellent coatings containing a chemical soup of toxins.

In fact, 25 percent of chemicals produced worldwide are used for textiles, making the fashion industry the number two polluter of clean water after agriculture, according to Fashion Revolution, a global coalition of over 75 countries calling for global supply chain reform in the clothing industry.

Greenpeace International has flagged a list of the top 11 toxic chemicals used to manufacture clothing (see p. 20). These chemicals are hazardous, persistent, and hormone-disrupting, and they present a significant health risk to workers and the environment, in particular, says Yixiu Wu, Detox My Fashion project leader at Greenpeace East Asia.

"Due to the intrinsic toxicity of these chemicals and the potential risk to both human health and the environment, the best way to prevent risk is to remove them from the manufacturing process," says Wu.

Workers and the Environment

“With clothing, there’s a difference in chemical exposures experienced by consumers and by workers. The worker exposure is much higher,” says Garrett Brown, a former California OSHA employee who helps build local capacity for on-the-ground factory worker-rights organizations around the world—including the Bangladesh Accord on Fire and Building Safety.

It’s true from field to textile manufacturer to cut-and-sew factory.

As detailed in the documentary film *The True Cost*, which looks at the price workers and communities across the supply chain pay for the Western addiction to fashion, the Punjab region is where most of India’s cotton is grown. It’s also the country’s largest user of pesticides. The area has seen a dramatic rise in birth defects, cancers, and mental illness in recent decades, which many experts, including Dr. Pritpal Singh, director of the Baba Farid Center for Special Children, feel is tied to the use of pesticides on cotton. Singh told filmmakers he has seen “hundreds of patients suffering with cancers,” in farming communities, and “70 to 80 kids in every village facing severe mental retardation and physical handicaps.”

And then there’s chemical exposure in the factories. Miriam Lara-Meloy of the Hesperian Foundation, which aims to improve the health conditions of workers and others overseas, says: “Workers are coming in contact with dyes, mordants (chemicals that help the color stay on the fabric longer), and other fabric additives [such as] flame-retardant chemicals.”

Workers in factories that manufacture textiles spray, dip, or wash fabrics in chemicals to change color or texture, add prints, or spot-clean garments, she says. They may experience rashes, chemical burns, or worse—some dip fabric in toxins like formaldehyde, a known carcinogen, to prevent wrinkles.

“While some chemicals are better studied than others, there is very little on long-term effects of most of these chemicals and almost zero information about how chemicals interact with each other,” says Lara-Meloy.

In cut-and-sew operations, says Brown, the chemical exposures occur mainly in rooms where workers

spot-clean clothes that have gotten stains during the manufacturing process. They may use solvents like carcinogenic benzene or neurotoxic n-hexane with little or no protective equipment.

“It seems the most dangerous solvents are the cheapest,” he says. “The rooms are often poorly ventilated or ventilated straight into factory itself, so even people on the sewing machines get a good dose [of toxins] because they’re right next to where they’re being used.”

Plus, says Lara-Meloy, workers are often in the dark about the chemicals they’re working with, or what their effects are. “Day-to-day chemical use—and chemical dumping—is simply unregulated,” she says. “Many workers don’t even know what chemicals they are exposed to and have a hard time getting Safety Data Sheets from their employer.”

Also, toxins may run off from clothing factories and freely pollute local water and soil due to weak local laws and enforcement.

Take India’s Kanpur region. The Ganga (Ganges) River is a sacred and vital waterway running through Kanpur, the country’s leather export capital. According to Rakesh Jaiswal of the Indian nonprofit Ecofriends, 50 million liters of water contaminated by toxins like carcinogenic chromium 6 flow into the Ganga from leather clothing and shoe factories every day.

“The farmers using [that] wastewater are in the tight grip of tannery pollution,” says Jaiswal. “The soil, the groundwater, and the local environment is badly affected. As a result, the health of the people and the cattle is impacted. The responsibility to treat the wastewater is shared between the tanneries and the government. Neither of them is behaving responsibly.”

Exposure from Wearing Clothes

While workers suffer the most from the toxins in the clothing supply chain, even those of us who wear the clothes are exposed. However, Greenpeace’s Yixin Wu notes that of the top 11 most dangerous chemicals used in clothing manufacturing, “none would cause an acute danger to the wearer.”

But many do tend to stick around on new clothing before washing.



Photos from Jeff Garner

Prophetik clothing, by designer Jeff Garner, uses eco-fabrics, plant-based dyes and no toxic finishes.

In its 2014 study, “A Little Story About the Monsters in Your Closet”, Greenpeace purchased 82 children’s clothing items in 25 regions worldwide from well-known stores like American Apparel, Disney, Gap, and H&M. It sent them to the University of Exeter, which examined them for chemical residues.

The Exeter lab discovered:

- **nonylphenol ethoxylates (NPEs)**—hormone disruptors used as surfactants—on 50 of the 82 items,
- **phthalates**—hormone disruptors used as a softener in plastisol inks for fabric printing—in 33 out of 35 pieces with prints on them likely to contain these chemicals,
- **perfluorinated chemicals (PFCs)**—liver- and reproductive toxicants used as water- and stain-repellent finishes on clothing—in 15 items,
- and **antimony**—a heavy metal neurotoxicant used in polyester manufacture—on all 36 pieces of polyester

In other words, there’s some risk for direct exposure to the wearer, and even a little exposure, especially when it happens repeatedly, can add up.

“Look at phthalates, as they could be used as plasticizer to print images or logos on T-shirts,” says Wu. “Some of the phthalates are classed as toxic to

continued on p. 19



Photo by Balefire / Shutterstock

The (Toxic) Fabrics of *OUR LIVES*

If you can't find the clothes you need secondhand, choose eco-friendly fabrics to avoid polluting the planet. Fashion blogger Kate Black tells you what to look for and what to avoid.

Cotton may be the “fabric of our lives,” but it’s one of the most toxic agricultural crops in the world. Polyester is made from petroleum, which is an environmental disaster. And the manufacture of rayon from wood pulp not only destroys forests but requires a host of chemicals to turn the pulp into fabric.

When you do need new clothing, what fabrics make the most eco-friendly choices? In this adapted excerpt from *Magnifeco: Your Head-to-Toe Guide to Ethical Fashion and Nontoxic Beauty* (New Society Publishers, 2015), author Kate Black has the answers.

Black has lived and worked in the major fashion centers of the world and written over 1,000 articles about designers and ethical fashion from her global perspective. She is the founder and editor-in-chief of *Magnifeco.com*, the digital source for eco-fashion and sustainable living. Kate is also the founder of *EcoSessions*, a global platform bringing together designers, industry, and consumers to discuss sustainable change.

FABRICS TO AVOID

■ Conventional Cotton

Cotton grows in over 80 countries, only uses 2.5 percent of arable land (imagine the size of the UK and Switzerland), but accounts for 14.1 percent of all agricultural insecticides and 6.2 percent of all pesticides.

The worst three pesticides commonly used on cotton—Aldicarb, Monocrotophos, and Deltamethrin—are powerful nerve agents. Just one drop of aldicarb, absorbed through the skin, is enough to kill an adult.

