

Guide to Sustainable Strategies

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SUSTAINABILITY GUIDE

Introduction

This CFDA Guide to Sustainable Strategies provides a “how to” overview for sustainable fashion with a focus on helping our members and community create, meet, and exceed their own unique sustainability goals. Our goal is to take the complex idea of sustainability and simplify it into clear, digestible resources and actions.

In order for the industry to change we need to work together. This guide is available to public as a critical educational resource. Through this project we seek to shift sustainable practices among members as well as across the entire industry.

SUSTAINABILITY GUIDE

How to use this guide

Your sustainability journey is uniquely your own. While this guide has been created to help you succeed, how you choose to use it is entirely up to you. We like to think of each sustainability section as one component of good design; there is no linear order to how you need to implement it.

Start with the big questions about your company: Who are we? Why do we create? What do we care about? What does sustainability mean to us? The answers to these questions will determine where you will begin.



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SUSTAINABILITY GUIDE

A letter from CFDA

We aim to instill a heightened sense of *community, empowerment & purpose* by enacting principles to change design through inspiration, innovation & imagination.

As American fashion continues its journey to a more sustainable future, transformative innovation of materials, processes and systems is about more than mindfulness, it is a change imperative.

Last October, following General Assembly Week at the United Nations, a U.N. & Intergovernmental Panel on Climate Change (IPCC) report highlighted how global warming is accelerating and threatening the Planet Earth's health faster than we thought. This is directly linked to CO2 emissions, as well as the impact of single use plastics to our land and oceans. Without a radical rethinking, the ocean will contain more plastic than fish by 2050.

At a time when numbers and reports are so daunting, the CFDA is more optimistic than ever and sees 2019 as a year of progress – with every step counting towards substantial change. We are closer than ever to opportunities and solutions to create and consume with less impact, to employ circularity, and to ultimately end production of single use plastics.

We believe in the power of people unified by shared vision, and in the power of design. We see a call to action in action led by our 500+ member community by embracing conscious design, responsible sourcing, and committing to building safer, ethical, more efficient value chains.

Through the CFDA's Educational Initiatives, we also see a generation of educators, students, and graduates applying collaboration, ingenuity and systems thinking to sustainable fashion prototyping and new models of social entrepreneurship and material innovation.

Within professional development programs such as the Elaine Gold Launch Pad, expert mentors work with early emerging talent to create new business models that are scalable and embedded with principles of sustainability, technology and innovation.

Through our longstanding partnership with Lexus business development program, the Fashion* Initiative inspires thought leadership, facilitates commitment to sustainable innovation, and advance positives change with the highest-impact potential.

SUSTAINABILITY GUIDE

A letter from CFDA cont'd

Now, we are pleased to share this first edition of the CFDA Guide to Sustainable Strategies as part of CFDA's expanded Sustainability Initiatives in 2019.

With this open-access guide authored by Domenica Leibowitz, we have a single intention: to empower through education.

Within this 16-topic guide, we consider impacts related to land, water, air, energy, human capital {people} and natural capital {all living things} using pillars of environmental, social, cultural, and financial/economic. Our methodology aligns to the core principles of the United Nations 17 Sustainable Development Goals.

Thank you for joining us as we strive to come closer to the goal of sustainable fashion as a new normal. I hope you enjoy this guide created by the CFDA, with gratitude to the CFDA staff and teams, Domenica Leibowitz, and consultant Lauren Croke.

As the industry and resources contained in this guide are constantly evolving, please let us know if we are missing anything or if updates are required. If you need assistance or have specific questions, please contact the CFDA. - *Sara Kozlowski, January 2019*

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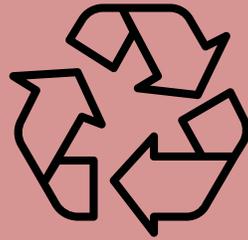
Jackie Shihadeh
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ABOUT

The CFDA

[The Council of Fashion Designers of America](#) (CFDA) is a not-for-profit trade association, founded in 1962, whose membership consists of more than 500 of America's foremost womenswear, menswear, jewelry and accessory designers.

Our mission is to strengthen the impact of American fashion in the global economy.



What is *Sustainability?*



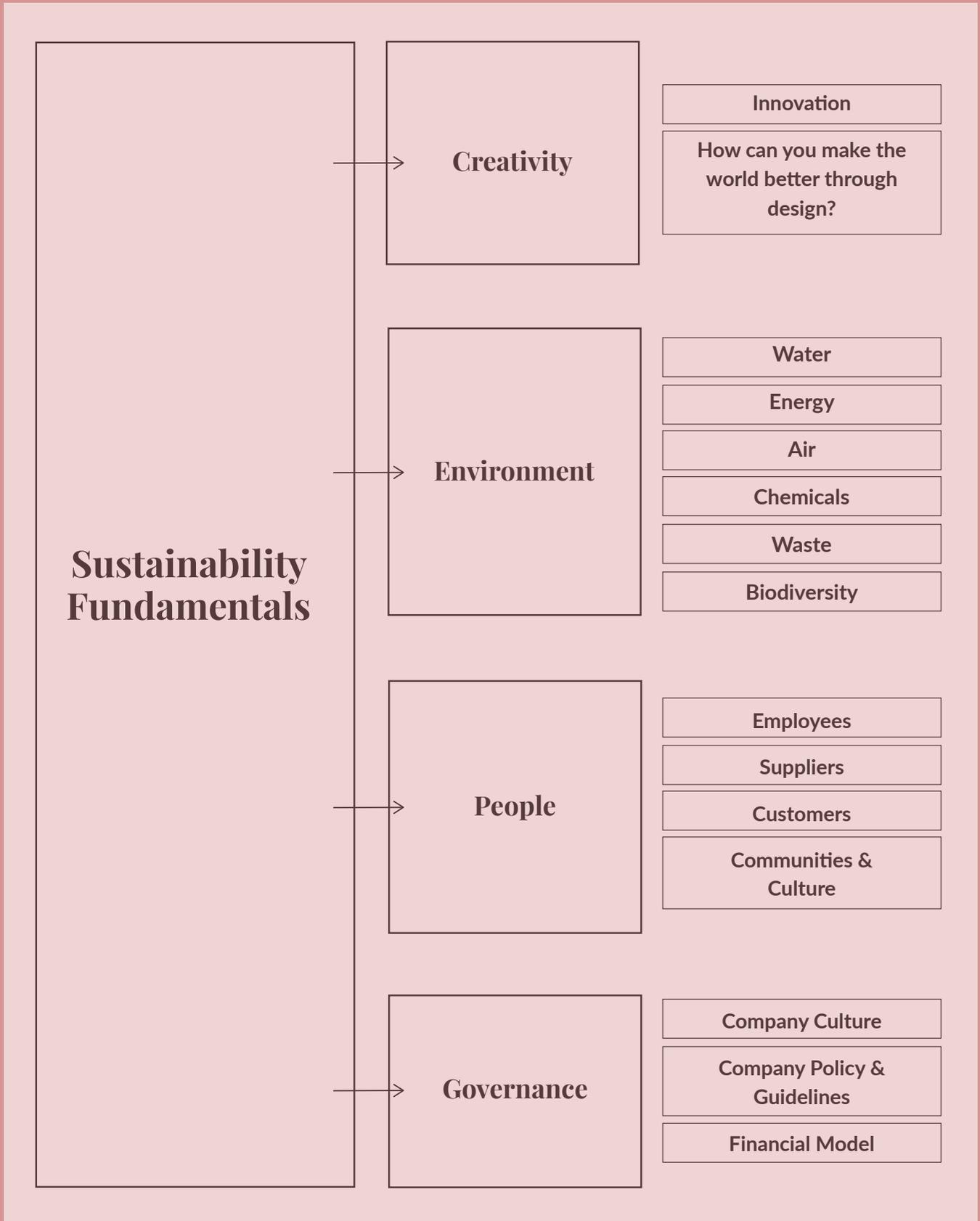
WHAT IS SUSTAINABILITY? _____

Overview

Sustainability is great design. It is based on a deep understanding that all things are interconnected in this world. Sustainability provides the ability to design and produce indefinitely. This requires that the design, development, production and use of fashion products meets today's needs, without preventing them from being met by future generations.

The fashion industry is not currently sustainable. We are using up natural resources and exploiting people in ways that will deplete future generations of the resources they need, impacting future profitability and business opportunities. *We have the power to change the way fashion is made and consumed by creating a sustainable industry with greater influence and increased profit.* While many sustainability initiatives exist, there is no way to be 100% sustainable... yet.

Failure to embrace sustainable practices neglects a key factor for long-term success in business, you could read about [The Business Case for Sustainability](#) section of this guide.





WHAT IS SUSTAINABILITY

Global consensus

Now is truly an exciting time for the sustainability movement in fashion. In addition to a plethora of new technology and material innovations, there is an unprecedented level of collaboration across the entire industry and its stakeholders.

Companies, governments, non-governmental organizations, academia, communities, and individuals on a global scale are committing to:

1. Common goals
2. A common system by which to measure sustainability
3. A common plan of action



GLOBAL CONSENSUS

01

Common goals

The United Nations Sustainable Development Goals:

The [17 Sustainable Development Goals](#) (SDGs) of the [2030 Agenda](#) for Sustainable Development – adopted by 193 countries in a historic UN Summit and officially went into force on January 1, 2016. The goals universally apply to all countries, who committed to mobilizing efforts to end all forms of poverty, fight inequalities and tackle climate change, while ensuring that no one is left behind. Each of the 17 goals set forth specific targets to be achieved by 2030.

The goals call for action by poor, rich and middle-income countries to promote prosperity while protecting the planet. They recognize that ending poverty must go hand-in-hand with strategies that build economic growth and addresses a range of social needs including education, health, social protection, and job opportunities, while tackling climate change and environmental protection.





02

Common metrics

The [Sustainable Apparel Coalition](#) (SAC) and HIGG index:

The Sustainable Apparel Coalition is the apparel, footwear, and textile industry's leading alliance for sustainable production. The SAC developed the [Higg Index](#), a suite of tools that enables brands, retailers, and facilities of all sizes — at every stage in their sustainability journey — to measure and score a company or product's sustainability performance. The Higg Index delivers a holistic overview that empowers businesses to make meaningful improvements that protect the wellbeing of factory workers, local communities, and the environment.

The Sustainable Apparel Coalition was born from a dynamic and unconventional meeting of the minds. In 2009, Walmart and Patagonia came together with a radical mission: collect peers and competitors from across the apparel, footwear and textile sectors and develop a universal approach to measuring sustainability performance.





03

Common agenda

The Global Fashion Agenda:

The Global Fashion Agenda (GFA), based in Copenhagen, Denmark, is a leadership forum on fashion sustainability. The GFA works to develop, collect and spread the insights required for decision makers to implement sustainable practices. Additionally, they ensure industry collaboration across stakeholder groups to facilitate sharing of experiences and solutions. Their initiatives include:

The Copenhagen Fashion Summit

An annual, international gathering around sustainable fashion. It has become a nexus for agenda, setting discussions on the most critical environmental, social and ethical issues facing our industry and planet.

The CEO Agenda

A guide to what every CEO in fashion needs to prioritize to future-proof their company, with the idea that sustainability is no longer a trend, but a business imperative.





03

Common agenda

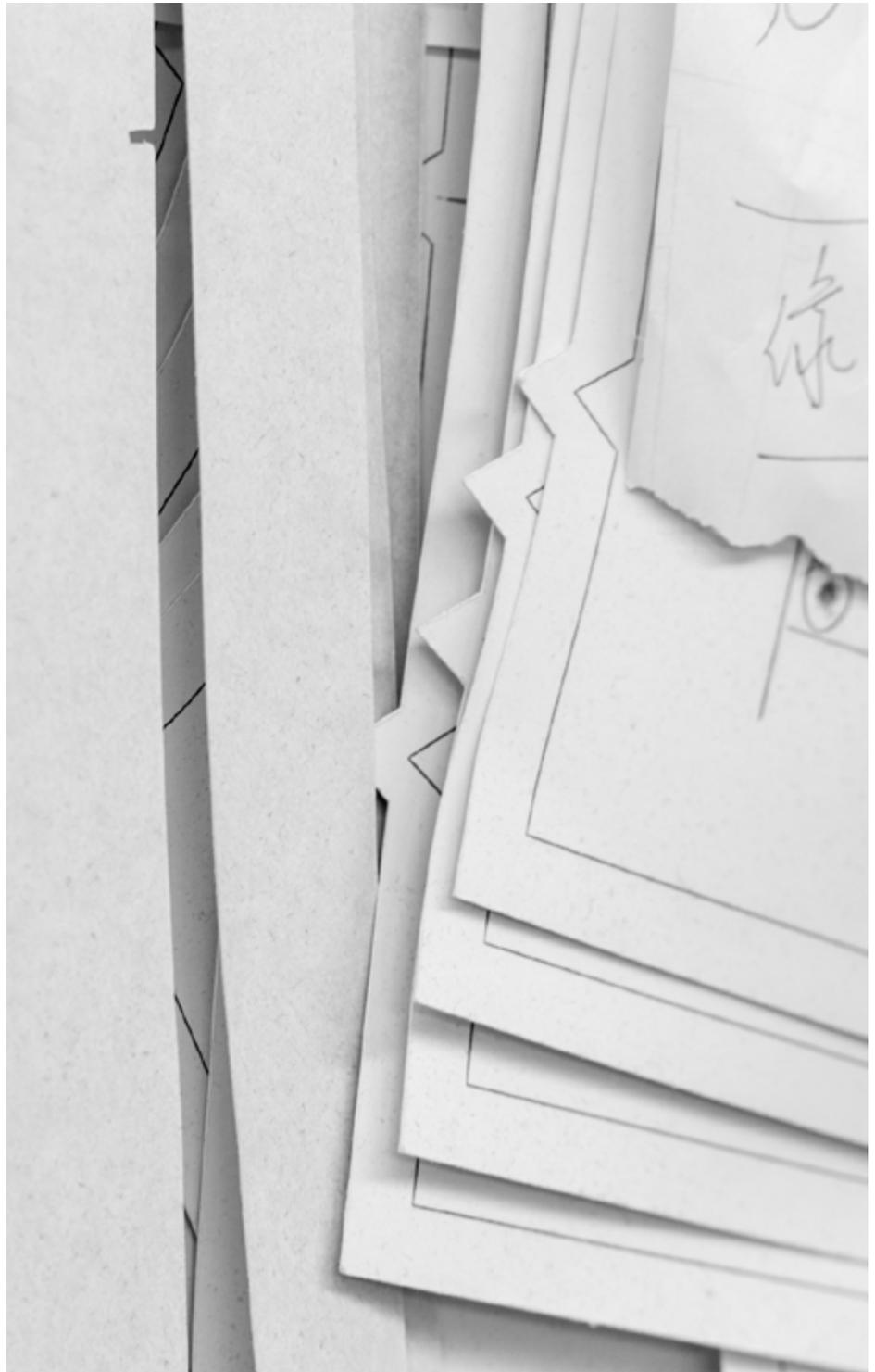
The Global Fashion Agenda cont'd:

[Pulse of the Fashion Industry Report](#)

This annual report, published in collaboration with The Boston Consulting Group, looks at environmental, social and ethical challenges as an immense untapped value creation opportunity. In the 2017 edition, an in-depth assessment was conducted to understand the industry's environmental and social performance. The 2018 edition looks at progress made and provides guidance to fashion brands and retailers looking to move toward more responsible ways of doing business.