Cotton can also require a tremendous amount of water. In 2014, NASA released pictures of the Aral Sea that was the fourth-largest sea on the planet but is now an arid wasteland, an ecological disaster due to cotton irrigation.

Cotton is also one of the top genetically modified crops in the world (see p. 23).

■ Petroleum-Based Synthetics

Nylon and polyester, the most common synthetic fabrics, are both made from petrochemicals and are non-biodegradable (nylon takes 30 to 40 years to decompose). Even worse, manufacturing nylon releases nitrous oxide, a greenhouse gas that is significantly stronger than carbon dioxide.

■ Tree-Based Fibers

Tree-based fabrics began with rayon—a manufactured fiber created from cellulose found in plants and trees and processed with chemicals. When it first appeared in the early 1900s, the process was far from environmentally friendly—contamination of the wastewater plus hazardous air pollution.

Today, there are many methods of producing rayon—viscose, modal, and lyocell (TENCEL®) methods. Avoid viscose and modal if you want to avoid chemicals.

Viscose can be made from soft woods like beech trees and often bamboo. Fiber production is similar to the original rayon and has significant environmental implications: it generates air pollution, and emissions from the effluent result in high pollution indexes.



Modal, a modified version of viscose developed in the 1950s, is made from beech trees. It can have the same environmental downsides as viscose unless produced by Lenzing (see MODAL® under “Buy with Confidence”, below).

■ Bamboo Rayon

Bamboo is rarely an environmentally friendly material. It is true that bamboo grows rapidly and is naturally regenerating, making it a highly renewable source, but more often than not, bamboo is conventionally processed with toxic chemicals, like rayon.

■ Soybean Fiber

Soybean fiber is made from waste elements of the soybean plant that cannot be used for food. Though soy fiber is made through a closed-loop process, it requires formaldehyde, a known carcinogen.

Most of the world’s soy crop is also genetically modified.

USE WITH CAUTION

■ Hemp

Hemp grows easily without agrochemicals, can be grown in cool climates, and yields two- to four-meter plants that are higher than any other fiber (you can get more from less). It is also an environmentally positive plant that can improve both the structure of soils and

capture large quantities of carbon.

Although a good, clean agricultural crop, processing is often done through retting, which is water intensive and can often produce water pollution if effluent is not managed. [Editor’s note: You can purchase with confidence from a certified member of Green America’s Green Business Network®, which have been screened for social and environmental responsibility.]

■ Linen (Flax)

The flax used to make linen requires few chemical inputs. Conventional flax may still be grown using chemical fertilizers and pesticides. Like hemp, the process to convert stalk to fiber can be highly toxic to water systems. Look for companies that sell organic linen.

■ Animal Fabrics

Wool, alpaca, angora, and cashmere fabrics are made from natural, non-toxic fibers that are sheared from sheep, alpaca, angora rabbits, and kashmir goats, respectively. While these natural fabrics are nontoxic, there are concerns about the treatment of the animals.

Recent attention to wool has focused on mulesing, the practice of removing strips of skin from the buttocks of sheep to discourage blowfly infestations. New Zealand produces unmulesed merino under an independent accreditation program, Zque, that ensures environmental, social, and economic

4 LABELS FOR LESS-TOXIC CLOTHES



bluesign: This certification process, used by Patagonia and Eileen Fisher, mandates that clothing is not exposed to harmful chemicals throughout the supply chain. bluesign analyzes systems, including raw material production and water usage, rather than testing finished products.



Certified Organic: Ensures that raw materials for the fabric were grown without synthetic pesticides. Certified organic clothing can still be coated with toxic finishes (see p. 20) and chemical dyes.



GOTS (Global Organic Textile Standard): Certifies clothing in a process that takes the entire life-cycle into account. Ensures that clothing contains 75 percent organic fibers (or 95 percent for the GOTS Organic label) and has no toxic dyes or finishes. Sets standard to minimize water usage and overall waste, and to ensure fair labor practices.



Oeko-Tex 100: A testing protocol that focuses on the impact of the clothing on human health. To bear the Oeko-Tex 100 label on their clothing, manufacturers must limit the use of toxins throughout the supply chain, from chemical dyes to pesticides to chemical finishes known to be harmful to human health. The more likely the clothing item will be in contact with human skin, the more stringent the Oeko-Tex requirements.

sustainability of wool growers, animal welfare (non-mulesed), and traceability of the product back to the source.

No animal welfare certification exists for angora, alpaca, and cashmere. Either buy these from a transparent source you trust or avoid these fabrics.

BUY WITH CONFIDENCE

■ Organic Cotton

To be certified organic, cotton must be grown without synthetic pesticides and fertilizers, and it cannot be grown from genetically modified seed (see p. 23).

■ Lyocell (TENCEL®)

Lyocell is a much more environmentally friendly way to process wood pulp than rayon, viscose, or modal. Developed by Lenzing in the 1980s, it is a closed-loop system, where almost all of the solvent is recovered (no effluent or wastewater), purified, and then recycled into the process again. Plus, the solvent itself is nontoxic. Lenzing markets its lyocell as TENCEL®.

Lenzing uses only sustainably harvested trees from Program for the Endorsement of Forest Certification or Forest Stewardship Council (FSC) certified forests, plus its manufacturing is certified Oeko-Tex 100 (see box above).

■ MODAL®

MODAL is the trademarked version of modal rayon produced by Lenzing. As with TENCEL® above, Lenzing's MODAL is a highly eco-friendly fiber made from beech trees.

■ Bamboo Lyocell

Recently, some bamboo is being lyocell-processed in a closed-loop cycle with chemicals replaced by an organic solution. One mark in particular, Monocel®, makes soft-wear fabrics like French terry and jersey with lyocell bamboo fiber as the main component and is both FSC and Oeko-Tex 100 certified (see box on this page).

■ Silk

Silk is a natural, low-toxicity fabric made by spinning superfine filaments from silkworm cocoons into thread.

(The undamaged cocoon is key to silk production and must be baked or boiled to kill the worms. This process is often why vegans and animal rights activists take exception to silk. If you prefer not to kill silkworms, look for “wild silks” or “peace silks”—made from broken cocoons in a process that allows the silkworms to complete metamorphosis and emerge.)

■ Organic Hemp and Linen (Flax)

Rapidly renewable hemp and flax can easily be grown without toxic chemical inputs—and organic certification ensures that's the case.

■ Organic Soybean Fiber

Certified organic soybean fiber is made without toxic chemicals and genetically modified organisms.

■ SeaCell™

SeaCell is a seaweed-based fiber processed in the low-toxicity lyocell method. The brown algae in SeaCell is rich in antioxidants and believed to benefit the skin.

Adapted with permission from Magnifeco, Your Head-to-Toe Guide to Ethical Fashion and Non-toxic Beauty, by Kate Black (New Society Publishers, Gabriola Island 2015).

continued from p. 15

reproduction in the EU, and they easily break down. If wearers, particularly kids, touch the images on T-shirts containing phthalates..., there is potential risk that those chemicals could be absorbed into the body.”

Wu notes that most of the hazardous chemicals used in clothing factories are washed away during the manufacturing process, and buyers will generally launder away the rest at home. However, he notes, that results in the chemical residues getting into their local water supply and the environment.

That said, there are exceptions that may never wash out completely, says green-living expert Annie B. Bond, author of *Home Enlightenment* (Rodale, 2005). Bond has Multiple Chemical Sensitivity, so she says her skin actually burns from the presence of chemicals on clothes.

The experts we talked to all said there are still many unknowns about what lingers on clothing after numerous washes, but through her research, Bond says, “My biggest concern is long-lasting chemicals used in anti-wrinkle and anti-stain applications. Plus, many clothes are treated with a pesticide when they are imported. These just don’t wash or soak out.”

Green America joins with Greenpeace in calling for an end to the use of toxic chemicals in clothing manufacture. As the Greenpeace report states: “‘Acceptable’ levels of hazardous chemicals are not acceptable.”

Beyond Business as Usual

By far the best way to get what you need when it comes to clothing is to buy used items. But there may be times when you need or want something new.

First, ask yourself if you really need it. As Livia Firth, executive producer of *The True Cost*, told filmmakers, a good benchmark is to only buy something new if you feel confident that you will wear it 30 times or more.

If so, buy from green companies that are making clothes the right way, on a

smaller, manageable scale, including the certified green businesses in Green America’s *National Green Pages*®.

Garrett Brown notes that in his considerable experience with clothing factories overseas, “no large brand anywhere in the world doesn’t have sweatshops throughout their supply chain. It’s a failed hope that you can find a non-sweatshop piece of clothing from a company that has multiple factories in multiple locations.”

High-end clothing designer Jeff Garner, a frequent Green Festivals® speaker, grew up on a farm in Tennessee. He says caring for the environment was something he’s just done since childhood and continued to do when he launched his Prophetik and Jeff Garner Intimates clothing lines.

“When I started doing my first production in L.A., the minute I walked into the dye house, you could smell the chemicals,” says Garner. “My body was used to clean air growing up on a farm, to wearing hemp and cotton. So it affected me really badly.”

He also learned early in his career that the fabric remnants that production facilities use to test clothing dyes have to be disposed of as toxic waste, not just thrown into the trash. He knew there had to be a different way of doing business.

So Garner researched the chemicals used in clothing, and he ended up mixing his own fabric dyes out of plants for his luxurious, modern and Civil-War-throwback styles. 13 years later, even while he’s achieved success on the world fashion stage and dresses celebrities, he still makes his own dyes and avoids all toxic finishes. His clothes are US-made from eco-fabrics like organic cotton and hemp.

Likewise, Shari Keller launched Mehera Shaw to create a market for clothes made with the hand-block-printed fabrics created by artisans in Jaipur, India. In addition to being a fair trade company, Mehera Shaw uses only traditional Indian vegetable dyes or low-toxicity, GOTS-compliant (see p. 18) dyes. And 95 percent of its



Photo from Jeff Garner

Clothing designer Jeff Garner (right) creates his own plant-based dyes for his Prophetik clothing line.

clothing is made from GOTS-certified organic cotton. The remainder are made from the hand-loomed cotton, produced by small-scale family farmers in India. The company uses no chemical finishes.

While clothes from Prophetik, Mehera Shaw, and other eco-clothing companies might cost more than clothes at Walmart, Keller and Garner say green businesses make it worth customers’ while to seek them out.

For one thing, you’ll be buying from companies that go the extra mile to care for workers and communities throughout the supply chain. For another, you’re much more likely to avoid absorbing toxins from your clothes.

“I feel that as designers and creators, we have a responsibility to not harm ourselves and others in this process, including Mother Earth,” says Garner. “Part of our due diligence is to create beauty that begets beauty, not toxify the world.”

—Tracy Fernandez Rysavy, editor-in-chief

THE ROAD to Toxic Clothing

It isn't just pesticides on textile crops that makes clothes toxic. They're often coated with a whole host of chemicals. Here are 11 of the worst, named by Greenpeace.

Art by Rob Hanson

Sources: Greenpeace, Scorecard.org, US EPA.

■ **GROWING THE FIBERS:** Growing natural fibers for conventional fabrics often requires highly toxic **chemical herbicides and fertilizers**. Cotton is the most chemically intensive natural fiber (see p. 17), while flax (for linen) and hemp require much fewer chemical inputs. The pesticides dumped on cotton fields worldwide have been linked to neurotoxicity and carcinogenicity.

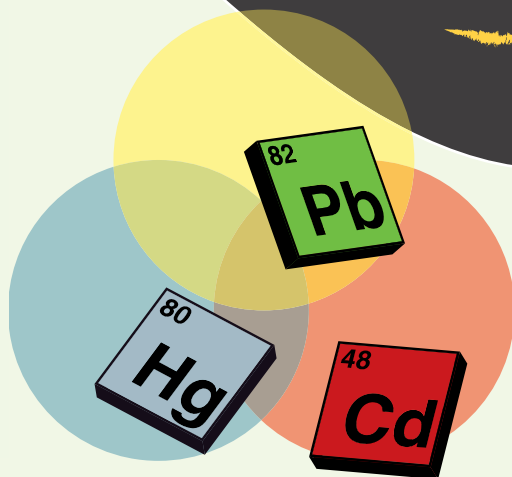


■ **DYEING THE TEXTILES:**

The majority of clothing dyes are made from synthetic chemicals that can be harmful. **Azo dyes**, for example, are banned in the European Union because they break down into chemicals called "aromatic amines," some of which have been linked to cancer.

Other dyes contain **toxic heavy metals** like the neurotoxicants lead and mercury.

Chlorobenzenes have been used to manufacture dyes. There are different types of chlorobenzenes, but "they mainly affect the liver, thyroid, and central nervous system," according to Greenpeace..



■ **FIREPROOFING:** Clothes and textiles are often treated with fireproofing chemicals like **polybrominated diphenyl ethers (PBDEs)**. PBDEs are suspected hormone disruptors and developmental toxicants. Some types are tightly regulated in the EU, but not in the US.

Companies also may add **short-chain chlorinated paraffins** to fireproof fabrics. These bioaccumulate and persist in the environment and are particularly toxic to aquatic life.

TOXIC TO WHOM?

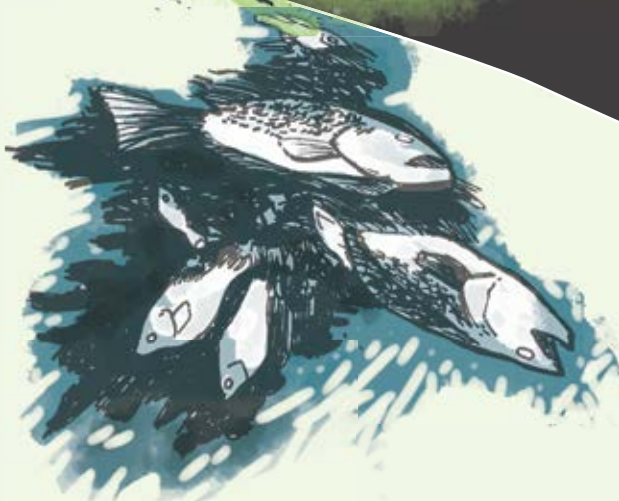
The chemicals on this page are mainly toxic to clothing workers, although traces have been shown to remain on clothes in stores. More studies need to be done to determine which linger and what effects they have on wearers.