[The Circular Fashion System Commitment](#)

An initiative that encourages the fashion industry to commit to action on circularity by signing the 2020 Circular Fashion System Commitment. As of June 2018, 94 companies (both large and small) had signed on.





WHAT IS SUSTAINABILITY?

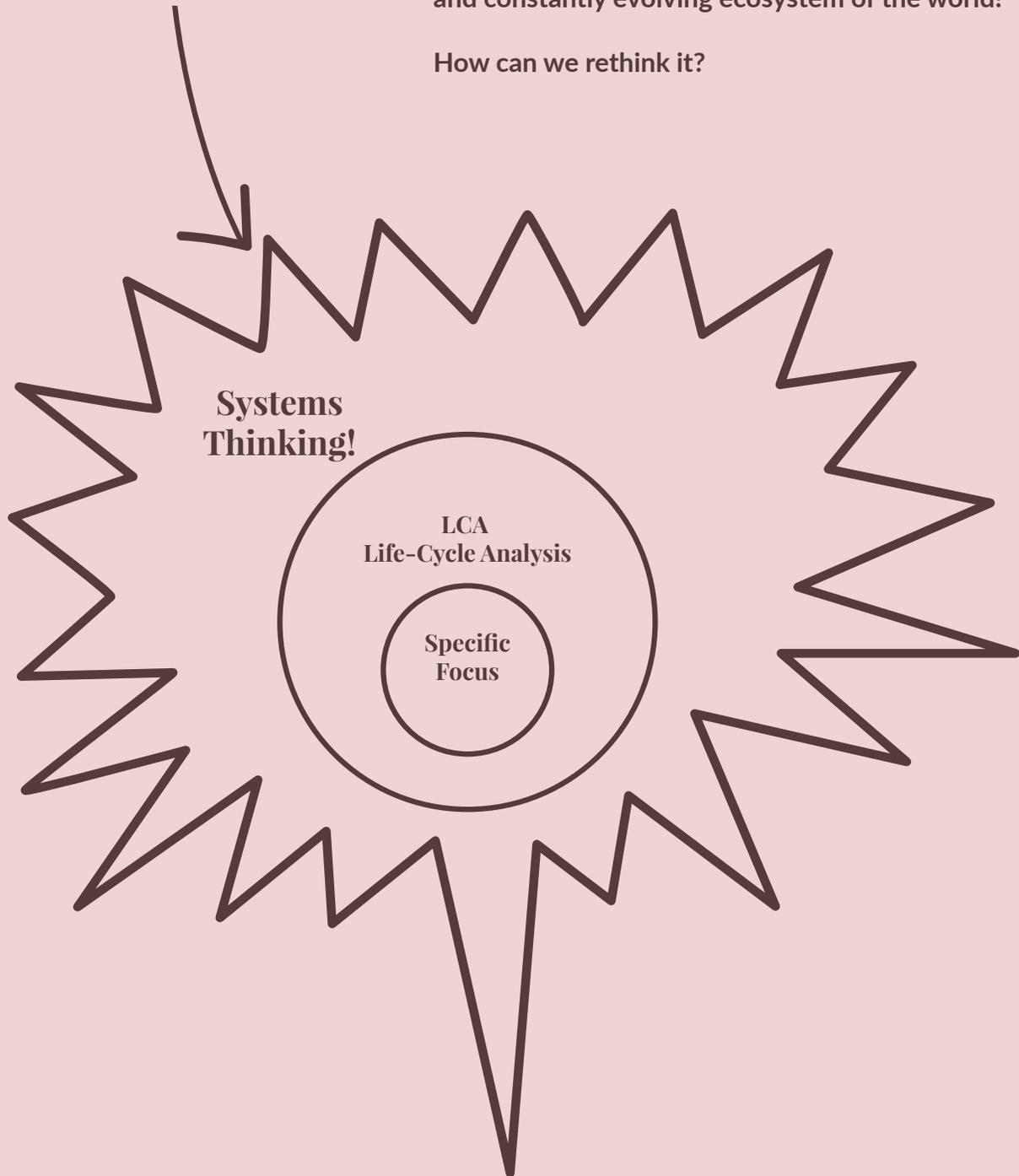
Sustainability can be approached at *multiple* levels

While it's useful to approach sustainability in manageable pieces, we don't want you to forget the big picture. It's important to question *all* assumptions about the fashion industry - including the very purpose and meaning of clothing.

The BIG PICTURE!

Think of fashion as part of the larger, interconnected and constantly evolving ecosystem of the world!

How can we rethink it?





APPROACHES

01

Systems thinking

The big picture

Systems Thinking allows us to look at fashion as a nonlinear, complex, interconnected and constantly moving system.

[In this video](#) from BEE Environmental Communications you can find a thorough explanation of what Systems Thinking is.

Examples of Systems Thinking include ideas like the Sharing Economy or the Circular Economy.

“The goal is to showcase a wealth of alternatives for building long-lasting environmental and social quality through the design, production and use of fashion and textiles that go beyond traditional ideas or expectations.” -Kate Fletcher, quoted from her book, [Sustainable Fashion and Textiles: Design Journeys](#).

Standards, strategies or tools that take a more Systems Thinking approach include:

- Cradle to Cradle
- B Corp
- Natural Step (ABCD)
- Okala



NATALIE CHANIN

“Sustainability relies on the *human skills* necessary to manipulate materials. It’s important to remind people that *everything comes from somewhere, someone*. We encourage consumers to ask these questions and to challenge designers and manufacturing to create in a sustainable, ethical, and healthy way As we work to honor the relationship between materials, products, and individuals, we create a sustainable community and as a result, an enriched product for not only the consumer, but the planet.”



APPROACHES

02

Life-Cycle Assessment

Impact over a product's life

LCA looks at the social and environmental impact of a product over its entire life, including raw material extraction, material processing, manufacturing, packaging, distribution, retail, use, maintenance/upgrading, and disposal or recycling.

One concern of LCAs as Kate Fletcher points out in her book [Sustainable Fashion and Textiles: Design Journeys](#), is that qualitative studies tend to generate equivocal findings. "LCAs, even though there are well-established internationally recognized methodologies, have a history of partisan results and methodological inconsistencies arising from different ways of defining boundaries around the problem being investigated."

Nonetheless, we recommend them whole heartedly as great tools to understand where your biggest impacts are. (It may suprise you!)

Standards or tools that utilize LCA:

- [The Sustainable Apparel Coalition's Higg Tools](#)
- [Textile Exchange](#)
- [The World Apparel and Footwear Life Cycle Assessment Database \(WALDB\) from Quantis](#)
- [Handbook of Life Cycle Assessment \(LCA\) of Textiles and Clothing 1st Edition by Subramanian Senthilkannan Muthu \(Editor\)](#)





APPROACHES

02

Life-Cycle Assessment

Examples of companies using LCAs:

Reformation:

Reformation created RefScale to track their environmental footprint by adding up the pounds of carbon dioxide emitted and gallons of water we use, and pounds of waste we generate. They then calculate how Reformation's products help reduce these impacts compared with most clothes bought in the US. They share this information on every product page of their website and tell customers exactly what impact each garment has on the environment. Their aim is for everyone to see the total cost of fashion so consumers can make empowered choices, and they can keep creating better solutions when it comes to making clothes.

**Levi's:**

Read Levi's ["The Life Cycle of a Jean: Understanding the environmental impact of a pair of Levi's® 501® jeans."](#)





APPROACHES

03

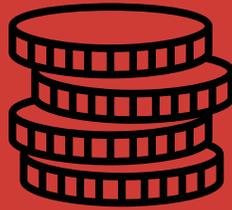
Specific approach

Part of the whole

Most designers choose to start working on sustainability in a specific area. Examples include: sourcing more sustainable materials, eliminating bad chemicals from your product, or fair trade labor practices. Perhaps the issue you care most about is water and you want to focus only on that. There are a multitude of approaches and standards that tackle specific parts of a product's lifecycle.

There's nothing wrong with starting with a narrow focus. Just don't forget the big picture!





The Business Case for Sustainability

THE BUSINESS CASE FOR SUSTAINABILITY

Overview

Sustainability is a *business opportunity*. Every year, the business case for sustainability in fashion grows stronger as sustainability innovation offers opportunities for increased profitability. Congruently, evidence suggests that neglecting the fashion industry's environmental and social impact will have detrimental effects on business growth and profits.

A shift toward sustainable practices begins one step at a time. The steps outlined in this guide are meant to help those taking that first step and those much further down the line that are completely re-thinking their design and production processes. No matter where you are on this path, every step has the potential to be a long-term investment that will pay off.

This guide aims to serve as a resource for brands to immediately implement and improve a wide variety of design and business processes. Increased profits in the long-term may require upfront investment, and this guide provides the tools you need for evaluating those decisions.

PULSE OF THE FASHION INDUSTRY

“Even without considering the positive effects on brand building and risk management, *there is a sound business case.* By realizing the potential savings and efficiency increases described in the Roadmap to Scale, companies will see an uplift in their profitability by *1 to 2 percent.*”

2017 Industry report

NATURAL BUREAU OF ECONOMIC RESEARCH —————

“In a matched sample of 180 ‘High Sustainability’ companies and ‘Low Sustainability’ companies over an 18-year period, *the High Sustainability group outperformed the Low Sustainability group by 4.8 percent* on a value-weighted base. The outperformance is stronger in sectors where the customers are individual consumers, where companies compete on the basis of brands and reputation, and where companies’ products significantly depend upon extracting large amounts of natural resources.”

From the report [‘The Impact of a Corporate Culture of Sustainability on Corporate Behavior & Performance’](#)

NATURAL BUREAU OF ECONOMIC RESEARCH —————

“The boards of directors of High Sustainability companies are more likely to be formally responsible for sustainability and top executive compensation incentives are more likely to be a function of sustainability metrics. High Sustainability companies are more likely to have established processes for stakeholder engagement, to be more long-term oriented, and to exhibit higher measurement and disclosure of nonfinancial information. Finally, ***High Sustainability companies significantly outperform their counterparts over the long-term, both in terms of stock market and accounting performance.***”

From the report “[The Impact of a Corporate Culture of Sustainability on Corporate Behavior & Performance](#)”

THE BUSINESS CASE FOR SUSTAINABILITY

Sustainability doesn't have to be expensive

It can cost nothing to get started. For example, on a basic level, minimizing use of water and energy can bring huge savings, both at production facilities or even in your office. (You can learn more about some of these opportunities in the [Sustainable Buildings & Offices](#) section of this guide.)

Some initiatives such as [Canopy Style](#), which works to protect forests endangered by the fashion industry, are free and easy to join. Before you implement any changes at your company, just signing on can add to a collective voice with the bargaining power to shift an entire industry.

EXAMPLE

The NRDC's Clean by Design Program

[NRDC Clean by Design](#) promotes a simple 10-step program to reduce the environmental impact at what it refers to as the “hottest spot” of the industry’s environmental impact: fabric dyeing and finishing.

The impact has been stellar: each and every mill that has implemented the program—the old and new, the large and small, cotton and synthetic, woven, knit, and denim—has benefited substantially. One mill reduced its water use by 36 percent, another reduced its energy use by 22 percent. The top mill for economic returns in 2014 earned \$3.5 million in the first year, with projects that paid themselves back in only 13 months.

“In total, the 33 mills in the 2014 NRDC Clean By Design program saved:

- 3 million tons of water
- 61 thousand tons of coal
- 36 million Kwh¹ of electricity
- 400 tons of chemicals
- \$14.7 million dollars

Annual return per mill averaged \$440,000 with the top five mills saving more than \$800,000.”



TOOLS & RESOURCES

Measure environmental impact in your business calculations

The Natural Capital Coalition developed a tool to help make the invisible impacts of business visible, quantifiable and comparable. They recognized that main environmental risk categories have a direct link to business performance, including higher resource costs, new government regulations, reputational damage, reduced market share, and fewer financing options.

Kering used this tool to create its own Environmental Profit & Loss Calculator (E P&L). According to Kering, conducting an E P&L will not only help you improve your environmental impact, but it will help you discover potential efficiencies, innovations and improvements that can give you a real edge.

Both the Natural Capital Coalition Protocol and the Kering E P&L are available as open source for free. You could access both of them here:

[Kering's Environmental Profit & Loss \(E P&L\) Methodology](#)
[The Natural Capital Coalition Protocol](#)

NATURAL CAPITAL COALITION

“Overexploitation of, and damage to, natural resources, particularly in vulnerable ecosystems, presents a very real financial risk to businesses operating in the sector. For example, cotton price volatility halved the profits of some apparel retailers in recent years, while toxic discharges from dye houses to water systems can result in large financial penalties from fines and clean-up fees.”



TOOLS & RESOURCES

Suggested reading

A guide for CEO's:

[The CEO Agenda 2018](#)

The Global Fashion Agenda has created a guide to what every CEO in fashion needs to prioritize to future-proof their company.

Reports & studies:
The business case for
sustainability

[Sustainability Pays](#)

A list of studies from Natural Capital Solutions that prove the business case for sustainability.

[Investing for a Sustainable Future](#)

MIT Sloan Management Review Research Report & The Boston Consulting Group.

[Fashion is Old Fashioned: Disruption, Sustainability, and Investment Opportunity in the Fashion and Apparel Industry](#)

MIT Sloan Management Review Research Report & The Boston Consulting Group

[Labor Lens Investing: The Business Case for Fair Labor Practices](#)

Boundless Impact Investing

[The Impact of a Corporate Culture of Sustainability on Corporate Behavior and Performance](#)

National Bureau of Economic Research

[Sustainable Business case studies: Innovation and inspiration in corporate sustainability](#)

The Guardian Sustainable Business

[The World in Context: Beyond the Business Case for Sustainable Development](#)

HRH The Prince of Wales's Business & the Environment Programme & The University of Cambridge Programme for Industry



TOOLS & RESOURCES

Suggested reading

Reports & studies:

[**The Key to Confidence: Consumers and Textile Sustainability – Attitudes, Changing Behaviors and Outlooks**](#)

Oeko-Tex

Consumer behavior & sustainability:

[**Shopping Trends Among 18-37 Year-Olds**](#)

LIM College

[**The State of Fashion 2018**](#)

Business of Fashion and McKinsey and Company

[**The Nielsen Global Survey of Corporate Social Responsibility and Sustainability**](#)

Nielsen

[**The Consumer Study: From Marketing to Mattering**](#)

The UN Global Compact-Accenture CEO Study on Sustainability in collaboration with Havas

[**2018 Timberland Wardrobe Value Survey Fact Sheet**](#)

Timberland

Articles:

[**“The Comprehensive Business Case for Sustainability”**](#)

By Tensie Whelan and Carly Fink, Harvard Business Review

[**“By Not Accounting for Nature, Business Is Reporting Fake Profits”**](#)

By Philippe Joubert, Sustainable Brands

[**“Sustainability Targets + Science: The Smart Business Equation”**](#)

by Daniel Hill, Sustainable Brands



TOOLS & RESOURCES

Suggested reading

Articles cont'd:

[“The Comprehensive Business Case for Sustainability”](#)

By Tensie Whelan and Carly Fink, Harvard Business Review

[“By Not Accounting for Nature, Business Is Reporting Fake Profits”](#)

By Philippe Joubert, Sustainable Brands

[“Sustainability Targets + Science: The Smart Business Equation”](#)

By Daniel Hill, Sustainable Brands

[“Millennials Say They Care About Sustainability. So, Why Don’t They Shop This Way?”](#)

By Luna Atamian Hahn-Petersen, The Business of Fashion

[“The Sustainability Practitioner’s \(Basic\) Guide to Investors”](#)

By Martin Rich, Sustainable Brands

[“The Ecosystem of Shared Value”](#)

By Mark R. Kramer and Marc W. Pfitzer, Harvard Business Review

[“The Latest Trend at Fashion Houses? ‘Sustainability’ Experts”](#)

By Ray A. Smith, The Wall Street Journal

Impact Assets

Investment fund Impact Assets provides an excellent list of articles on its website [here](#).