■ **CLEANING THE FABRICS:** Textile manufacturers will clean their fabrics before sending them off to clothing factories, and they don't use eco-friendly laundry soap. Instead, they use chlorinated solvents, including the virulently toxic **trichloroethylene**, a recognized carcinogen and a suspected neuro-, respiratory-, kidney-, reproductive-, immuno-, kidney-, developmental-, and endocrine toxicant. Manufacturers also use **alkylphenols** (including nonylphenol ethoxylates) to clean textiles, which bioaccumulate, persist in the environment, and are toxic to aquatic life. They are also linked to hormone disruption.



■ **PESTICIDES AND FUNGICIDES:** Manufacturers may coat them in pesticides and fungicides to protect against moths and mold. **Chlorophenols** are used as pesticides on fabrics, and they are toxic to a number of organs in the human body. They are heavily restricted in the EU.

Chlorobenzenes are another pesticide used on fabrics. They bioaccumulate and persist in the environment. They are toxic to the nervous system, liver, and thyroid, and they are hormone disruptors.



■ **WATER-, STAIN-, AND WRINKLE-RESISTANCE:** Nobody wants stains on their new fabrics or clothes when they are up for sale, so manufacturers also add finishes for water and stain resistance. **Perfluorinated chemicals (PFCs)** are one such finish. They can persist for a long time in the environment and have been linked to hormone disruption and liver and reproductive toxicity.

Clothes advertised as “wrinkle free” are often coated in formaldehyde, a known carcinogen.

7 Tips for Less Toxic Togs

Even though most toxins used in clothing manufacture will affect workers far more than wearers, it's still a good idea to exercise precaution and avoid even a little exposure to toxins. Use these 7 tips to stay safe at home.

1. Buy less. The more new conventional clothing you have hanging in your closet, the more chemicals were unleashed in its manufacture—and may still be lingering.

2. Buy used. Used clothing has generally been washed many times, meaning that most of the toxic finishes have already been scrubbed away.

In addition to scouring your neighborhood thrift stores and garage sales, along with online auction sites like eBay.com, visit greenamerica.org/usedclothing/ for a list of our favorite used clothing websites.

3. Make what you have last longer. You won't need as many new items with new chemical dyes and finishes. See p. 29 for tips and resources.

Don't forget to wash your clothes less, and hang them up rather than putting them in the dryer. The more you run them through machines, the faster the fabrics wear out.

4. Beware of the “new clothing smell”. Green-living expert Annie B. Bond, author of *Home Enlightenment* (Rodale, 2005) says that the “new clothing smell” so ubiquitous on back-to-school clothes is actually a sign of toxic chemical finishes. If you already have new clothes bearing the telltale smell, Bond advises: “Place the clothes in the washing machine with enough water to cover. Sprinkle one small-sized box of baking soda (or 1 cup) into the washing machine. Soak the clothes overnight. When convenient during the soaking, agitate the machine for a few minutes. Launder as usual. Repeat the method until the clothes don't smell anymore.”

Some strong-smelling clothes are coated in potent formaldehyde residues that are nearly impossible to get out. If the “new clothing smell” is overpowering on a given clothing item, avoid purchasing it at all costs, says Bond.

5. Buy green and high-quality. Clothing from green companies in Green America's *National Green Pages*® is made from eco-friendly fabrics, without toxic dyes and finishes.



Photo by Maridav / Shutterstock

It's also often made to last much longer than clothes sewn in a sweatshop for a big-box store like Walmart. Green America staff members generally feel that it's easy to tell which clothes in our closets are from green companies: The fabrics are often thicker, the stitches tighter (meaning it'll take a minor act of nature to make a seam fall apart), and they still look almost as new as the day we bought them.

6. Forego toxic detergent and fabric softener. Conventional detergents, dryer sheets, and fabric softeners, even when “fragrance-free”, contain a whole host of chemicals—and they'll coat your clothes with those chemicals when you use them.

To avoid toxins, use eco-friendly detergents and fabric softeners from green companies.

Or, make your own detergent. Find an easy recipe here: diynatural.com/homemade-laundry-detergent-soap/.

For fabric softener, simply pour half a cup of white vinegar into the fabric softener dispenser in your washing machine (or put it in during the rinse cycle if your washer doesn't have one). To get your clothes smelling extra sweet, add six drops of essential oil like lavender or lemongrass to a scrap of cotton from an old shirt, and toss in the dryer.

7. Don't dry clean. Conventional dry cleaning requires the use of perchloroethylene, a nasty recognized carcinogen that's also a suspected neuro-, reproductive-, respiratory-, developmental-, kidney-, skin-, and gastrointestinal-toxicant.

You can get away with washing silk and wool items at home. Follow Bond's instructions here: Care2.com/greenliving/10034.html/. You can always have them professionally pressed at the dry cleaner without toxic cleaning.

If you need to have an item professionally cleaned, look for wet cleaners and CO₂ cleaners, which use less-toxic, perc-free methods. Find one at nodryclean.com.

GMO Cotton & India's Farmers

The suicide epidemic among India's farmers has been steadily rising since the 1990s. Currently, 41 farmers commit suicide every day in India. While the link between the suicides and genetically modified (GM) cotton has been hotly debated, a paper published in the June 2015 issue of *Environmental Sciences Europe* by Dr. Andrew Paul Gutierrez and his team at the University of California-Berkeley, found evidence that such a link exists.

Most cotton in India is grown on small farms that measure less than a hectare and often make less than \$1 a day, says Dr. Gutierrez, who has studied how cotton grows and responds to pests around the world for over 40 years. The majority is rain-grown, meaning farmers must gamble on the monsoons to water their crops, rather than irrigation, which is largely unavailable.

India has a long history of farming cotton using traditional methods, including seed saving and breeding and selecting hardy local varieties over millennia. But in the 1970s, hybrid seeds that could not be saved came to market, dealing an added expense to farmers.

Insecticide and fertilizer use increased, resulting in more pests. So farmers turned to newer chemicals available on the market, and pesticide use on India's cotton farms skyrocketed.

So did new pests.

"These pesticides caused ecological disruption of the system," says Gutierrez.

"Pests such as bollworm went from not being that important to being present all season long and causing high damage." Farmers thought they had no choice but to spray more insecticides.

Then in 2002, Monsanto introduced Bt cotton seeds to solve the bollworm problem. These GM seeds have DNA from the Bt soil bacterium introduced into their genetic code, which enables the plant to produce a toxin that eats holes in the guts of certain pests, particularly pink bollworm and bollworm.

Seed salesmen promised India's farmers higher yields, but the seeds didn't deliver, says Gutierrez. Now Bt seeds have flooded the Indian market, and traditional and even conventional hybrid seeds are nearly impossible to buy.

"What our studies showed was that Bt cotton for farmers in rain-fed areas provided no economic benefit," he says. "It wasn't needed in the first place, because the key pest, pink bollworm, is not a major problem in rain-fed cotton."

Also, the GM plants often become infested with other pests, like plant bugs, aphids, and mealy bugs that are immune to GM cotton, says Gutierrez.