LUNA ATAMIAN HAHN-PETERSEN

“The gap between millennials’ stated interest in sustainability and their actual purchasing patterns *is not due to lack of conviction but product availability and lack of clear marketing.*”

[The Business of Fashion](#)



Create A Company Sustainability Strategy

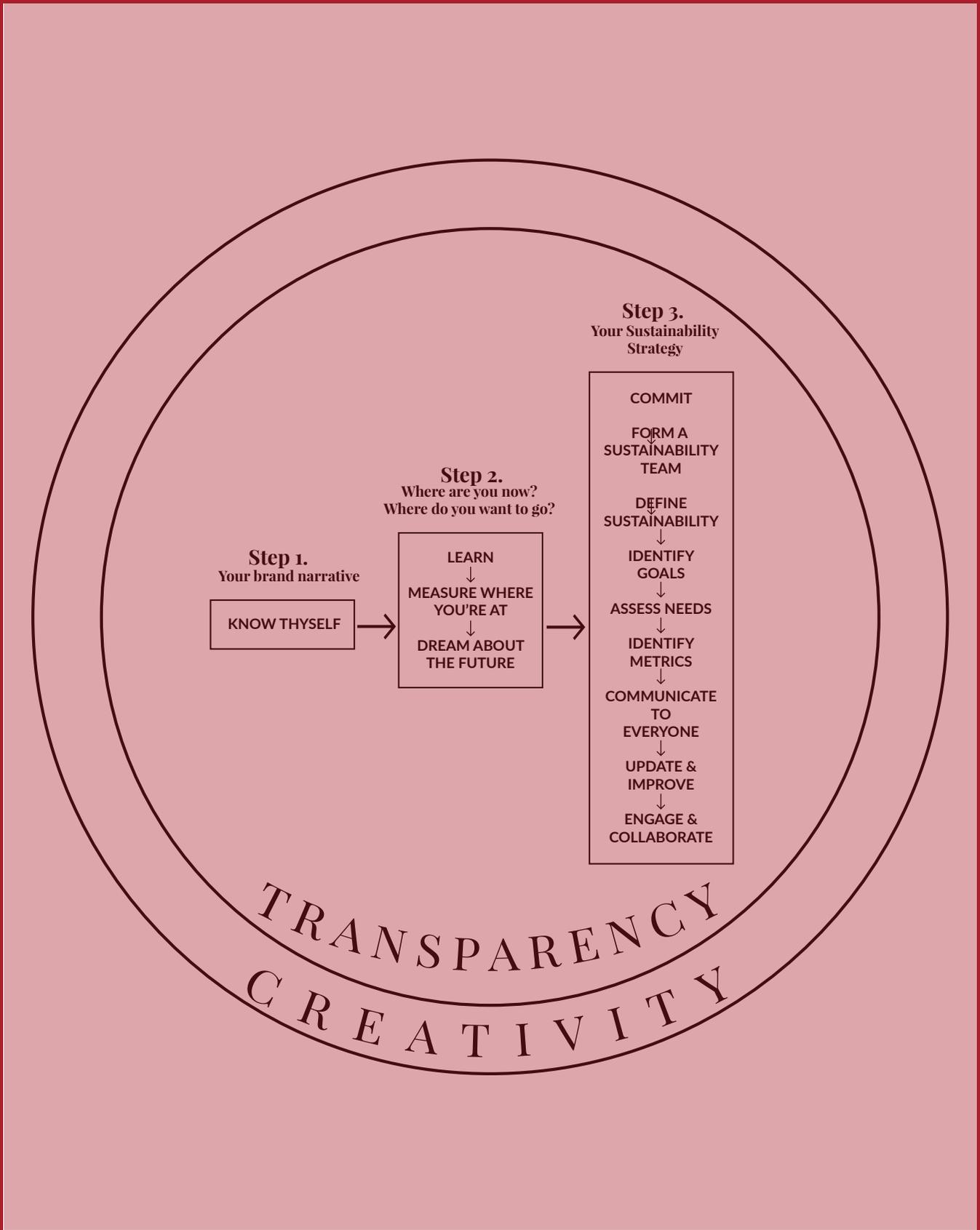


CREATE A COMPANY SUSTAINABILITY STRATEGY

Overview

Creating a sustainability strategy can benefit your company in a number of ways. It doesn't matter whether your company is small or large, what your budget is, or how far along you are in your sustainability journey (even if you haven't started yet). A sustainability strategy provides incentive for continuous improvement and can keep you motivated to continue your sustainability journey. It means you take the long-term health of your company seriously and helps you stay true to your brand values.

There are many benefits to having a sustainability strategy. It can be good for PR, increase brand loyalty, and attract investors. Data shows that employees care about purpose at work and prefer to work for a company that actively addresses its environmental and social impact. Not only does it attract better talent, but employees are more engaged and committed. There is a [quantifiable link](#) between a company's sustainability strategy and employee productivity and retention.



PRABAL GURUNG

“While the definition of sustainability is incredibly layered, find what practices work best for you and your brand and start by focusing on those. *No brand will become a zero-impact brand overnight,* it’s just not a reality, but any change for the better helps. Finding likeminded partners is also very helpful. Certainly an initiative that proves we’re stronger in numbers.”

NOTE

Pay attention to numbers, but understand their limits

Goals are more meaningful when a business can measure progress, which is why metrics are important. That said, many existing metrics are incomplete and can be misleading if used incorrectly. No metric is able to take into account the whole story. Therefore, it is important to consider all factors of your individual supply chain and your brand's greater purpose. (For example, *just because something may be more "efficient" doesn't mean it's better.*)

There are a various measurement tools that help put specific numbers to things. At times metrics are simple and literal, such as when measuring the level of a known carcinogen in wastewater. Some tools, however, like Kering's EP&L, work to quantify more complicated aspects, such as future risk. The most widely used tool is the Higg Index, which measures social and environmental impact along the entire product lifecycle. While we recommend all of these tools, it is important to maintain a healthy sense of critical thinking and skepticism when using them. If a given score or ranking relies on data not provided specifically by you, find out where it comes from.

WORKSHEET

Create a company sustainability strategy

1. Create a Brand Narrative

Start with the Big Questions

Whether you're just starting out or far along on your fashion journey, take a step back to think about your brand. For example: Who are we? Why do we create? What does sustainability mean to our company? This may seem superfluous, but it is vital to creating a relevant sustainability strategy. It is essential to know, on a fundamental level, why you're doing what you're doing, and what your unique positive impact will be. Sustainability is not one-size-fits all, there are myriad routes one could take and they all have value. Take your time on Step 1.

Create Your Brand Narrative

- What is the purpose of your brand?
- (Re)Create your mission statement
How can you include sustainability moving forward?
- Be sure your brand story and history are updated and shareable.
- Make a vision statement that clarifies your long-term vision and goals of the company.
- Make a list of core values and principles.
- What is your value proposition (the value you promise to deliver to the consumer)?
- Who is impacted by you what you do?
Your people, also called stakeholders, include employees, suppliers, customers, and everyone who touches your brand.
Make a list of your stakeholders.
- What does your current governance and operations structure look like?
- What does your current revenue model look like?

2. Assess Where You Are Now & Where You Want to Go

Where are you now?

- What has your Sustainability journey been to date?
- What does Sustainability mean for your brand?
 - What benefit does the pivot for sustainability bring to your company?
 - What is the business case for a shift towards sustainability?
 - What are the risks of not pursuing sustainability?

Trends in Fashion + Sustainability

- What are some macro trends that are shifting the supply and demand curve of your product?
- What do you see from your customers, suppliers, and competition?
- Look to outside sources for research and factual data to back up your claims.
- How are your ideas in sustainability addressing these shifts in the market?

Conduct a self-assessment. There are some wonderful tools you can use to measure where you stand:

- B Corp Impact Assessment
- Natural Step (ABCD) Method
- Higg Brand & Retail Module (Higg BRM)
- C2C Certified™ Self Check

WORKSHEET

Create a company sustainability strategy cont'd

Where do you want to go?

- What is your long-term sustainability goal?
 - Begin with your final vision (not only for your company, but for the whole world) and work back to how you will get there by setting checkpoints for yourself. This process is called Backcasting (Natural Step's ABCD Process).
- What are first steps you can take to begin working towards your goal?
 - Write down a basic strategy for the business areas you want to transform (design, manufacturing, etc.)
- Highlight key innovation and impact areas that are easiest for your company

3. Create and implement a sustainability strategy

Creating your company's brand narrative and conducting a self-assessment are a great start. As you move forward, here are some of the basic steps and tools for creating and implementing a sustainability strategy for your company:

1. Commit to improving environmental and social performance
2. Form a sustainability team
 - To begin, this just needs to be a couple motivated/dedicated employees. In order to succeed, they will need explicit support from, and direct access to, top management. This team will also require access to all relevant information.
3. Define what sustainability means for your company
 - Develop a common language and understanding. (You can use information gathered in Steps 1 and 2. There are also some great worksheets and exercises in the CFDA Sustainable Strategies Toolkit.)
 - How will decision-making and evaluation of design and business impacts be approached?
 - What tools or framework methods will be used?
4. Identify short- and long-term goals
 - Based on learnings from your self-assessment, identify goals for 1, 3, and 5 years - and beyond!
 - Brainstorm opportunities for action.
 - Prioritize and simplify.
5. Assess your needs to meet those goals
 - This includes things like tangible resources,
 - tools, equipment, staffing, stakeholder relationships, R+D, etc.
 - How will those needs be met?
6. Identify metrics for assessment
 - How will environmental, social, and financial impacts be measured/considered?
 - Create an action implementation table and timeline.

WORKSHEET

Create a company sustainability strategy cont'd

7. Share and communicate your strategy with your entire team, your suppliers, the public, and all extended stakeholders

- Create and share a written company policy.
- Have written supplier guidelines (like an RSL list, code of conduct, etc.) to share with your team, your suppliers, and the public.
- Design a conscious brand strategy. This is a vision-based plan articulating the story of your brand and its journey to sustainability. For example, how does your company use design and the products it creates to empower, educate, inform, and catalyze meaningful change?
- Be transparent and publicly report your progress and challenges.

8. Regularly review your strategy and integrate new and improved concepts of sustainability

9. Engage and collaborate

- Engage and collaborate with consumers, civic, social, community, education, eco/social awareness raising, philanthropic, design leadership, activism, brand partnerships, etc.



Tools to conduct a self-assessment

You can use these tools to measure where you currently stand:

[B Corp Impact Assessment](#)

This Assessment will walk you through a series of questions to help you learn what it takes to build a better business - better for your workers, community, and the environment. It takes approximately 30 minutes to get a quick snapshot, or 2-3 hrs for a full impact report. The results will help you to determine your strengths and weaknesses as well as to compare your policies against other companies. They also offer free tools to help you improve your impact, which can be found [here](#).

[Natural Step \(ABCD\) Method](#)

The A-B-C-D method to applying the Framework for Strategic Sustainable Development consists of four steps which are repeated as an organization progresses toward sustainability.

- A = Awareness and Visioning
- B = Baseline Mapping
- C = Creative Solutions
- D = Decide on Priorities

[HIGG Brand & Retail Module \(HIGG BRM\)](#)

Businesses of all sizes can use the Higg Brand & Retail Module (Higg BRM) to measure the environmental and social impacts of their operations and make meaningful improvements. The Higg BRM also supports these Higg Index users in sharing sustainability information with key stakeholders, including supply chain partners.

[C2C Certified™ Self Check](#)

Test your products based on the Cradle to Cradle criteria.



Tools to create a roadmap & strategy for the future

These free tools and guides can help you create your own sustainability strategy:

[CFDA Sustainable Strategies Toolkit](#)

A combination of practical information, resources, research, and exercises to help brands broaden awareness, deepen knowledge, and develop a framework for future strategies to incorporate sustainability into their business model and culture.

[Planning for Sustainability: A Starter Guide from Natural Step](#)

This is a compilation of hands-on exercises and worksheets to help innovators create more elegant, effective, and creative solutions for the circular economy. Solutions that are invaluable for people, give business a competitive advantage, and are regenerative for our world. This guide allows you to explore new ways to create sustainable, resilient, long-lasting value in the circular economy.

[Sustain-Live](#)

Sustain-Live offers a downloadable “Model Sustainability Policy” you can use [here](#). If you choose to hire them, Sustain-Live can also work with all your staff to roll out their Sustainability Change Management Process using trusted and proven methodologies to reorient the vision, goals and guiding principles of your business or organization toward achieving sustainability. Based on the business or organizational needs and using scientific sustainability principles, they identify the relevant issues and goals, working with the company to develop the most useful framework, criteria and actions in order to achieve them. Ensuring that the right people, processes and structures are in place to guarantee success.

[PG&E One-pager: Creating a basic green \(environmental\) policy](#)

An environmental policy is your company’s statement about the commitment to sustainability and environmental management that your business is prepared to make. Having a formal environmental policy shows your employees and customers that managing environmental issues is a high priority for your company. This PG&E worksheet is a great way to get started.



TOOLS & RESOURCES

Tools to create a roadmap & strategy for the future, cont'd

These organizations will work with you to create your own sustainability strategy:

[Fjord](#)

Fjord drives business value by pivoting a company's service, product or entire organization, using a people-focused approach. Through design-led strategy, Fjord can help to frame why it's necessary to make such a change, who for, and how it will make money.

[AccountAbility](#)

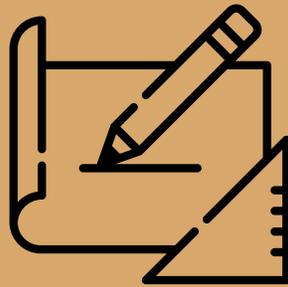
AccountAbility works with organizations to improve their performance through their sustainability strategy, the environmental and social impact of their operations, innovation and growth opportunities, stakeholder engagement and the reporting of their information. AccountAbility's AA1000 Series of Standards are principles-based Standards and Frameworks used by a broad spectrum of organizations – global businesses, private enterprises, governments and civil societies – to demonstrate leadership and performance in accountability, responsibility and sustainability. You can download their standards [here](#).

[The Sustainability Consortium](#)

The basis of the Sustainability Consortium's measurement and reporting system are their toolkits, comprised of a category sustainability profile (CSP), which contains key performance indicators (KPIs), sustainability insights and, when available, their illustrated supply chain diagrams. They are interactive tools that highlight environmental and social issues relevant to a product category, practices that can be used to drive improvement on those issues, and key performance indicators (KPIs) to track and measure performance against them. The toolkits are science-based and stakeholder-informed, including input by companies, academics, civil society organizations, and government agencies.

[CECP: The CEO Force for Good](#)

More CSR than fashion supply-chain specific, CECP's customized benchmarking data services go beyond what is available in the self-serve access system, providing in-depth analyses of additional topics and insights from CECP's 15+ years of research. This is an exclusive benefit to CECP-affiliated companies, evaluating, advising and helping them make improvements. They advocate for adjustments to budget or staffing levels, and benchmark programs year-over-year and against peers.



Design for Sustainability



DESIGN FOR SUSTAINABILITY

Overview

Good design is sustainable, so sustainability must start with the designer. The best moment to make low-impact choices about materials and production is at the beginning of the creative process. Designers and developers can control upwards of 80 percent of a product's environmental impact, according to the [Sustainable Apparel Coalition](#). There are many creative solutions and paths to sustainability and the path you choose to take will be unique.