"Insecticide use was incredibly high before the introduction of Bt cotton and in 2013 was as high. The price of Bt cotton seed is high, and farmers still use insecticides for pests not controlled by Bt cotton," says Gutierrez. "For many small farmers, 30 to 40 percent

of their total revenues are spent on Bt seed, insecticides, and production costs. When monsoon rains are low, yields are low, and the fixed costs of Bt cotton and insecticides create more than basic financial difficulties."

So when the crop fails, farmers can't pay back money they have to borrow for seeds, pesticides, and fertilizer—often from moneylenders that charge unscrupulously high interest rates—and some choose to commit suicide.

Gutierrez and his team found that "economic distress is likely the proximate cause for increases in farmer suicides. The fixed costs of the Bt technology, which includes insecticides they don't need, and the lack of benefit from the GM cotton causes economic distress. For small farmers, Bt cotton has been a disaster."

They recommend "high density plantings of selected traditional short-season cotton varieties," which they say "could increase yields and reduce input costs in irrigated and rain-fed cotton."

However, he says, "it's difficult to get cooperation from Indian scientists. They don't tell you why, but others have told me that government bureaucracy and influence of the seed and chemical industry is so pervasive, the scientists would jeopardize their jobs. But given the opportunity, they know what they need to do to correct the current mess."

—Tracy Fernandez Rysavy



Photo from The True Cost film

The True Cost documentary film, released in May 2015, details the impacts of the fashion industry—including on Indian cotton farmers, many of whom have been caught in crushing debt and suffer ill health effects after buying genetically modified cotton seeds.

The Trouble with Nano-Fabrics



Photo by lzf / Shutterstock

Performance fabrics that offer anti-bacterial and anti-odor qualities, as well as sun protection, may contain nanoparticles that are largely untested for human health effects.

If you've been shopping for workout clothes lately, you may have seen labels making some extraordinary claims—namely, that you can work up a sweat and your clothes won't smell when your exercise session is over. Sound too good to be true?

You may want to think twice about buying clothes making such claims, because the anti-bacterial properties are brought to you by nanotechnology. While certain nanoparticles in clothing can kill off bacteria, as a whole they are largely untested, barely regulated, and may pose serious risks to your health and the Earth.

Tried but Untested

Nanotechnology involves the use of very small particles, called nanoparticles, to bring certain characteristics to a product. Nanoparticles are defined as being between the range of 1-100 nanometers in size—that's about 1/10 the size of the head of a pin. Nanomaterials are currently used in body care products, as well as consumer products like cutting boards, towels, food, and, yes, clothes.

The most common nanomaterials in clothing are nanosilver and nano-titanium dioxide. Nanosilver is woven into fabric to give it anti-bacterial

properties, fending off the bacteria that make those clothes smell after you sweat. Nano-titanium dioxide adds sun protection to clothing just as it does in sunscreen.

The use of nanoparticles to achieve fresh-smelling clothes and UV protection may not be safe.

"Concerns from the human health perspective are that these different-shaped/-sized particles may behave differently within the biological systems of our bodies," says Dave Andrews, senior scientist at the Environmental Working Group (EWG), an environmental research nonprofit. "Different sizes may be more likely to be transported ... through skin and through organs, or cause toxicity effects in body."

Take carbon. In its normal form, it's a building block of life and non-toxic to humans and the environment. But since 2003, several studies, including one from 2008 conducted by the University of Edinburgh, found that carbon nanotubes—one-billionth of an atom wide—reacted in the lungs of mice in a similar manner to asbestos, which causes the deadly lung cancer mesothelioma.

But because of the ways in which products and ingredients are regulated in the US, manufacturers have not been required to demonstrate the safety of nanomaterials prior to using them in consumer products.

"Our [regulatory] system does not consider nano-versions to be different materials, so [consumers] are left trying to catch up to understand the risks and hazards," says Andrews.

Nanosilver and the Environment

Nanosilver may harm the environment when it moves through the wastewater system. Silver, which has anti-bacterial properties, is used in its nano form in clothes through a variety of methods, from actually spinning textile fibers

If nanosilver enters a human cell, it can cause the development of cell-damaging free radicals. Over-production of free radicals, in turn, can lead to cancer.

together with silver nanoparticles to sticking the nanoparticles to the fabric through an electrostatic process.

The nanosilver in the fabric then works to kill off bacteria lingering in sweaty gym clothes, keeping them smelling fresh.

Studies have found that some of the nanosilver washes off of your clothes and goes into your wash water, where it is then captured in sewage sludge and ends up in biosolids, or sludge that has been treated and processed for use. About 60 percent of such biosolids are applied on farmland, forest, or wetlands as fertilizer. The rest is incinerated or landfilled.

The nanosilver in that sludge may disrupt ecosystems by lowering soil quality. A 2010 study presented at the Ecological Society of America found that soil with a concentration of nanosilver found in biosolids had reduced growth of one of the tested plant species by 22 percent and reduced the microbial biomass—the good microbes needed to aid plant growth—by 20 percent.

In addition, silver is toxic to aquatic species: Fish exposed to nanosilver particles washed into waterways have lower rates of growth and reproduction, according to a study published in May 2015 by the *Journal of Biodiversity and Environmental Sciences*.

Nanosilver and Health

When it comes to human health, some scientists are concerned that too much silver in the environment could make this metal's anti-bacterial benefits less effective when society truly needs them.

"I would rather avoid [clothes treated with nanosilver] ... to prevent the release of too much silver into the environment and onto my skin, which may result in the loss of silver's antibacterial activity," says Natalie von Goetz, a

researcher ETH Zurich University who has been studying clothing treated with nanomaterials. "Silver is a potent antibiotic that can be used when bacteria strains are resistant against organic antibiotics, and it would be a shame to lose that in times when many 'old' antibiotics have already lost their potency."

Also, what about the environment of your body when you sweat during a workout? Studies replicating workout conditions have found that nanosilver particles in clothing can be released from the fabric into sweat. Dr. von Goetz's study, published in *Environmental Science and Technology* in 2013, demonstrated that nanosilver is released from the fabric through sweat, and that those particles can be absorbed through the skin.

Though silver as a metal is considered low-toxicity, scientists know little about how even small exposures to nanosilver will affect human health. One 2014 study from the University of Southern Denmark, published in the journal *ACS Nano*, found that if nanosilver enters a human cell, it can cause the development of cell-damaging free radicals. Over-production of free radicals, in turn, can lead to cancer, Alzheimer's, and Parkinson's, note the researchers in a press statement.

"We don't know how much is needed, so we cannot conclude that nanosilver can make you sick. But we can say that we must be very cautious and worried when we see an overproduction of free radicals in human cells," note study researchers Frank Kjeldsen and Thiago Verano-Braga.

Sunscreen in Your Shirt

It is common to find nanoparticles of titanium dioxide in sunscreens, and you can now find them in the fabric of certain types of clothing, giving them a higher ultraviolet protection factor.

Studies out of Europe, including one by von Goetz, that replicated the wear and tear a garment containing nano-titanium dioxide would go through during a workout found that the nanoparticles "barely released from fibers into sweat," says von Goetz.

That said, if your skin absorbs even a little nano-titanium oxide, it may lead to health issues. The American Cancer Society's Dr. Kenneth Portier published a fact-sheet online that warns, "Recent research has shown that [nano-titanium dioxide particles], when injected in low dose under the skin of mice, produce a significant, but reversible, inflammatory response. This could be a concern given what we are learning about the negative health effects of chronic inflammation."

The EWG says that the potential effects of nano-titanium dioxide on the environment "have not been sufficiently assessed."

As a precaution, avoid clothing with nano-titanium dioxide.

What to Watch For

No US laws require manufacturers to label clothing that uses either nanosilver or nano-titanium dioxide.

Watch for labels making claims like "anti-bacterial," "odor-eliminating," or "hygienic," which may indicate the presence of nanosilver. Clothing labeled as offering sun protection may contain nano-titanium dioxide. Contact manufacturers and ask questions before purchasing. And let them know you want them to avoid nanoparticles in their products.

"Consumers are the ones driving the market and having power," says Andrews. "Asking questions of manufacturers—that's where change will come in the market."

—Sarah Tarver-Wahlquist,
Tracy Fernandez Rysavy, and André Floyd

Good, Green Choices

When you need new clothing, here's how to prioritize your green options when it comes to toxins and beyond.

GOOD: The Green National Retailer



Photo from Patagonia

While most national chains tend to use chemical dyes and finishes, adult and children's outdoor clothing retailer **Patagonia** boasts a cleaner way of doing business.

Organic fabrics: 100 percent of Patagonia cotton clothing is made of organic cotton. It also offers items in other eco-friendly fabrics, including Tencel; hemp; and ethical, recycled, or reclaimed wool; with some nylon/spandex/organic cotton blends.

Recycling: When a Patagonia item in your closet is beyond your ability to repair, you can send it to its Reno, NV, Repair Center to have it fixed within 10 to 30 days. If you've worn your Patagonia clothes out, you can mail them to the company or drop them off at your nearest Patagonia store for recycling or repurposing.

Low-toxicity dyes: Currently, 56 percent of Patagonia's annual material volume is bluesign-approved. Its new denim collection is dyed with sulfur dyes that use less water and energy, and are less toxic than traditional indigo denim dyeing.

Fabric finishes: Patagonia does use a water-repellant finish on some items. It recently began phasing out a C8-fluorocarbon-based treatment for a C6-fluorocarbon-based treatment that breaks down faster. Explains Patagonia's Tessa Byers, "We believe this solution is temporary and not good enough, but it's the best option we have found so far."

A Note on Labor: All of Patagonia's apparel and footwear adhere to Fair Labor Association (FLA) standards. FLA conducts random, independent audits on its supplier factories to ensure they are adhering to strict labor standards. FLA posts audit results on its website. Patagonia also publishes its complete factory list on its website. 192 of Patagonia's 2015 styles are Fair Trade Certified™.

Other Better Bigger Companies

- **Eileen Fisher**, eileenfisher.com. Women's clothing made from under fair labor conditions from organic, natural, and bluesign-certified eco-fabrics. Aims to be 100% sustainable by 2020.
- **Hanna Andersson**, hannaandersson.com. Oeko-Tex-100-certified clothing for women and children made of cotton and organic cotton.
- **NAU**, nau.com. Apparel for men and women, made from organic cotton, certified humane wool, Tencel, recycled polyester and down. All fabrics are GOTS-compliant and certified by GOTS, bluesign, or other programs.



BETTER: The Certified Green Business



Photo from INDIGENOUS

Like its fellow members of Green America's Green Business Network®, fair trade men's and women's clothing trailblazer INDIGENOUS^m goes the extra mile to ensure the sustainability of its products, including by avoiding toxins.

No harmful chemical fabric finishes: INDIGENOUS uses chemical finishes that are not harmful to humans or the Earth.

Low-impact dyes: The company only uses dyes that are compliant with GOTS and Oeko-Tex 100 standards. The company policy mandates that it not use processes or dyes that will harm the planet. It also avoids dyes altogether when possible, and never dyes its alpaca or wool products.

Organic and natural fabrics: The cotton the company uses is all certified organic cotton from small-scale producers in Peru. It also uses wool from ethically raised alpaca that freely roam wide pastures in the Andes mountains, as well as wool from humanely raised sheep. The alpacas are not fed hormones, and there are no chemicals allowed on the animals or their pastureland.

A Note on Labor: INDIGENOUS clothing is made by Peruvian artisans who earn a living wage and work under fair and healthy conditions in the fair trade system.

The company boasts a 100 percent transparent supply chain, even going so far as to provide a hang tag on each item of its clothing, which allows you to scan a QR code to meet the actual person who sewed your garment, and learn details about the social benefits of your purchase.

Company founders Scott Leonard and Matt Reynolds have pledged to make the technology behind this tag, called the Fair Trace Tool, available to any clothing company interested in mimicking INDIGENOUS's commitment to a fully transparent, fair trade supply chain.

Go to the Green Pages®!

Find many more Green-America-certified companies offering sustainable clothes for men, women, and children in our *National Green Pages®*, greenpages.org.



BEST: Reuse Clothing



Photo from Ash & Rose

Vintage and used clothing is by far the best choice, because you're giving something that's already here a second life. It saves resources and energy, and it'll likely save you money. Most dye residues and toxic finishes have long been washed away or worn off of used items.

While Green America editors have written about our favorite used clothing outlets in the past, from clothing swap sites like ThreadUp.com to your local consignment boutique and Goodwill, some forward-thinking entrepreneurs are making a living at repurposing old clothes and fabrics. One such company is People & Planet Award winner **Ash & Rose** (ashandrose.com, formerly Nancy's Gone Green).

Used fabrics: Ash & Rose sells clothing for its Ash & Rose Collection and Re:Awakened lines made from vintage fabrics found everywhere from yard sales and flea markets to online auctions and vintage dealers. The company also uses "deadstock" fabrics, or discontinued fabrics destined for the recycler or landfill. Even the trims, zippers, and closures are often vintage, says co-founder Nea Savoca.

Fabric finishes: Ash & Rose uses no fabric finishes on its clothing. Savoca admits that it's possible the vintage fabrics once had chemical finishes, but they've likely long since worn off or been washed away, and the company washes them again in an eco-friendly manner before sale.

A note on labor: Ash & Rose is a fair trade company. It works directly with fair trade cooperatives and fair trade suppliers to source from workers who were paid a living wage and worked under healthy conditions. Customers can click on the "designer bio" tab on each clothing item's webpage to find out exactly which cooperative or company made it.

Reuse & Recycled Clothing Companies

- **Audrey Acosta Designs**, audreyacostadesigns.com. Women's clothing made from vintage, antique, or used silk and cotton.
- **Baabaazuzu**, baabaazuzu.com. Clothing for men, women, and children made from reclaimed and vintage fabrics.
- **Buffalo Exchange**, buffaloexchange.com. Network of used clothing stores where you can buy, sell, or trade items.
- **Clothing Matters**, clothingmatters.net. Adult clothing made from organic and recycled fabrics.
- **Ecoenstyle**, ecoenstyle.com.