In this section, we provide you with design strategies, solutions, and tools to help you design with sustainability in mind. The ones you choose to utilize will vary depending on the specific challenges you face or specific goals you want to achieve.

EILEEN FISHER

“Our goal is
simple: design
without adverse
impacts right
from the start.”

WORKSHEET

Sustainable design strategies

Numerous design strategies exist that can lead to more sustainable business practices and products, which then also lead to greater profitability. Here is a brief overview of ideas to keep in mind.

Design to Have Positive Impact

- How is your design making the world better or solving a problem?

Design for Circularity

- One current goal for sustainability in fashion is the creation of a circular product cycle and economy. Circularity, also known as the Cradle to Cradle approach, is the idea that products not only cause no harm, but actually benefit people and the environment along the entire product's lifecycle. Cradle to Cradle proposes a future "where design is a positive, regenerative force, producing effects that we want to expand rather than shrink." In addition to having positive impact, products create no waste - all materials are either infinitely recyclable or biodegradable.

Reduce Materials & Waste

- Use less.
- Move towards zero waste at all stages, like creating zero waste patterns.
- Consider a reduction in material weight and size, especially with packaging components.

Substitute for Better, More Energy Efficient Materials

- Utilize less toxic, more sustainable materials. (See our the [Materials](#) section

of this guide for more information.)

- Consider repurposing materials/ deadstock. Ex: Eileen Fisher Remade
- Use renewable energy sources where available.

Use Fewer Materials

- Once fibers are blended, or different materials are mixed together, they become very difficult to recycle. Create products with one material that can be more easily placed in a closed loop recycling system.
- Design for Disassembly. If a product is designed using different materials, allow for each element of a product to be separated and recycled differently.

Design for Customization and Multi-Use

- Create opportunities for the wearer to add personal elements or customize a product.
- Create designs that can be adjusted by the wearer to have different fits and/or serve multiple functions. For example, a jacket with layers that can be added or removed depending on the weather. If one garment serves multiple needs, people don't need as much stuff.

Design for Durability & Longevity

- Create high quality products with resources to extend product life through repair + mending services.

Efficiency for Best Environmental Impact

- Leverage technological and process innovations to design in solutions with greater efficiency and less impact.

WORKSHEET

Sustainable design strategies cont'd

Keep Things Local

- Reduce transportation and energy emissions by working with local suppliers and vendors.
- Working local also makes it easier to understand your social and environmental impact because you can observe it in your local community.

Consider Using Digital Resources

- Transform physical objects into digital or virtual information. For example, use digital 3D visualization technology that minimizes the need to produce samples.

Give Your Customers Instructions

- Label customer care and end-of-life instructions.
- Design things to be washed and dried less frequently with less impact, and make care instructions very clear to consumers.

Design Closed-Loop Systems

- Consider implementing take-back programs to take responsibility for the reuse and recycling of products you create.

Generate Financial Value

- Produce products that become more valuable with time instead of less.

Create Social & Cultural Value

- Desirability & meaning – how will you create a strong emotional bond between wearer and product?
- Design products that are needed & useful.
- Design products with cultural vitality.

Plan Ahead

- Rushing things can hurt people and the environment at all stages. For example, shipping by sea has less environmental impact than shipping by air, but it takes longer so you have to plan ahead. Doing things last minute/rush orders make factory work flow more volatile, often extra workers are brought in only as contractors and workers are forced to go into overtime. Planning in advance allows for more stable and healthy working conditions, in factories as well as your own design room.

Develop Long-Term Personal Relationships with Your Suppliers

- This is better for your suppliers, who have more stable work. It also gives you better insight into your social and environmental impact and the ability to work with your suppliers toward improvements.

Use Nature as an Inspiration & Guide

- This concept is also referred to as Biomimicry. Not only can this help you innovate smart or beautiful design ideas, but it also keeps you from forgetting about your connection to nature more generally. If you're inspired by nature it's harder to hurt nature.

Be Authentic

- Be original! You can be inspired by other artists and cultures, but be respectful too.



TOOLS & RESOURCES

Tools to help you design for sustainability

[Okala Practitioner Guide](#)

The Okala Ecodesign Strategy Wheel clusters strategies according to the stages of the life-cycle of the product. Designers can use many of these strategies, or focus on a few. These strategies include both hard and soft aspects of eco-textile design such as principles of low toxicity, organics, biomimicry alongside more conceptual ideas like long life and low-laundry textiles. The wheel serves as a powerful brainstorming tool and provides designers with practical methods for designing products, services, and systems with low impacts to ecological and human health. The Impact Factors LCA was designed for quick decision making so that ecological impacts can be easily factored into design decisions. Both Okala and Ted Ten provide an archive of research activity around sustainable textile methodologies and new thinking.

[Lunar Elements' Designer's Field Guide to Sustainability](#)

A tool for understanding sustainable product development and the product life cycle. While not a measured index, the Field Guide asks designers to consider the impact of their decisions. The guided questions focus on four main themes. What is the product trying to accomplish? How is it brought to life? How is it used? Where does it end up?

[Ideo Circular Design Guide](#)

A compilation of hands-on exercises and worksheets that help innovators create more elegant, effective, creative solutions for the circular economy. This guide presents solutions that are invaluable for people, give businesses a competitive advantage, and are regenerative for our world.

[Global Fashion Agenda Circular Design Toolbox](#)

This toolbox is designed to support fashion brands and retailers who would like to explore circular design within their company. It highlights the role design plays in creating a circular fashion system and is aimed to redefine the life cycle of garments by looping them continuously back into the fashion system.

[Sustainability Scorecard from California College of the Arts](#)

A one-page scorecard intended to help evaluate proposed project solutions across multiple pieces of sustainability and value creation. The objective is to arrive at a score for each of the strategies with notes about the solution's impacts. You can use this tool to self-rate the positive impacts and performance of your solution. The scorecard is based on the AIGA Living Principles.

[Higg Design & Development Module \(DDM\)](#)

The Higg DDM helps designer and developers create more sustainable garments by scoring apparel, footwear, and home textile products early in the design process. (Available to Sustainable Apparel Coalition members only.)

[Ted Ten](#)

A set of practice-based sustainable design strategies that assist designers in creating textiles that have a reduced impact on the environment.



Suggested reading

Books:

[*Fashion & Sustainability: Design for Change*](#)

Lynda Grose & Kate Fletcher

[*Sustainable Fashion & Textiles: Design Journeys*](#)

Kate Fletcher

[*Design is the Problem*](#)

Nathan Shedroff

[*Fashion Fibers: Designing for Sustainability*](#)

Annie Gullingsrud

[*Cradle to Cradle*](#)

Michael Braungart and William McDonough

[*Shaping Sustainable Fashion. Changing the Way We Make and Use Clothes*](#)

Alison Gwilt & Timo Rissanen

[*Sustainable Fashion: New Approaches*](#)

Kirsi Niinimäki



Intellectual property & cultural appropriation

Good designers don't exploit or copy other people. We recommend checking out these resources to learn more about intellectual property and cultural appropriation:

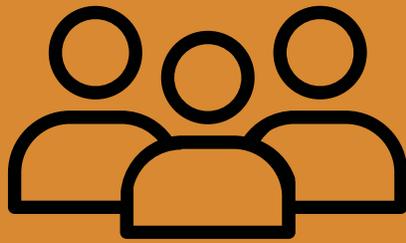
- [The Fashion Law Institute and Professor Susan Scafidi](#)
Their list of up-to-date articles is pretty amazing
- [Timo Rissanen's Blog](#)
These two posts contain valuable thoughts and links to other great reading:
 - [Resources on cultural appropriation in fashion](#)
 - [On inspiration](#)



DESIGN IT. PROTECT IT.

ideas **creativity** inspiration **passion** originality **business** experience
integrity **innovation** reputation **respect** confidence **talent**

CFDA



People



PEOPLE

Overview

You should aim to have a positive impact on all the people and communities you touch through your work. From your own employees and your local community, to every worker along your entire product supply chain and all the different communities those people are a part of, your customers, those impacted by the disposal of your product, and more.

Our impact on people can be hard to understand and see. It is especially hard to measure, and even if something can be measured it often isn't. Given the fashion industry's massive global scope, it is likely that you don't know many of the people who touch or are impacted by your designs.

In this section, we offer some suggestions and tools for thinking about people on 3 different levels:

1. Your Company
2. Your Community
3. Your Supply Chain

HOWARD SCHULTZ

“In this ever-changing society, *the most powerful and enduring brands are built from the heart.* They are real and sustainable. Their foundations are stronger because they are built with the strength of the human spirit, not an ad campaign. The companies that are lasting are those that are authentic.”

CEO of Starbucks



PEOPLE

Your company

It all comes down to company culture. What does company culture have to do with sustainability? A lot. *In order for your company to succeed on its journey toward sustainability, your whole team needs to be on board.* Sustainability needs to be an explicit company value and employees at all levels should be encouraged to consider sustainability in all decision-making.

Company culture is your company's personality. It determines how your employees work and interact. In companies with good culture, employees feel both engaged and valued, with a clear sense of purpose. Not only does good culture mean happy employees, it means *more productivity, more profits, and competitive advantage.* Company Culture comes from the top. It's up to you, the designer, and company leaders to create good culture.

A January 2017 report by Bain & Company, [*Achieving Breakthrough Results in Sustainability*](#), found that 98 percent of sustainability initiatives fail because they do not have senior leadership support to ensure that the project has adequate resources, that employees are engaged and supportive, that other priorities don't get in the way, and that there are clear metrics for success.

BARRY PHEGAN

“A company’s leader can *change the culture*. This is hard to do — because cultures resist change — but it’s not rocket science.”

Company culture expert



TOOLS & RESOURCES

Tools

Tools to help you create good company culture:

[CFDA Sustainable Strategies Toolkit](#)

As annex to the Guide to Sustainability Strategies, the Sustainable Strategies Toolkit aims to visualize the mapping and framing of sustainability priorities. The custom toolkit created for the CFDA by consultant Lauren Croke, formerly of Eileen Fisher, is intended to facilitate in diagnostics, and provide users with step by step guidance in the creation of strategic blueprints.

[B Lab Best Practice Guides](#)

B Corps are dedicated to creating great places to work. It's an amazing resource because it's all-encompassing (you'll find them in other sections of this guide). They look at impact in four key areas: governance, community, workers, and environment. B Lab provides many great free tools, which you can find [here](#).

[CompanyCulture.com Tools for Change](#)

This website created by Barry Phegan contains a complete overview of company culture – what it is, why it matters, and how to build your own. It has many useful tools. Some great tools to start include:

- [Culture Questionnaire](#): A brief list of questions to quickly help everyone understand the work culture and where to focus attention
- [25 Actions to Build Your Culture](#)



TOOLS & RESOURCES

Suggested reading

Books on
company culture:

[*Let My People Go Surfing: The Education of a Reluctant Businessman – Including 10 More Years of Business Unusual*](#)
Yvon Chouinard

[*Delivering Happiness: A Path to Profits, and Purpose*](#)
Tony Hsieh

[*The Culture Code: The Secrets of Highly Successful Groups*](#)
Daniel Coyle

Articles on
company culture:

[“Six Components of a Great Corporate Culture”](#)
Harvard Business Review

[“How to Convince Leaders to Invest in Company Culture”](#)
Greg Besner, founder of CultureIQ and professor teaching
Entrepreneurship NYU Stern School of Business

Reports & studies
on company culture:

[*3 Ways to Measure and Mobilize Corporate Culture to Scale Purpose, Profit*](#)
Sustainable Brands

[*Does Company Culture Pay Off? Analyzing Stock Performance of “Best Places to Work” Companies*](#)
Glassdoor

[*It's time we all work happy: The secrets of the happiest companies and employees*](#)
Robert Half

[*The Power of Purpose: How Organizations are Making Work More Meaningful*](#)
Northwestern University



PEOPLE

Your community

It can be easy to get involved in your community, and there are many benefits. Being involved in your community is good for business. Creating an employee community service program not only benefits the community, but it benefits your company as well. For your employees, it builds teamwork, collaboration, leadership skills and has been shown to [increase both employee performance and satisfaction](#). It can also give your business more visibility in the community, which is good for PR, attracting local talent, and can be a great way to find business partners.

Another way to contribute to your community is to host or sponsor a local event. Community events, even ones that seem purely fun or frivolous, can have [vast benefits](#). They can bring communities together, support the local economy, raise awareness about an important cause or issue, and raise the profile of the area.

You can give back to your community through financial contributions and charitable giving. See the [Philanthropy & civic engagement](#) of this guide. One of the best ways to contribute to your community is to support local businesses. Read on to learn more.



PEOPLE

Supporting small, local businesses in your community is important

Both US policy and sustainability frameworks generally favor large corporations. But research shows that small, local, independent businesses create communities that are healthier, more prosperous, entrepreneurial, connected, and generally better off.

If you are a small business, congratulations! As we pointed out in a previous note, it's easy to forget that sometimes bigger isn't better (especially in our current culture that is obsessed with growth). Before you decide you need to grow, remember to ask why.

Even if you are a big, multinational corporation, you can still support small, local businesses with a [Local Purchasing Policy](#) - a commitment to give preference to locally produced goods and services, purchased from a local and independent business, over those produced more distantly.

Click [here](#) to see the Institute for Local Self-Reliance's roundup of the important findings and data that shows the harms of bigness and the benefits of local ownership.

Top Ten Reasons to Think Local – Buy Local – Be Local

As found in the B-Lab guide to create a [Local Purchasing Policy](#)

1. Buy Local.

Support yourself: Several studies have shown that when you buy from an independent, locally owned business, rather than nationally owned businesses, significantly more of your money is used to make purchases from other local businesses, service providers and farms -- continuing to strengthen the economic base of the community.

2. Support Community Groups.

Non-profit organizations receive an average 250% more support from smaller business owners than they do from large businesses.

3. Keep Our Community Unique.

Where we shop, where we eat and have fun -- all of it makes our community home. Our one-of-a-kind businesses are an integral part of the distinctive character of this place. Our tourism businesses also benefit. "When people go on vacation they generally seek out destinations that offer them the sense of being someplace, not just anyplace." Richard Moe, President, National Historic Preservation Trust.

4. Reduce Environmental Impact.

Locally owned businesses can make more local purchases requiring less transportation and generally set up shop in town or city centers as opposed to developing on the fringe. This generally means contributing less to sprawl, congestion, habitat loss and pollution.

5. Create More Good Jobs.

Small local businesses are the largest employer nationally and in our community, provide the most jobs to residents.

6. Get Better Service.

Local businesses often hire people with a better understanding of the products they are selling and take more time to get to know customers.

7. Invest in Community.

Local businesses are owned by people who live in this community, are less likely to leave, and are more invested in the community's future.

8. Put Your Taxes to Good Use.

Local businesses in town centers require comparatively little infrastructure investment and make more efficient use of public services as compared to nationally owned stores entering the community.

9. Buy what you want.

A marketplace of tens of thousands of small businesses is the best way to ensure innovation and low prices over the long-term. A multitude of small businesses, each selecting products based not on a national sales plan but on their own interests and the needs of their local customers, guarantees a much broader range of product choices.

10. Encourage local prosperity.

A growing body of economic research shows that in an increasingly homogenized world, entrepreneurs and skilled workers are more likely to invest and settle in communities that preserve their one-of-a-kind businesses and distinctive character.