Adult clothing made from sustainable and recycled materials.

- **Elisabethan**, elisabethan.com. Women's clothing made from reclaimed fabric.
- **Goza Gear**, gozagear.com. Apparel for all ages made from eco- and recycled fabrics.
- **Green Outfitters**, greenoutfitters.us. Adult clothing made from eco- and recycled fabrics.
- **Jen-ai**, jen-ai.com. Women's active-wear made from recycled water bottles.
- **lur**, lurapparel.com. Women's clothing made from recycled plastic bottles

and pre-consumer fabric scraps.

- **M & C Clothing and Gifts**, mothersays.shoprw.com. Used clothing on consignment for all ages.
- **Marlandia**, marlandia.com. Women's clothing from upcycled fabrics.
- **STAY VOCAL**, stayvocal.com. T-shirts for men, women, and children re-made from irregular and used shirts.
- **Sweet Skins**, sweetskins.com. Women's and maternity clothing made from recycled plastic bottles and eco-fabrics.
- **VOS**, vosflips.com. Men's and women's flipflops made from recycled rubber.

Make Do and Mend: Reuse at Home



Photo by Stefano Lunardi / Shutterstock

During WWII, the British Ministry of Information released a pamphlet titled “Make Do and Mend.” It provided tips on how to be both frugal and stylish in times of harsh rationing. Readers were advised to create pretty “decorative patches” to cover holes in worn garments, unpick old sweaters to reknit into new styles, turn men’s clothes into women’s, as well as darn, alter, and protect against the “moth menace.”

Times have changed. We’ve lost those skills—seven out of ten young adults don’t know how to sew on a button. Often, clothes end up in the discard pile because they need a simple mend.

If you are one of the seven, Martha Stewart has an extended list of how-to tutorials on marthastewart.com under “Home-keeping Solutions.” The site has tips on sewing on a button, patching a hole, fixing a hem, even darning a sock.

ifixit.com has repair manuals for almost every item in your closet.

Alternatively, your neighborhood dry cleaner is also usually a tailor who can do repairs at affordable prices.


Here are some online salvage and repair services that can help preserve the life of your favorite pieces of clothing:

- **Cashmere:** **Stella Neptune**, stellaneptune.com. Sells iron-on cashmere patches in unique shapes and styles for self-mending.
- **Denim:** **Denim Therapy**, denimtherapy.com. Ship them your favorite jeans, and they will repair and reconstruct.

- **Knits and Sweaters:** **Alterknit New York**, alterknitnewyork.com. Mail them your treasured knits or sweater to have moth holes, burn holes, and tears repaired by reknitting. Other types of damage like snags, runs, and breaks in seams are also repaired.
- **Leather Coats and Jackets:** **Leather CARE Specialists**, greatleather.com, will repair, re-dye, and restore all jackets.
- **Shoes:** **NuShoe**, nushoe.com, are masters at handcrafted shoe or boot renewal; they also rebuild shoes.

Think your garment is beyond repair but you are loath to part with it? What about a refit? These designers and brands that will help you reshape existing pieces into new treasures:

- **Deborah Lindquist**, deborahlindquist.com (also in Special Occasions) will take your cashmere sweater and design a unique, reincarnated, bespoke sweater for you, your child or a beloved pet.
- **Shannon South**, remadeusa.shannonsouth.com (also in Handbags) runs Remade USA, a custom service that repurposes individual vintage leather jackets into handbags.
- **Project Repat**, projectrepat.com, will help you wrap yourself in your T-shirt memories. Send them your collection of T-shirts, and they’ll send back a quilt or blanket.

Adapted with permission from Magnifico: Your Head-to-Toe Guide to Ethical Fashion and Non-toxic Beauty (New Society Publishers  Gabriola Island 2015.)

The Case for Eco-Undies



Faerie's Dance[™] offers underwear and other clothing pieces for the whole family, made without toxins and under fair trade conditions.

Photo from Faerie's Dance

Underwear is just one of those things people often grab and put on without thinking in depth about the product. Does it cover everything that it needs to cover? Does it fit properly and not rub or chafe? If the underwear fulfills all those requirements, then wearers are typically satisfied. As a whole, most people do not think about where their underwear came from or how it was made. That should change.

"There's a health aspect to it all," says Jeff Garner, designer of the Prophetik high-end clothing line. Garner recently released a line of men

and women's intimate wear called Jeff Garner Intimates. "For example, formaldehyde is used [on clothing] to set dyes that offgas. Some of that can get on us and get into the water supply when you wash it."

Formaldehyde is a known carcinogen.

As detailed in the "Detox Your Closet" theme of the Fall 2015 *Green American*, manufacturers may apply a whole host of chemicals to clothing, including underwear—to brightly color it, wash it, make it wrinkle-, pest- and stain-resistant or water- and flame-repellent. Those chemicals

are making workers and their communities sick.

Conventional clothing—particularly underwear that sits right on the skin and on particularly vulnerable parts of the body—may also not be good for the wearer. While more studies need to be done to show the health impacts of chemical residues left on clothing when we buy it and after we put it through the washer, studies from Greenpeace International show that some harmful chemicals do remain behind (see p. XX).

Better Fabrics, Fewer Toxins

Here's what to look for when you shop for underwear:

Natural Fabrics: Cotton underwear is the most commonly worn undergarment material for a number of reasons. For one thing, it's easily available in most stores. It wicks moisture away from the body. It's also comfortable.

Most of the cotton underwear sold in stores is made of conventional cotton, which is usually genetically modified and grown and processed with a number of chemicals, including chlorine bleach.

In fact, around 25 percent of the world's insecticides and more than 10 percent of the world's pesticides is sprayed on cotton, according to the Organic Trade Association[™] (OTA). Cotton is also one of the heaviest water users among agricultural crops, states OTA.

So what's the alternative to conventional cotton undergarments? Many companies sell sustainable and organic underwear in a variety of eco-materials—including certified organic cotton, bamboo lyocell, hemp, organic soy, peace silk, and recycled fabrics.

Avoidance of Toxins: To ensure that companies avoid the most toxic chemicals throughout the supply

chain—from dyes to washes to finishes—look for underwear certified through the Global Organic Textile Standard (GOTS).

Keep in mind that smaller companies may not be able to afford certification, so they may advertise as GOTS-compliant. In their case, look for Green America Green Business Network® Certification (greenpages.org).

If the garments are dyed, look for companies that use low-impact and eco-friendly, either water-based, vegetable-based, or clay dyes. Some may even obtain GOTS certification for their dyes.

Fair Labor: In addition, look for underwear made under the fair trade system, to guarantee that workers earned a living wage labored in sweatshop-free factories. For undies made at home, you can't go wrong with a deep green company—like those certified by Green America—that keeps its manufacturing in the US and are transparent about the location of its factories.

Buy Green

Finding underwear that is good for the body as well as the Earth is just as easy as buying conventional underwear. But with organic and sustainable underwear, you'll have a much better idea how and where your undergarments are made, what the people who made them were exposed to, and what you are putting on their bodies.

And, as an added bonus, 100 percent certified organic underwear is biodegradable, so when it's time to get new underwear, the old pair can go in the compost pile rather than in the trash.