TOOLS & RESOURCES

Tools

Tools to implement programs that benefit your community:

B Resource Guide: Local Purchasing Policy

This guide from B-Lab explains explains the benefits of having a local purchasing policy and provides tips for creating one.

B Resource Guide: Community Service Programs

This guide from B-Lab explains the benefits of having a community service program for your company. It also provides tools to consider different models of volunteer programs and identify appropriate opportunities in addition to examples and other resources.

Local Policy Action Toolkit

This toolkit from the Institute for Local Self-Reliance offers tips for independent business owners on how to engage with city officials and persuade them to adopt policies to strengthen and grow local businesses.



Suggested reading

Articles:

[“Why Care about Independent, Locally Owned Businesses?”](#)

By Marie Donahue, July 23, 2018, Institute for Local Self-Reliance

[“How Community Involvement Programs Can Grow Your Business”](#)

By the Forbes Human Resources Council, Jun 8, 2017, Forbes

[“Study of the Day: Towns With Small Businesses Have Healthier People”](#)

By Hans Villarica, Feb 29 2012, The Atlantic

[“The Power of Giving Back: How Community Involvement Can Boost Your Bottom Line”](#)

By Lindsay LaVine, June 26, 2013, Entrepreneur

[“Worker Passion: How A Culture Of Giving Back Inspires Something Better Than Engagement”](#)

By Ryan Scott, October 4, 2017, Forbes

[“‘Conscious Capitalism’ Is Not an Oxymoron”](#)

By John Mackey and Raj Sisodia, Jan 14, 2013, The Harvard Business Review



Suggested reading

Reports & studies:

[“Key Studies: Why Local Matters”](#)

By Stacy Mitchell, Jan 8 2016, The Institute for Local Self-Reliance

[2017 Deloitte Volunteerism Survey](#)

Deloitte, 2017

[Locally Owned: Do Local Business Ownership and Size Matter for Local Economic Well-being?](#)

By Anil Rupasingha, PhD, August 2013, Federal Reserve Bank of Atlanta (Community and Economic Development Department)

[Wage Inequality and Firm Growth](#)

By Holger M. Mueller, Paige P. Ouimet, and Elena Simintzi, May 2017, American Economic Review Vol. 107, No. 5

[A public health perspective on small business development: a review of the literature](#)

By Schnake-Mahl, Alina, Jessica A. R. Williams, Barry Keppard, and Mariana Arcaya, May 15, 2018, Journal of Urbanism: International Research on Placemaking and Urban Sustainability

[The health and wealth of US counties: How the small business environment impacts alternative measures of development](#)

By Troy Blanchard, Charles Tolbert II, and F. Carson Mencken, March 2012, Cambridge Journal of Regions Economy and Society

[Talent Report: What Workers Want in 2012](#)

By Cliff Zukin Mark Szeltner, John J. Heldrich Center for Workforce Development Rutgers, The State University of New Jersey, May 2012, Net Impact



PEOPLE

Your supply chain

One of the biggest challenges as a designer is that the fashion supply chain can be opaque. As Labour Behind the Label states, “no company is totally clean or totally dirty.” It is up to you and your company to take responsibility and do the best you can. Step #1 is transparency.

*Note: Great Video!

The short film [Handprint](#) imagines what it would be like if we could connect to the people who make our clothes, and encourages us to remember them.



What are human rights?

There are internationally recognized norms as established by the [International Labor Organization](#) (ILO) and the [United Nations Universal Declaration of Human Rights](#). Internationally agreed upon labor rights include:

- Employment is freely chosen
- Payment of a living wage
- Secure employment
- Safe and healthy working conditions
- Working hours are not excessive and overtime is voluntary
- Freedom from sexual harassment, discrimination or verbal and/or physical abuse
- Workers are able to speak out and defend and improve their own labor rights through freedom of association to join a trade union and bargain collectively

*Note: Child labor is often cited as the worst human rights offense in the fashion industry. But in reality, child labor can be complicated. You can read more about it [here](#).

CLEAN CLOTHES CAMPAIGN

“A code of conduct can be a strategic tool for getting companies to comply with international labour standards. The CCC has campaigned to hold companies accountable for promises they have made in their code of conduct. While codes of conduct are no substitute for adequately enforced protection under national law, they can offer workers leverage for demanding better working conditions and are a first step in the long road toward eliminating abuses in the garment industry.”

WORKSHEET

How to source ethically

From [Labour Behind the Label](#): The problems in the garment industry are endemic, the solutions more complex than finding 'good' or 'bad' suppliers.

Sourcing ethically is not easy. It means you have to *work with suppliers* in order to improve conditions within the workplaces they use or own. There are certain things you can do and questions you can ask to improve working conditions. Below are some guidelines on these.

1. The relationship you have with any supplier you choose is key:

- Establishing long term and stable relationships means you are in a better position to work with suppliers to make improvements to working conditions.
- Work with your supplier to resolve issues that do come up rather than simply pulling your business and moving on.
- Remember your purchasing decisions can impact on working conditions. If you demand a low price, one of the repercussions could be that workers are paid a low wage. If you place your orders too close to the shipping date or demand late changes to design this might mean workers have to put in excessive overtime to ensure the order is met.
- When you are planning orders, consult your supplier. Find out how long they need to fulfil an order, when their peak times are, what price you need to pay to ensure workers can be paid a living wage. You should also check your supplier has the capacity to meet your order.

2. Do your homework:

- Recognise that your supplier may just be telling you what they think you want to hear. Taking what your supplier says at face value means you may not be getting a full picture of what is really happening in the factory.
- Ensure that you know what legal standards apply within the country and what international labour standards exist and whether these are being met by your supplier. This is important to ensure at least basic working rights are being respected.
- Contact local organisations such as trade unions and NGOs dealing with workers' rights issues. This is a good way of gauging what issues workers in that region or in your supplier factory are facing and for example what workers need to earn to provide for themselves and their families.
- If possible, visit the factory, both by appointment and unannounced. Ask about health and safety, wages, overtime and the presence of a trade union. Emphasize that an active trade union would be an advantage when you choose a supplier. If you want more advice on this, Labour Behind the Label can help.
- Again, don't just assume your supplier is being completely transparent. If there is a union then try to speak with its representative outside of the factory and independently of the owner. If there is no independent union, see if a local organisation can talk to some of the workers and report back to you (they may charge a fee for this).

WORKSHEET

How to source ethically cont'd

3. Work with others:

- Find out if your supplier has any kind of certification, like SA8000. This is no guarantee of decent conditions, but shows at least that your supplier is aware that social concerns may be an issue for their buyers.
- Find out who the other buyers are at the factory and contact them to see if you can work together to improve working conditions.
- Contact other companies or designers who are also trying to source ethically.
- You could join a multi-stakeholder initiative such as the Ethical Trading Initiative or FairWear Foundation to share learning between companies taking action to improve conditions.



Efficient doesn't necessarily mean better

It is likely that one day we will design our outfit on a device (perhaps one implanted in our brains) and print it out right on our home 3D printing machine. This is easier, but is it better?

Where efficiency is good: Efficiency with material inputs like water and energy is not only good, but vital. We want to use and waste as little of these precious natural resources as possible.

Where efficiency \neq good: On the other hand, things become murkier when it comes to efficiency and people. For example, a 3D knitting machine is more efficient at knitting a sweater than a person. It may create less waste and probably measures “better” on a numerical sustainability measurement scale. But that does not take into account the human value of the making, the positive impact that handicraft can bring to communities, that craft’s significance in our culture, or the final value of the product.

The hardest thing to measure is the human element. On the other side of efficiency and mass production lie philosophies like Slow Fashion and Wabi Sabi.



Slow fashion

In the words of [Kate Fletcher](#):

- Slow fashion is about designing, producing, consuming and living better. Fashion is not time-based but quality-based (which has some time components). Slow is not the opposite of fast – there is no dualism – but a different approach in which designers, buyers, retailers and consumers are more aware of the impacts of products on workers, communities and ecosystems.
- The concept of slow fashion borrows heavily from the Slow Food Movement. Founded by Carlo Petrini in Italy in 1986, Slow Food links pleasure and food with awareness and responsibility. It defends biodiversity in our food supply by opposing the standardisation of taste, defends the need for consumer information and protects cultural identities tied to food. It has spawned a wealth of other slow movements. Slow Cities, for example, design with slow values but within the context of a town or city and a commitment to improve its citizens' quality of life.
- In melding the ideas of the slow movement with the global clothing industry, we build a new vision for fashion in the era of sustainability: where pleasure and fashion is linked with awareness and responsibility.
- Slow fashion is about choice, information, cultural diversity and identity. Yet, critically, it is also about balance. It requires a combination of rapid imaginative change and symbolic (fashion) expression as well as durability and long-term engaging, quality products. Slow fashion supports our psychological needs (to form identity, communicate and be creative through our clothes) as well as our physical needs (to cover and protect us from extremes of climate).



TOOLS & RESOURCES

Tools

Implementing human rights in your business:

[United Nations \(UN\) Guiding Principles on Business and Human Rights](#)

A foundational UN principle is that business enterprises should respect human rights. This guide walks you through how to implement the UN “Protect, Respect and Remedy” framework.

Tools to create a model Labor Code of Conduct:

[Clean Clothes Campaign Model Code](#)

The Clean Clothes Campaign considers a code of conduct good if the scope is clear and it extends to all garment-making units in the entire subcontracting chain. The CCC’s model code of conduct for the garment industry is comprised of the core labour standards of the International Labour Organisation (ILO) and several additional standards. These include: freedom of association and the right to organise; the right to bargain collectively; a living wage; maximum limit on hours of work; healthy and safe working conditions; security of employment; no discrimination; no forced labour; and no child labour.

[The Ethical Trading Initiative \(ETI\) Base Code of Conduct](#)

Based on the standards of the International Labour Organisation (ILO), this lists the most effective steps companies can take to implement the Base Code in their supply chains.

[Fair Labor Association \(FLA Workplace Code of Conduct\)](#)

Established in 1999, US-based FLA is a collaborative effort of socially responsible companies, universities, governments, labor rights groups and NGOs working to improve working conditions in factories around the world. They developed a Workplace Code of Conduct, based on ILO standards, and created a practical monitoring, remediation and verification process to achieve those standards.

[Fair Wear Foundation \(FWF\) Code of Labour Practices](#)

The FWF is a Netherlands-based NGO that works with companies in the textile industry to improve labor conditions and examines how brands are performing against FWF’s Code of Labor Practices, which includes scores on criteria purchasing practices, monitoring and remediation and complaints handling.



Tools

Tools to use when working with suppliers:

[B Lab Guide: Conducting a Supplier Survey](#)

Conducting a supplier survey is a great way for companies to survey their current suppliers to see if their business practices match up with their social and environmental standards. A company may also use this to evaluate prospective suppliers and decide whether or not they are a good fit. If a company's suppliers have goals that are in line with its own, these suppliers become not only a resource, but also a partner in furthering the company's vision.

[B Lab Guide: Evaluating Suppliers & Distributors' Social & Environmental Practices](#)

As the lifecycles of goods and services includes many stakeholders, it becomes necessary for a company to ensure that its suppliers and its distribution channels take into account the social and environmental impacts of their policies and practices. Having a sustainable supply chain can reduce potential risks (environmental, reputational, and financial) and eventually increase profits for all stakeholders. Aligned suppliers and distributors are those that employ positive social and environmental practices, such as fair labor and monitoring of energy, water, waste, and emissions.

[B Lab Guide: Stakeholder Engagement](#)

Stakeholder engagement refers to the process by which a company communicates or interacts with its stakeholders in order to achieve a desired outcome and enhance accountability. Companies have, to varying degrees, always engaged with stakeholders in one way or another. Historically, engagement tended to be more reactive or focused on risk mitigation. As the corporate social responsibility movement has grown, companies have become proactive under the assumption that stakeholder engagement can enhance the sustainability and profitability of the organization.



Organizations

Human rights & labor organizations:

[ACLU](#)

The American Civil Liberties Union is the premier organization in the U.S. committed to defending the rights given to us in the U.S. constitution. ACLU is comprised by more than 1.75 million members and thousands of volunteer and staff attorneys who fight government abuse and defend individual freedoms, whether the cause is popular or unpopular, such as speech and religion, woman's right to choose, the right to due process, privacy and many more.

[Clean Clothes Campaign](#)

The Clean Clothes Campaign is a worldwide alliance committed to improving garment workers' factory environments and protecting them in the global garment and sportswear industries. CCC is dedicated to protecting the fundamental rights of workers by educating and mobilizing consumers, lobbying companies and governments, and supporting workers in the fight for their rights and better working conditions.

[Ethical Trading Initiative](#)

The Ethical Trading Initiative is an innovative alliance of organizations that work together to redefine how major companies implement their codes of labor practice with credibility and in a way that benefits workers the most. ETI is composed of over 90 member fashion companies that protect almost ten million workers across the globe.

[Fair Labor Association](#)

The Fair Labor Association aims to protect worker's rights worldwide and to find sustainable solutions to systematic labor issues. The association brings together universities, civil society organizations, and companies in order to implement FLA'S Code of conduct across the supply chains of various companies. FLA conducts external tests for consumers to be assured of the integrity of the products they purchase, as well as, creating a space for society organizations to engage with companies in order to find quality solutions to labor issues.



Organizations

Human rights & labor organizations, cont'd:

[Fair Trade Federation](#)

Fair Trade Federation is a trade association that empowers North American organizations who are fully committed to the fair trade movement. The Federation aims to build functional and sustainable partnerships and to end poverty by valuing labor and the hard work of all people, as well as, purchasing, producing, and trading products that are solely environmentally friendly and economically viable. ten million workers across the globe.

[Fair Trade USA](#)

Fair Trade USA is a nonprofit organization that encourages the global movement of Fair Trade by setting standards, certifying, and labeling products that promote sustainable livelihoods for farmers, workers fishermen, consumers, industry, and the environment.

[Fair Trade Network](#)

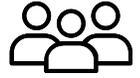
The Fair Wage Network advocates for fair wage practices by grouping all the higher members of the supply chain and committing them to promote better wage practices and enforcing fair wages for workers on a national and international level.

[Fair Wear Foundation](#)

The Fair Wear Foundation collaborates with fashion brands, industry influencers, factories, trade unions, and governments to promote fair working conditions for garment workers in 11 countries in Asia, Europe and Africa. This Foundation ensures companies follow working condition ethics through social dialogue and the strengthening of social relations. FWF is composed of 80 member brands whose products are sold in more than 20,000 retail outlets worldwide.

[Helvetas](#)

Helvetas is a Swiss organization dedicated to helping unfortunate people around the world. They have helped over three million people by using their resources in communities to develop insufficient areas such as water and sanitation, agriculture and nutrition, education, economic development, democracy and peace, climate and the environment, and disaster relief.



Organizations

Human rights & labor organizations, cont'd:

[International Labor Rights Forum](#)

The International Labor Rights Forum is a human rights organization committed to advocating for the rights and dignity of workers in the global economy. They enforce labor rights upon global corporations in their supply chains and they push policies and laws to protect workers. One of their campaigns, SweatFree Communities, encourages U.S. cities, states and school districts to reform their policies in order to support goods being made in humane conditions by workers who are paid fair wages. By taking on a Sweatfree policy, institutions commit to helping improve conditions for sweatshop workers.

[International Labour Organization \(ILO\)](#)

The ILO is a human and labor rights organization that advocates for the social justice of all women and men worldwide. It is the only tripartite U.N. agency, bringing together governments, employers and workers of 187 member States since 1919 to set labor standards, develop policies and devise programs promoting decent work for all women and men.

[Labour Behind the Label](#)

Labour Behind the Label is a campaign that works to empower garment workers and improve their working conditions. They advocate for a series of issues that affect garment workers such as how brands should treat workers, gender, homeworkers, trade unions, conditions, and wages.

[Oxfam](#)

Oxfam is a global organization committed to alleviating poverty, helping the less fortunate build better futures, holding powerful corporations accountable for neglectful actions, and to disaster relief. Their mission is to fix the injustice of poverty by saving lives, creating programs for overcoming poverty and injustice, campaigning for social justice and public education.

[TRAID](#)

TRAID is a charity organization that works to stop clothing from being wasted away and reducing the environmental and social impacts of clothes. They aim to do this by increasing clothes reuse in the UK, reducing waste and carbon emissions, funding international development projects to improve conditions and working practices in the textile industry, and educating people on the impacts of textiles on the environment.



Standards & Certifications

Overview of standards:

[“Rules of the Game: A brief introduction to International Labour Standards”](#)

Since 1919, the ILO has maintained and developed a system of international labor standards aimed at promoting opportunities for women and men to obtain decent and productive work, in conditions of freedom, equity, security and dignity. Aimed at a non-specialist audience, this revised publication provides an introduction to international labor standards and discusses their importance in today’s global economy, the subjects they cover, how they are applied and supervised, and where further information can be sought.

Labor standards & certifications:

[Nest](#)

The Nest Standards for Homes and Small Workshops and Nest Seal of Ethical Handcraft work together to ensure industry-wide transparency and compliance for production taking place beyond the four-walled factory.

[Fair Trade International](#)

Fairtrade is a global movement for change, represented in the United States by Fairtrade America. They certify social, economic and environmental standards that apply to the full supply chain from the farmers and workers, to the traders and companies bringing the final product to market. They are certified by a third party accredited certification body FLOCERT.

[Fair Trade USA](#)

Fair Trade USA works closely on the ground with producers and certify transactions between companies and their suppliers to ensure that the people making Fair Trade Certified goods work in safe conditions, protect the environment, build sustainable livelihoods, and earn additional money to empower and uplift their communities. All businesses that work with them are held to rigorous Fair Trade standards, which drive income sustainability, community and individual well-being, empowerment, and environmental stewardship. They certify both cotton growing and cut-and-sew garment manufacture. Unlike Fairtrade, they will certify just one part of the supply chain, which is properly labeled on the consumer-facing label. Instead of working with an existing certification body, Fair Trade USA developed their own standards and compliance criteria. They are certified by a third party accredited certification body SCS Global Services (SCS)



Standards & Certifications cont'd

Labor standards & certifications:

[Fair For Life](#)

Fair for Life's certification system is based on a non product-specified standard. Most food and non-food commodities alike, including raw materials (like cotton) in the finished product can be certified. This is perhaps where Fair for Life differs the most from other certifications. Every step of production can be certified, including producers, manufacturers and traders, whereas other certifiers simply certify the finished product or only a couple steps of the production. Another distinguishing aspect of Fair for Life is that they also certify entire companies. No other certifier does this. So far there are only a handful, but it shows an impressive dedication to prioritizing transparency in business at all levels. You can find out more under "Company Certification" on their website. They are certified by a third party accredited certification body Institute for Marketecology (IMO).

[World Fair Trade Organization \(WFTO\)](#)

The WFTO Guarantee System (GS) is a revolutionary Fair Trade system that is credible, clear, and affordable. Developed by a group of experts in the field of Fair Trade monitoring and verification, the major aspects in the development of the GS were credibility, sustainability and robustness of the system. To achieve these three criteria, the GS has five major components: new membership admission procedure, Self Assessment Report, Monitoring Audit, Peer Visit, and the Fair Trade Accountability Watch (FTAW). The FTAW is a participative monitoring mechanism that allows the public to report compliance issues regarding Fair Trade Organisations. The GS is not a product certification system. It is an assurance mechanism that Fair Trade is implemented in the supply chain and practices of the organisation. Members that passed the GS process attain the 'Guaranteed Fair Trade Organisation' status and may use the [WFTO Label](#) on their products.

[Fair Trade Federation](#)

The Fair Trade Federation is a membership organization of businesses who practice 360° fair trade. FTF membership represents an entire organization, not just an individual product. This commitment represents a high bar of fair trade, where each and every business decision is made with the well-being of artisans and farmers in mind. The Fair Trade Federation is the trade association that strengthens and promotes North American organizations fully committed to fair trade.



Standards & Certifications

Labor standards & certifications:

[Business Social Compliance Initiative \(BSCI\)](#)

The BSCI is a nonprofit set up as an initiative of the [Foreign Trade Association](#), a global business association for open and sustainable trade that brings together over 2,000 retailers, importers, brands and associations from more than 40 countries. The [BSCI code of conduct](#) has 11 principles that range from fair remuneration to no child labor, along with a step-by-step approach that enables companies to monitor, engage, get empowered and receive support to put sustainable trade at the heart of their business.

[China Social Compliance 9000 for Textile & Apparel Industry \(CSC9000T\)](#)

The CSC9000T is a social responsibility management system mostly based on China's laws and regulations as well as international conventions and standards like BSCI. You can read more [here](#).

[SA8000](#)

The Social Accountability International standard is one of the world's first auditable social certification standards for decent workplaces across all industrial sectors. It is based on the UN Declaration of Human Rights, conventions of the ILO, UN and national law, and spans industry and corporate codes to create a common language to measure social performance. It takes a management systems approach by setting out the structures and procedures that companies must adopt in order to ensure that compliance with the standard is continuously reviewed. Those seeking to comply with SA8000 have adopted policies and procedures that protect the basic human rights of workers. particular situations.



Standards & Certifications

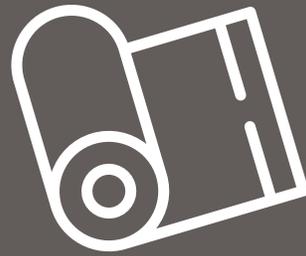
Agreements:

[ACT on Living Wages](#)

ACT (Action, Collaboration, Transformation) is an agreement created by global brands, retailers and trade unions with the purpose to change the garment and textile industry in order to achieve living wages for every worker in the industry. The agreement achieves this goal by demanding an industry-wide collective bargaining which allows workers in the industry to negotiate their wages regardless of the factory or retailer they work in and/or produce for.

[Bangladesh Fire & Safety Accord](#)

The Bangladesh Fire & Safety Accord is a legally binding agreement between brands and trade unions that works towards creating a Bangladeshi Ready-Made Garment Industry that is safe, healthy, and abuse-free. The purpose of the Accords is to create an ethical and responsible working environment that takes health and safety measures in order for workers to feel safe from fires, building collapses, or other accidents caused by neglect.



Materials



MATERIALS

Overview

For most designers, the easiest first step toward sustainability is to swap out their materials for more sustainable alternatives. We have a feeling most designers will jump to this section first.

(Just don't forget that materials are just part of a larger picture, and we hope you'll think about the entire lifecycle of your product, if not the entire system of fashion!)

This section aims to help you understand some general ideas about how different materials are made and their sustainability impacts. We also share some resources and tools for choosing more sustainable materials.

For detailed information about specific materials, please reference our [Materials Index](#).

TEXTILES ECONOMY REPORT 2017

“The industry relies on *98 million tonnes* in total of non-renewable resources per year. Producing plastic-based fibres for textiles uses an estimated 342 million barrels of oil every year, and the production of cotton is estimated to require 200,000 tonnes of pesticides and 8 million tonnes of fertilisers annually.”



MATERIALS

Manufactured synthetic fibers & plastics

Synthetic fibers are used more than any other fiber. This includes materials like polyester, nylon, spandex, and most fake leathers and fur.

Most commonly used synthetic materials today are derived from crude oil. We call them synthetic, but oil is a natural, non-renewable resource that we take from the earth.

Materials like crude oil and diamonds take a really long time for nature to produce – we’re talking millions and billions of years – and we’re using them up faster than they can be replaced. It may seem crazy to throw diamonds in here, but the parallels to crude oil are undeniable. They both are some of the most difficult raw materials to trace back to their origin and are frequently labeled “conflict” materials. It’s worth noting that the top sources of crude oil are (in order): Saudi Arabia, Russia, the U.S., China, Iraq, Iran, and Canada.

Another serious issue with synthetic fibers are microplastics, tiny pieces of fiber which shed mostly through washing and then end up in our water. From water, microplastics enter our food stream and the air, so in addition to adding loads more plastic in the ocean we’re literally eating and breathing it. A number of studies have been carried out to better understand the problem and possible solutions, but we are still just beginning to understand the extent of microfiber shedding and are yet far from understanding impact. A few temporary, incomplete solutions include the [Guppy Friend](#) bag, but further research is needed to develop fibers or fiber coatings that prevent shedding, or washing machine and industrial water treatment filters to capture microfibers.

A number of fiber “ranking” tools rate polyester better than natural fibers because polyester tends to use less other stuff (water, additives, dyes, pesticides, etc.). This is true, but often leaves out some of the big issues above, so you

really need to take a look at your specific product and its function or purpose when deciding which fiber to use.

Despite the negatives mentioned above, sometimes synthetic fibers may be the best choice for your design’s intended use. For example, synthetic garments can have special technical or performance functions, require less washing, have long durability, or be infinitely recycled like in the case of some polyesters (though microfiber shedding remains an issue).

There are also a number of manufactured synthetic fibers that are not made from virgin crude oil. One obvious example is recycled polyester, which is growing in proportion to virgin polyester (but is still relatively negligible in terms of market size). Nylon and Acrylic can also be recycled. Biodegradable polymers (also called bioplastic) are also made out of materials like corn (which has its own issues in terms of agriculture, GMOs, etc.), castor oil, or even methane.

Crude-oil based products are found throughout the fashion supply chain in places obvious and not-so-obvious. In addition to materials like fabric and fake leather, they are used heavily in footwear, eyewear, as rubber, and in trims and notions (zippers, buttons, ribbons, elastic, etc.) Most sewing thread used in today’s market is synthetic (usually virgin polyester), so often garments sewn out of 100 percent natural fabrics still contain plastic threads. Synthetic plastic fusible or interfacing is often used in garments to add structure, assist in seam strength and construction, or even fuse a seam completely (eliminating the use of thread).



MATERIALS

Natural fibers

Natural fibers include fibers that occur in nature. They come mostly from animals and plants, and include fibers like cotton and wool. When looking at these raw 2 there are a lot of parallels to other agricultural products, like food.

For plant fibers, it's important to think about what goes into the growing, harvesting, and processing of a crop. Despite the fact that plants are generally renewable resources, their production often requires large amounts of water, chemicals, energy, and transportation across long distances. Industrial agriculture can have significant negative impacts on biodiversity, as many natural habitats are plowed down to make room for farming, not only destroying flora but displacing fauna as well. Some crops (like a lot of conventional cotton) can completely destroy soil quality while others (like hemp) can renew it.

For animal fibers and leather, you have to think about all the same things as you do for plants, plus more. Most fiber producing animals eat plants, so you have to think about how these food plants are grown. For example, in assessing the sustainability of silk, you have to think about mulberry tree forestry because that's what silkworms eat. Whatever goes into animals also comes out – so any hormones, antibiotics, plastics, and other drugs and chemicals will go back into the earth and water, along with the release of methane.

Leather and fur is often claimed to be a bi-product of the food industry (thus using something that would already go to waste), but this is completely unverified. Some CFDA members do use verified bi-products – for example, [Brother Vellies](#). Animal products can also find their ways into fashion supply chains in sneaky places, like in glues or dyes. Regardless of the material, animal welfare is abhorrent in the fashion supply chain, so transparency and use of standards and guidelines are key when working with animal products. Some designers choose to forego animal products all together, but this comes with its own tradeoffs as replacements are usually made from plastic.



MATERIALS

Manufactured regenerated natural fibers

A lot of people think of fibers like rayon as synthetic, but these fibers actually come from trees.

Trees are cut down, turned into a pulp (sometimes in the same facilities where pulp is made for paper), and shot out of spinnerets. In terms of tree farming, the same things apply as with plant fibers above. But the reality is that many of the trees used for fiber are deforested from natural forests, including those that are ancient and even endangered.

Here are some important facts from [CanopyStyle](#), an organization working to protect the world's forests:

- More than 150 million trees are logged every year and turned into cellulosic fabric – if placed end to end those trees would circle the earth 7 times.
- Between 2013 and 2020, it is expected that the number of trees being logged every year and turned into fabric such as viscose will have doubled.
- Dissolving-pulp (the base material for rayon/viscose) wastes approximately 70 percent of the tree and is a chemically intensive manufacturing process.
- Less than 20 percent of the world's ancient forests remain in intact tracts large enough to maintain biological diversity.
- Forests in Indonesia, Canada's Boreal and temperate rainforests, and the Amazon are being logged for next season's fashion and apparel.

The breakdown of trees into pulp can require large amounts of chemicals and energy. So even if the tree is sustainable to grow, it might not be sustainable to process. Bamboo is a common example where people assume that just because it's more sustainable to grow (requires very little water and no chemicals to grow lots of fiber) that it's a more sustainable choice. It's not necessarily, in fact, most of the time toxic chemicals are used to break it down.

There are more sustainable alternatives to turn trees into pulp, including non-toxic solvents and some mechanical breakdown processes (though mechanical processes can require high energy use). It turns out it is not the type of fiber that determines its sustainability per-say, but the manufacturer. Rayon (also called viscose), bamboo, cupro, modal, and lyocell can all be produced in better or worse ways - none are inherently sustainable.

One example is the company Lenzing, which produces TENCEL® brand lyocell and modal. Lenzing follows robust environmental policies that make it a more sustainable choice in this category, it also owns a significant amount of its supply chain and can control more factors, including the sustainable harvesting of FSC Certified trees and the use of less toxic solvents.



MATERIALS

Circular materials

The current buzzword in sustainable fashion is circularity. This implies that no waste is created; all materials are either infinitely recyclable or biodegradable. Circular products should not only cause no harm, but should benefit people and the environment along the product's entire lifecycle.

The movement toward circularity is incredibly exciting, something that we should all be supporting and working toward. Unfortunately, this is not yet a reality beyond small pilot projects. You can start changing this now!

According to [A New Textiles Economy Report 2017](#), 53 million tons of fiber are produced for clothing each year. Only 3 percent comes from recycled material (and only one percent comes from recycled clothing materials, the other two percent comes from other industries). The remaining 97 percent of virgin materials are mostly plastic at 63 percent, cotton at 26 percent, and everything else falls into the last 11 percent. You can read more about circularity innovations in the [End of Use, Reuse, and Recycling](#) section of this guide. But at present this solution is largely unattainable.

MATERIALS

Innovative & high tech fibers

There is a lot of innovation taking place in fashion materials. From “smart” textiles, to recycled and recyclable textiles, and materials created out of waste, there is so much to be excited about!

In many cases, solutions have been figured out and it’s a question of scaling new technologies. We hope that designers will get inspired and apply their creative genius as early adopters of these future materials!

There are multiple organizations supporting this kind of work, including:

- [AFFOA \(Advanced Functional Fabrics of America\)](#)
- [DESCIENCE](#)
- [Fabtextiles Project](#)
- [FIA \(Fashion Innovation Alliance\)](#)
- [Future Tech Lab](#)
- [New York Fashion Tech Lab](#)

ANNIE GULLINGSRUD

“There is no single solution to sustainable fiber selection. Each fiber has different impacts at different points in the life cycle, and appropriate (and actionable) responses can be complex... Tradeoffs are inevitable.”