The following companies offer eco-friendly undies and are members of Green America's Green Business Network:




- **Bamboosa** , bamboosa.com. Men's underwear and baby onesies made from a bamboo and organic cotton mix.
- **Brook There** , brookthere.com. Women's underwear made from organic cotton, silk, organic wool, and organic cotton-bamboo mix.
- **Decent Exposures** , decentexposures.com. Women's specialty made undergarments which can be made from organic cotton.













Photo from Jeff Garner Intimates

The Prophetik Intimates line for men and women is made in the USA without toxic dyes and finishes. Designer Jeff Garner, a frequent Green Festivals® speaker, only uses eco-fabrics, particularly organic cotton for the Intimates line. ProphetikIntimates.com.

- **Ecoenstyle** , ecoenstyle.com. Women's underwear made from organic cotton, hemp, cork, and bamboo.
- **EcoPlanet-EcoChoices** , ecobodywear.com. Men's and women's underwear and baby onesies made from organic cotton and bamboo.
- **Eco-Fabrik** , ecofabrik.com. Men's underwear and baby onesies made from organic cotton, hemp, and bamboo-organic cotton mix.
- **EcoPlum** , shop.ecoplum.com. Baby onesies made from organic cotton and bamboo mix.
- **Esperanza Threads** , esperanzathreads.com. Baby onesies made from organic cotton.
- **Ettitude** , ettitude.com. Women's underwear made from bamboo lyocell.
- **Faerie's Dance** , faeriesdance.com. Men's, women's, and children's underwear and baby onesies made from organic cotton, hemp, and soy.
- **I'm Organic, LLC** , imorganic.com. Baby onesies made from 100 percent organic cotton.
- **Kasper Organics** , kasperorganics.com. Men's and women's intimate apparel made from organic cotton.
- **Levana Naturals** , levananaturals.com. Children's underwear made from organic cotton.
- **Lucky & Me** , luckyandme.com.

Children's underwear made from modal.

- **Maggie's Organics** , maggiesorganics.com. Baby onesies made from organic cotton.
- **Modern Vintage Attic** , shop.modernvintangeattic.com. Women's organic cotton underwear.
- **Najla Lingerie** , najlalingerie.com. Women's underwear made from organic cotton.
- **Natural Clothing Company** , naturalclothingcompany.com/organic_clothing/. Men's and women's underwear and baby onesies made from organic cotton, hemp, and bamboo.
- **PACT** , wearpact.com. Men's and women's underwear made from organic cotton.
- **Sage Creek Organics** , sagecreekorganics.com. Baby onesies made from organic cotton.
- **Silver Needle & Thread** , sliverneedleandthread.com. Men's and women's organic cotton underwear.
- **Spiritex** , spiritex.net. Organic cotton men's and women's underwear and baby onesies.
- **Xylem Organic Clothing** , xylemclothing.com. Soy and organic cotton underwear for men and women.
- **Yala** , yaladesigns.com. Bamboo viscose baby onesies.

—Hillary Chester

Shareholder Action on CEO Salaries

Re: "Shareholders Take Action" ("Investing Can Change the World", Summer 2015). The shareholder proposal that I would like to see is one that would rein in excessive executive salaries. The advisory vote on executive compensation is worse than useless. Managers devote a full fourth to one half of many proxy ballots to explaining how the obscene amount of compensation for their named executives compares to compensation of executives in similar businesses. This almost guarantees an upward trend. If one company raises executive compensation, the others have to do so, too, or risk looking uncompetitive.

What I believe is more important is how executive compensation compares to their average employee compensation. The first step would be to require disclosure. The second step would be to put a cap on the ratio.

Robert Clear
Berkeley, CA

TRACY: Thank you for your very timely letter on this important issue, which the SEC has just addressed in its latest rule.

A little background: In 2011, in a historic move, the SEC required proxy ballots to include an advisory vote on "say on pay", as well as ask investors whether they wanted this disclosure every three years, two years, or annually.

On August 5, 2015, the SEC finally approved a rule that will now require publicly traded companies not only to disclose executive compensation, but also to disclose the pay ratio

The Problem with Donating Clothing

You may be wondering why we didn't include resources for donating or recycling used clothing.

While researching the toxic clothing theme for this issue, I watched a thought-provoking film recommended by our newly married campaigns director Liz Jardim (formerly O'Connell). *The True Cost* looks at the actual costs of "fast fashion," or the cheap, almost disposable clothing that lines Western store shelves and racks. It powerfully introduces the viewer to real people working under dangerous and abusive conditions in the fashion industry, and to communities being poisoned by toxic run-off from clothing factories.

It also introduces people who've been affected by the mind-boggling amount of used clothing the US ships to developing countries. It's not as charitable of a picture as I once thought.

I've talked with Goodwill representatives in the past, who've said that the charity accepts used clothing for its stores and sends what it can't sell to developing countries or to textile recyclers.

But the average American gets rid of 82 pounds of textiles (clothing, sheets, towels, etc.) per year, according to the Council for Textile Recycling. This is too much clothing for the cycle to be sustainable.

Altogether, the US generates 11 million tons of old clothes, only 15 percent actually makes it to a recycler or donation center. The majority rots in landfills, where it decomposes anaerobically and generates global warming gases. Then, only ten percent of what we donate makes it onto secondhand store shelves. A good chunk of what's deemed unsaleable heads to developing countries, where it is harming local clothing industries.

Catherine Charlot, a Haitian designer, told *The True Cost* filmmakers about how Haiti's once-vibrant clothing industry that was decimated after tens of thousands of secondhand clothing bales from the US flooded local markets. Another tailor (name not revealed) added that he used to be able to teach someone to sew and know that the person would make a decent living, but not anymore.

So what to do? The answer truly is to buy less and buy secondhand whenever possible. As *True Cost* executive producer Livia Firth said, when you do buy new, ask yourself if this piece of clothing is something you'll wear at least 30 times. If not, leave it on the shelf.

Donation to places like Goodwill and to textile recyclers (find the latter at WearDonateRecycle.org or ATRSCorp.com) is still the best option for unwanted pieces. But to solve the myriad problems associated with the clothing industry, Westerners must curb clothing consumption.

—Tracy Fernandez Rysavy, editor-in-chief



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between top executives and the median pay of regular employees every three years.

The rule will go into effect in 2017, and the first data will appear on SEC filings in 2018.

An Aug. 6th *New York Times* article noted that CEO compensation is now up to 300 times greater than that of average employees, while in 1980s the difference was 30 times greater.

Walmart Greenwashing

Thank God you ruled "green-washed" for Walmart on p. 39 of the last issue ("Green or Greenwashed?", Summer 2015).

Hawaii recently enacted [the first statewide] plastic bag ban in July. Walmart's reaction in using a loophole in that law was SO disappointing: Day one of the new bag ban, and a disgusting thicker plastic

bag from Walmart appears in its store, labeled "sustainable" and "reusable".

I would hope Walmart would prefer to partner with the Surfrider Foundation locally and do it right, instead of cheap and dishonest. Please forward this to their sustainability lead. Mahalo!

JamesMcCay
Oahu, Hawaii

TRACY: Consider your letter forwarded, James!



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