[Fashion Fibers: Designing for Sustainability](#)

WORKSHEET

Questions to ask for all materials

These questions can be used when considering any material. In addition to fashion materials, this includes packaging, disposable cutlery, paper and any materials you might use in your business.

Raw Materials

- What raw materials go into making a material or product?
- Where do they come from?
- What impact does the cultivation/ extraction of that raw material have on 1) the environment, 2) wildlife, and 3) the communities where it comes from?
- What processes does a raw material go through before it becomes useful to you? What gets added or taken away (and from where does that stuff come and to where does it go)?
- Be thoughtful about the intended use of your product. Are you using the material the best suited for your product over its entire lifecycle - production, use, and end-of-life?

Water

- How much water is used in the cultivation/ extraction and processing of the material?
- Where does the water come from?
- Do you have a way to measure quantity and quality of water coming in and going out?
- How much water is wasted? Can it be recycled?
- Is your wastewater clean?
- Is the process happening near any water sources (groundwater, lakes, etc.)? Is your process affecting that water in any way?
- If your raw material involves animals, is

their waste contaminating water sources?

- Will the material require large amounts of water in terms of consumer care?

Energy

- Where does your energy come from?
- Is it renewable?
- How much energy does it take to create a material? Can this be reduced?
- How much energy will that material require when the product is 1) in use and 2) disposed of/recycled?

Air

- What is the carbon footprint of a material? Are you measuring this?
- Are any other parts of the process sending pollution into the air?
- Is air safe for workers to breath in the fields/mines/factories/mills/refineries/etc. where your material is produced?
- How much travel is required between all the different phases of production? Can you reduce this?

Chemicals

- What chemicals go into the making of a material? (Don't forget, these aren't just synthetic, nature produces some harmful chemicals too!)
- Are these chemicals harmful to the environment or people along any part of a product's lifecycle?
- Where does the chemical come from? How is it made? Who makes it? Chemicals are made out of raw materials, so don't forget to ask all the raw materials questions for those too.
- Do you use a Restricted Substances List? (If not, you should consider creating and using one.)

WORKSHEET

Questions to ask for materials all cont'd

Waste

- What raw materials go into making a material or product?
- What are the bi-products of producing that material?
- Where does that waste material go? Can it be used for something else? If not, how is it disposed of?
- What kind of packaging is being used and discarded?

Biodiversity

- Does the cultivation/extraction and processing help to maintain biodiversity and preserve the many different species of plants and animals? (For example, the use of GMO crops hinders biodiversity).
- How does the material impact natural habitats along all stages of it's lifecycle: cultivation/extraction, processing, use, disposal, and everything in between?

People

- Think about all the people that play a part in that material's lifecycle, including your employees, your local community, every worker along your entire product supply chain (raw material, fiber processing, dye, manufacturing, shipping, retail, etc.), all the different communities those people are a part of, customers/consumers.
- Do you really know who all of them are?
- Do workers in your supply chain have good, stable income (a true living wage, not just the national minimum wage)?
- Are workers empowered? Do they have a voice in the workplace, the right to organize, and equal opportunity?

- Are working conditions safe?
- Are your customers safe?
- Do workers have the resources they need for them and their families to live healthy lives?
- Is there gender equality and empowerment for women?
- We have a tendency to think of just the people with whom we work directly, but we need to think of entire communities, which are often effected by environmental pollution, cycles of poverty inflicted by poor labor practices, and more.
- Does your supply chain have a negative impact on human health? (For example, if your dye process is polluting ground water and rivers you are hurting the health of entire communities, not to mention entire ecosystems).
- How does your supply chain impact urban migration? (Which can also mean the destruction of smaller communities, rural life and artisanship, or the creation of vast urban slums that encourage dangerous living situations).

NOTE

Don't just trust any "ranking" system

Sustainability ranking tools and resources can be extremely helpful, but use them with caution. Consider any given score/number/rating as a guideline, or "things to think about". A given ranking or preference may or may not be relevant for what you're making and could even be dangerous or misleading. Whether a fiber is better or worse depends on many different factors, which are based specifically on your unique supply chain and purpose.

For example, organic cotton may be more sustainable than BCI cotton, but if BCI cotton is grown locally and organic cotton has to be flown thousands of miles by air, the "more sustainable" fiber in your case might be the BCI cotton.

The most accurate way to measure "better" and "worse" is to conduct a LCA for each material you're considering. Even then, a certain amount will be up to your personal value judgment since certain things are impossible to quantify, for example the true impact of procuring oil from the earth, or the impact of a material on communities.



Sustainable material guides & ranking resources

These resources recommend and/or rank materials in terms of sustainability:

[*Fashion Fibers: Designing for Sustainability*](#)

This book by Annie Gullingsrud is an accessible reference tool to learn how to make decisions to enhance the sustainability potential in common fibers used in the fashion industry. Drawing upon the cradle to cradle philosophy and industry expertise, the book introduces readers to the fundamentals of fiber production and the product life cycle.

[Textile Exchange Preferred Fiber & Materials \(PFM\)](#)

The Textile Exchange describes a Preferred Fiber or Material (PFM) as ecologically and/or socially progressive, with more sustainable properties in comparison to conventional options. “Socially” progressive covers both human and animal welfare. You can access this report for free, but one of the great benefits of being a member of the Textile Exchange is that in addition to supporting their good work they connect you directly with suppliers of more sustainable fabrics.

[Made-By Environmental Benchmark for Fibres](#)

The Made-By Environmental Benchmark for Fibres compares the environmental impact of the most commonly used fibers in the garment industry. Made-By was a not-for-profit organization with a mission to ‘make sustainable fashion common practice’ that closed in 2018, but this resource is still valuable.

[Common Objective \(CO\)](#)

CO is an intelligent business network for the fashion industry. They provide a wealth of information about commonly used fibers and fabrics in their Resources directory.

[Higg Material Sustainability Index \(Higg MSI\)](#)

The HIGG MSI is a great tool to measure material sustainability. It’s best used as a LCA (life-cycle analysis) tool, not a guide. The beauty of this ranking system is as a measurement tool, use it to calculate sustainability for your specific supply chain and compare it to the rest of the industry. Avoid looking at the general, open access rankings when selecting materials because it may be completely inaccurate for your specific supply chain.

[Fashion Positive Tools](#)

CO is an intelligent business network for the fashion industry. They provide a wealth of information about commonly used fibers and fabrics in their Resources directory. For example, this video on how to [Make Fashion Materials for the Circular Economy](#).



TOOLS & RESOURCES

Sustainable material guides & ranking resources

Resources for sourcing new sustainable fabrics:

* We try to avoid recommending specific vendors since we couldn't possibly include everyone. The suppliers listed here are fabric libraries or vendors specifically focused on sustainability or have direct relationships with artisans.

[Nest](#)

Nest is a non-profit organization working to build a new handworker economy to increase global workforce inclusivity, improve women's wellbeing beyond factories, and preserve important cultural traditions around the world. Nest matches craftspeople and designers directly, ensuring transparency, sustainability, and stunning collaborations.

[Le Souk](#)

Le Souk allows designers to browse collections from mills & tanneries online and order swatches or sample and production yardage. Le Souk was born out of a commitment to provide a cost-effective marketing platform for organic and fair trade suppliers around the world. Today, they are committed to working with mills and tanneries that are more socially compliant and environmentally responsible.

[Piece & Co](#)

Piece & Co works to build long-term partnerships with artisan groups and small businesses around the world with social and environmental sustainability at the core. Their goal is to create a global supply chain of sustainable jobs, they currently claim a network of 5,000 artisans across 16 countries have made a best in class, socially responsible supply chain of textile and product manufacturing.

[C.L.A.S.S. Material Hub](#)

C.L.A.S.S. (Creativity, Lifestyle And Sustainable Synergy) provides resources for smart material innovation, sourcing, education, marketing and communication. Their collection of materials (fibers, yarns, polymers, and finishing, printing, and dyeing processes) are at the forefront of responsible material technology, sustainability, and innovation.

[The Sustainable Angle Future Fabrics Expo](#)

An online destination to discover a curated range of sustainable fabrics, and information regarding sustainability issues in the textile industry, rigorously researched throughout the year by the nonprofit The Sustainable Angle. They also host an annual Future Fabrics Expo event that features thousands of commercially-available fabrics and materials from suppliers who are offering innovative solutions with a lower environmental footprint.

[Global Organic Textile Standards \(GOTS\) Public Database](#)

This is a list of all GOTS certified organic textile producers. It's a bit cumbersome to sort through, but contains a wealth of supplier information.



TOOLS & RESOURCES

Sustainable material guides & ranking resources

Resources for sourcing
deadstock fabrics:

Ragfinders in LA

This LA-based warehouse contains thousands of left-over, discarded bolts of fabric in small and large quantities. Ragfinders is offline, but you can find them at 784 S San Pedro St, Los Angeles, CA 90014 or reach them by phone at (213) 489-1732.

[Queen of Raw](#)

Factories, brands, and retailers post their unused fabric on Queen of Raw. Designers find the fabric they are looking for, regardless of their location, and buy it with the click of a button straight from the suppliers. And if those designers don't end up using all that fabric, they can sell it back on Queen of Raw, keeping unused resources out of landfills and injecting them back into the economy.

NOTE

Coming soon!

In the future, you'll be able to connect with sustainable material suppliers through the [CFDA Production Directory](#).

The [CFDA Production Directory](#) is comprehensive directory of production facilities for both sewn goods and jewelry in New York City the Greater Los Angeles area.

The production directory helps create more clear connections between fashion designers and local manufacturers. Search nearly 200 listings and use a range of customizable sorting capabilities to find exactly the service, product, category, or sample/production minimum you need.



Materials Processing & Manufacturing



MATERIALS PROCESSING & MANUFACTURING

Overview

We often think of sustainable fabrics as those that are made out of more sustainable materials. But the many steps that happen between raw material cultivation and a finished fabric or garment component can have significant impact on people and the environment. This part of the process is called materials processing.

For most fashion materials, fiber is processed and spun into a yarn, which then gets woven into cloth. After a material is woven or made, additional processing involves multiple stages. Many of these processes including water and liquid solutions, referred to as “wet processing”. Each step could take place at different facilities, or may be part of one vertical facility.

Manufacturing usually refers to the assembly of finished materials and components to create a final product, but can also include wet processing. The same tools and resources can be used to measure environmental impact in materials processing and manufacturing facilities.

In this section you will learn about what goes into materials processing, as well as tools to help you implement more sustainable practices. It is important to note that a significant factor in materials processing and manufacturing has to do with the facility itself. To implement sustainability at the building level please see [Sustainable Buildings & Offices](#) of this guide.

NRDC CLEAN BY DESIGN

“Eco-fiber section can make a big difference in lowering the environmental footprint of a garment or collection. However, fibers must be woven/ knitted, dyed, and finished before they become fabric. All of these processes have negative environmental impact, and the size of the total production impacts is determined by the efficiency of the factories that dye and finish fabrics, as well as the fiber type. For example, although organic cotton is a natural fiber, the impacts of dyeing it are higher than the impacts of dyeing polyester.”

WORKSHEET

Implementing sustainability at production facilities

1. Get to know your suppliers!

Most importantly, get to know your suppliers! This includes farms, slaughterhouses, mills, dye houses, tanneries, chemical suppliers, mines, etc. Every place touched by your product. Visit the facilities, see the process in person, and establish a personal relationship.

2. Create a code of conduct & RSL to share with suppliers

Develop environmental and social guidelines to share with suppliers and stakeholders. This should include:

Create a Code of Conduct

A code of conduct is a document outlining your company's position on labor and environmental values and policies you hope to be implemented in all facilities you work with. This document can be shared with your suppliers, partners, and all stakeholders (including on your website).

There are many templates and examples of Codes of Conduct that exist. Two great examples include the [LVMH Supplier Code of Conduct](#) and [Kering Sustainability Principles](#).

Create a Restricted Substances List (RSL)

An RSL is a list of harmful or illegal chemical substances often found in the apparel supply chain that are either prohibited or limited.

There are multiple tools and existing RSLs that can help you to develop your own and enforce it, including those from [ZDHC](#), [GOTS](#), and [bluesign®](#).

3. Assess your suppliers

Has Your Supplier Already Completed an Assessment?

First, you should ask the facility if they have already done environmental or social assessments. If they are already measuring and providing information to other companies, perhaps there is no need to ask them to do it again.

Choose the Best Approach

There are multiple ways to assess a supplier:

- You can start with something as simple as a basic, one-page questionnaire. Even just a few answers can give you great insight into a facility's values and practices.
- The supplier can use a self-assessment tool. The [Higg tools](#) are a great place to start measuring sustainability performance. (Apparel, footwear, and home textiles manufacturers have the unique option of using the Higg Index without joining the Sustainable Apparel Coalition. For a fee of \$85 per year, any manufacturing facility can access and use the Higg Index Facilities environmental and social modules online.)
- You can pay a third party to do an official assessment.

*Please note that in order to measure environmental impact, the right equipment is needed. This includes meters and tools to track water, steam, and electricity consumption at the process and equipment level. If the facility doesn't have these, work with your suppliers to install them.

WORKSHEET

Implementing sustainability at production facilities cont'd

If You Can Ask Nothing Else of a Manufacturer, Ask These Questions:

According to the Sustainable Apparel Coalition, these are the critical questions to determine if your manufacturer does basic sustainability management (beyond artisan production).

Has your facility been in compliance with all legal requirements/permits within the last 12 months?

- Behind this Q: Whether or not the manufacturer has a formal process for complying with local and national environmental laws
- How to use this info: If the facility isn't complying with local laws it is unlikely to be a solid sustainability actor

Does this site track and measure, at least annually, energy use from all sources, including energy used on-site (direct) and purchased energy (indirect)? Do you set and review at least annually improvement targets for reducing energy use (including fuel use for on-site transportation if applicable)?

- Behind this Q: While energy isn't the greatest area of risk, managing it well will yield financial returns for the manufacturer. Sophisticated and well managed facilities manage their energy well and this is a good indicator of overall sustainability performance.
- How to use this info: If you are looking to see whether or not your manufacturer is sophisticated about sustainability, energy management indicates they are moving in the right direction but shouldn't be used on its own.

For Wet Processes: Is all wastewater that is produced at your site being treated with primary and secondary treatment? Do you monitor the quantity and quality of wastewater produced at your site?

- Behind this Q: If the facility has wet processes and isn't managing and monitoring its wastewater it's not a responsible actor. Also it can be an indication of sound chemical management
- How to use this info: You can't make sustainable products if your wet processes aren't treating their wastewater. Period.

4. Help Your Suppliers Create a Sustainability Roadmap, and Work With Them Over Time

Provide Your Supplier With Support

Based on the results of the assessment, look at areas where improvement can be made. Support the facility to create a Sustainability Strategy with specific timeline and measurable goals.

Good Work Should be Rewarded

The best way to reward suppliers is with increased business and long-term commitments. If possible, provide other incentives (financial or community benefits).



TOOLS & RESOURCES

Tools

Tools to measure chemical and toxicity:

[Higg Facility Tools \(Higg FEM\) from the Sustainable Apparel Coalition](#)

This tool includes green-chemistry considerations, and recognizes many existing green-chemistry certifications. The Higg FEM measures:

- Environmental management systems
- Energy use and greenhouse gas emissions
- Water use
- Wastewater
- Emissions to air (if applicable)
- Waste management
- Chemical use and management

[CHEM-IQ](#)

Developed by VF Corp with NRDC, Chem-IQ tests samples for the presence of 400 chemicals; if the samples are above set levels, VF Corp works with suppliers to optimize the chemistry.

[GreenScreen for Safer Chemicals](#)

Focuses on hazard profiling (only) of chemicals, and on developing alternatives to the most objectionable.

[The Sustainability Consortium](#)

The Sustainability Consortium focuses on optimizing chemistry to reduce water pollution, as well as on reducing water and energy consumption.

[MaterialWise](#)

With this free tool you can screen the substances in your product against authoritative lists that identify known human health and environmental hazards. You can also reference restricted substance lists to check for compliance with certification and preferred purchasing programs.



Tools

Restricted substances lists:

[The Zero Discharge of Hazardous Chemicals \(ZDHC\) Manufacturing Restricted Substances List \(MRSL\)](#)

The ZDHC Program is a collaboration of brands, value chain affiliates, and associate contributors committed to advancing towards zero discharge of hazardous chemicals in the textile, leather, and footwear value chain, thereby reducing harm to the environment and human well-being.

[Bluesign® Restricted Substances List](#)

The bluesign® system eliminates harmful substances right from the beginning of the manufacturing process and sets and controls standards for an environmentally friendly and safe production. They certify products, all of which adhere to their RSL, though this is just one aspect of the certification.

[Global Organic Textile Standard \(GOTS\)](#)

The GOTS Standard lists all substances prohibited in Organic certification. It lists them by stage, which is helpful to understand where to watch out for toxic substances in your supply chain. It also lists what is allowed, so it can help serve as a guide for better alternatives.

[American Apparel & Footwear Association \(AAFA\) RSL](#)

The AAFA RSL focuses on what substances are illegal, which doesn't necessarily cover all substances which are toxic. It's intended to provide apparel and footwear companies with information related to regulations and laws that restrict or ban certain chemicals and substances in finished home textile, apparel, and footwear products around the world.



Standards & Certifications

Standards and certifications for materials processing:

[bluesign®](#)

The bluesign® system reduces the environmental impact concerning the entire textile supply chain, helping to eliminate harmful substances from the very beginning. With its holistic approach the Input Stream Management provides an efficient solution for chemical suppliers, textile and accessories manufacturer as well as fashion brands. The bluesign® system is based on five principles:

1. Resource productivity
2. Consumer safety
3. Water emission
4. Air emission
5. Occupational health & safety

[Cradle to Cradle Certified™ \(C2C\)](#)

The C2C Certified Products Program aligns with the goals of all the programs above, specifically in promoting safe chemistry; however, it goes deeper into the supply chain, and integrates “design for next use” into the chemistry itself.

[Global Organic Textile Standard \(GOTS\)](#)

GOTS is recognized as a leading standard for textiles made from organic fibers. It covers textile processing, manufacturing, packaging, labeling, exportation, importation and distribution. The GOTS quality assurance system is based on on-site inspection and certification of the textile processing and trade chain. In particular operators from post-harvest handling up to garment making as well as traders up to the import stage have to undergo an on-site annual inspection cycle and must hold a valid certification as prerequisite in order for final products to be labelled as GOTS certified.

[Oeko-Tex® Standard 100](#)

A worldwide consistent, independent testing and certification system for raw, semi-finished, and finished textile products at all processing levels, as well as accessory materials used. The tests for harmful substances cover:

- Legally banned and controlled substances
- Chemicals known to be harmful to the health (but not yet legally controlled)
- Parameters for health protection
- Taken in their entirety, the requirements go far beyond existing national legislation.

EXAMPLE

Greenpeace Detox Fashion Campaign

Since July 2011, the Detox campaign has mobilized hundreds of thousands of people around the world to challenge major clothing brands to eliminate all releases of hazardous chemicals from their supply chains and products. Read more about it [here](#). Greenpeace asks of clothing companies to adopt a credible, individual and public commitment to phase out the use and release of all toxic chemicals from their global supply chain and products, by 1 January, 2020.

In order to be credible, the commitment needs to be based on three fundamental principles:

1. Zero discharge of all hazardous chemicals

This means really eliminating all releases: whether via waste water pipe discharges, other production emissions (e.g. air and solid wastes) or later life “losses” from the final product -- recognizing that there are no environmentally safe levels for hazardous substances.

2. Prevention and Precaution

This means taking preventative action towards the elimination of hazardous chemicals in the face of scientific uncertainty. This should be focused on elimination at source through substitution with sustainable alternatives or even product redesign.

3. Right to know

This means that brands and their supply chains need to be fully transparent and that they need to publicly disclose information

about the hazardous chemicals used and discharged when making their products.

Major Fashion brands need to “walk the talk”

Adopting clear and ambitious deadlines by when they will have eliminated all releases of the different types of hazardous substances, with priority chemical groups for elimination including alkylphenols and perfluorinated chemicals. A comprehensive ‘blacklist’ of hazardous chemicals for elimination and setting deadlines in the near future that are based on the precautionary principle should be established.

Brands need to require their suppliers to disclose the quantities of hazardous chemicals released, in a fully transparent and accessible way. This needs to begin with facilities in the Global South, in countries such as China.

Publicly demonstrating to others how they are making the transition to non-hazardous chemical use so that their process and steps can be followed.



What is materials processing?

In the words of Annie Gullingsrud, from the book [*Fashion Fibers: Designing for Sustainability*](#), “These days, garments are almost always dyed or printed, bleached, or washed in order to give them a more desirable, aged, or unique look. Processing is also the most often ignored when it comes to considering the environmental impacts of fashion design... which is understandable given that sometimes these processes and finishes account for an overall low percentage by weight of the final garment. What might be surprising is that processing methods can produce some pretty significant negative ecological impacts to the planet and the communities surrounding the factories that process our clothes.” (The book lays out a fantastic overview of materials processing stages and their impacts, along with the recommended techniques and alternatives to mitigate or circumvent these potential impacts - we highly recommend it.)



Fiber & yarn processing

Processing at this level includes preparation of the fiber, spinning or making it into yarn, and preparing the yarn for fabrication (making it into fabric).

“A yarn is a continuous strand of textile fibers, filaments, or materials in a form suitable for knitting, weaving, or otherwise intertwining to form a textile fabric.” (ASTM definition) Generally, less processing is required for synthetic fibers. An exception to this can be when they are blended with natural fibers. Natural fibers require a lot more steps, including growing, harvesting, cleaning, packaging, and shipping.

Fibers and yarns can be processed in many different ways to create different kinds of yarn, but generally they are cleaned, aligned, bended, and twisted. Multiple dry and wet processes can include opening, carding, drawing, and combing, among others.

Once spun, yarn is wound onto bobbins to be transferred to a mill. We won't go into all the different types of yarn production here. As you can imagine, it is quite complex and technical and varies greatly depending on fiber type, intended use, and style. That said, you should try to find out exactly how your yarn is made as it is not only a question of sustainability, but a question of quality (like pilling, for example).

To learn in depth about textiles, what they're made of, all the different fiber processes, the types and techniques of yarn production, and much more, we recommend Sara Kadolph's textbook *Textiles*. A timeless resource for any professional in the industry, the Twelfth Edition has been updated to discuss sustainability, technological advances, and new career opportunities in the textile industry.

At this phase, you should generally think about:

Water: This part of the process can use a lot of water.

Energy: This phase of the process can be very energy intensive depending on the type of machinery used.

Chemicals: Natural or synthetic lubricants and oils can be added during the spinning process to reduce friction.

Air: In addition to carbon impact and air pollution, at the first stage yarn processing produces a huge amount of airborne contaminants like dust and fiber bits. Good dust control systems should be in place in facilities.

Waste: A large amount of waste is produced during opening, carding, and combing, including short fibers, dirt, and other debris. This waste can be utilized in a number of ways, for example dirt and plant debris can be used as compost, and short fibers can be recycled into alternative yarns or products.

People: In addition to the good labor practices that should be applied at every stage of production, specific health and safety issues arise during yarn processing. For example, machine rotors can work at such high speeds that the sound of them can cause hearing loss. Workers should wear gear that protects their ears and ensures they don't inhale airborne contaminants.



MATERIALS PROCESSING

Weaving, knitting & other fabrication methods

Threads undergo a lot of tension and abrasion during weaving and knitting. In order to prevent the threads from breaking under this pressure, some or all of the yarn is given a protective coating before it is threaded into the loom or machine. This process is called sizing. Sizing can contain natural starches, synthetic resins (polyvinyl and polyacrylamide), metal-to-fiber lubricant, preservative, defoamer, and more. After weaving, it is removed in a desizing process. Sizing often uses large amounts of energy, chemicals, and water. Knitting and weaving oils can contain harmful heavy metals. Sizing agents allowed in the GOTS global organic standard include starch, starch derivatives, other natural substances and CMC (carboxymethylcellulose). Below is a list of other fabrication methods used:

Fabrics From Solutions

- **Films:** Include materials like latex, chloroprene, and vinyl. Most are made from vinyl or polyurethane solutions.
- **Foams:** Include things like molded bras or shoulder pads, or laminated to other fabrics to provide thickness and warmth. Most are made from polyurethane, but they can also be made from soy-based foam or rubber.

Fabrics From Fibers

- **Nonwoven or Fiberweb (not made from yarn):** Include things like felt, tapa cloth. Fibers (any can be used, both natural and synthetic) are laid out, bonded together, and then strengthened to become fabric (using needling, chemical compounds, adhesives, or heat).
- **Fiberfill:** Not a fabric, includes batting, wadding, and fiberfill used in snowsuits and quilted materials, for example. Often made out of polyester, but can be made out of other materials like waste fiber (wadding), new fibers (batting), or down.

Fabrics From Yarns

- **Braids:** Includes things like shoelaces, sennit, and horsehair. Often used for trims, coverings, or technical applications.
- **Lace:** Complex hand or machine made.
- **Embroidery:** In addition to being used for surface decoration, can be used to create textiles using aramid, carbon, PBO, glass, resin and more.

Composite Fabrics

- **Coated Fabrics:** A textile fabric with a polymer film (often PVC, neoprene, and polyurethane). The film can be adhered to the fabric multiple ways, for example adhesive or heat.
- **Poromeric (Microporous) Fabrics:** Thin, microporous films that allow water vapor but not liquid to pass through. Made from polytetrafluoroethylene (Gore-Tex), polyester, or polyurethane.
- **Suedelike Fabrics:** Includes things like Ultrasuede and Ultraleather. "Microdenier fibers and polyurethane solution are mixed together, cast on a drum, then napped on both sides."
- **Flocked Fabrics:** Short, straight natural or synthetic fibers are applied to the surface of an already-finished base material, usually with synthetic adhesives like acrylic, nylon, or polyester.

Tufted-Pile Fabrics

- Yarns are stitched on top of an existing base fabric. Laminates
- Adhesive or foam are used to bind two layers of fabric together. Often called interfacing or fusible.

Stitch Bonded Fabrics

- **Knit-through fabrics:** Fibers or yarns are knitted around laid yarns, kind of like basket making.
- **Quilted fabrics:** Two layers of fabric with batting or fiberfill in between, all stitched together.



Pretreatment

After a fabric is woven and before it receives treatments it is often referred to as “greige” or “raw”. It has a fiber’s natural color, smell, and other impurities; both natural and those added during its cultivation/ manufacture including pesticides, insecticides, lubricants, oil, dust, size, etc.

A number of treatments are used to both remove these impurities and prepare the fabric for dyeing or printing. These treatments can be toxic and use high amounts of both energy and water.

- **Singeing:** Fiber ends sticking up on the surface of the fabric are burned off, usually passing through gas flame bars. This reduces pilling, dullness and roughness.
- **Desizing:** Depending on the agent used, sizing can be removed using physical, biological, or chemical processes. Often, desizing uses large amounts of energy and water and contributes to wastewater pollution. (Alternative: bio desizing with ultrasonic energy).
- **Desizing:** Depending on the agent used, sizing can be removed using physical, biological, or chemical processes. Often, desizing uses large amounts of energy and water and contributes to wastewater pollution. (Alternative: bio desizing with ultrasonic energy).
- **Scouring:** A purifying treatment (that may or may not use chemicals) to remove all waxes, pectins, oil, minerals, soils, starch, etc. Usually, scouring uses high amounts of water and energy, using chemical-intensive alkaline solutions and detergents. (Bio-scouring, enzyme scouring, or ultrasonic scouring are more sustainable options.)
- **Bio-polishing:** Removing surface fuzz with an enzyme treatment. An alternative to singeing. While it often enhances the appearance of a fabric, it also makes it a little weaker.
- **Bleaching:** Removes uneven natural color. Different bleaches are used on different fiber types. Peroxide bleaches are common for natural fibers. (Peracetic bleaching is a more sustainable option (lower energy, water, and fiber damage).)
- **Mercerization:** A process used on many natural fibers to increase strength softness, and the affinity for dyes/finishes. Yarns or fabrics are treated with an alkali (caustic soda/ sodium hydroxide/ lye).
- **Optical Brighteners (OBAs):** Usually used in addition to (not instead of) bleaching, OBAs soak into a fiber and mask yellow by absorbing ultraviolet light (invisible to most people) and re- emitting it as fluorescent light (visible to the human eye). These may be added in the spinning process as well.
- **Mercerization:** A process used on many natural fibers to increase strength softness, and the affinity for dyes/ finishes. Yarns or fabrics are treated with an alkali (caustic soda/ sodium hydroxide/ lye).
- **Ammoniating Finishes:** Liquid ammonia treatments that provide an alternative to mercerization for some fibers.
- **Mordanting:** Substances used to bind or set dye to fabric are referred to as a mordant. Mordants can be used before dyeing, in the dyebath itself, or after dyeing.



TOOLS & RESOURCES

Tools for dyeing & printing

Tools to help measure impact at the dyeing and printing phase:

[The Sustainable Apparel Coalition](#)

Higg Facility Tools

[NRDC](#)

Dyehouse Selection Guide

Sustainable dye processes:

[DyeCoo](#)

Dutch company DyeCoo's technology uses a 100 percent water-free and chemical-free textile processing solution. It provides geographical freedom from water sources and offering textile manufacturers a head start on legislation that restricts the use of hazardous process chemicals. It uses machines for dyeing polyester in high pressure CO2 without one drop of water.

[Colourtex](#)

Colourtex offers the is the first range of commercial dyes suitable for CO2 dyeing, called Coranger. These are used in DyeCoo's process.

[Color Zen](#)

Color Zen makes dyeing far more efficient and environmentally friendly.

[AirDye](#)

AirDye offers water-free dyeing and printing on textiles

[IndiDye](#)

By utilizing ultrasonic technology, IndiDye® reaches high levels of color fastness for natural dyes without the use of chemicals, at the same time reducing water consumption significantly. They utilize a new patented dyeing technology that combines natural beautiful colors and ancient dyes with an innovative new ultrasonic fiber dyeing process. The dyeing is implemented at fiber level before the IndiYarns™ are spun. Dye-tanks are filled with batches of fiber together with liquid natural dyestuff, and exposed to ultrasonic pressure waves that push the color pigments into the core of the fiber. They were identified by H&M and Fashion Positive as an Emerging Material Innovator.



Tools for dyeing & printing

Sustainable dye processes

[Faber Futures](#)

Faber Futures is a creative R&D studio that conceptualizes prototypes and evaluates the next generation of materials that are emerging through the convergence of biology, technology and design. They've developed pigment producing bacteria that are grown directly on the fabric, significantly reducing water usage. They were identified by H&M and Fashion Positive as an [Emerging Material Innovator](#).

Natural & artisanal dye resources:

Sasha Duerr / [Permacouture](#)

Rebecca Burgess / [Fibershed](#)

Jane Palmer / [Noon](#)

Audrey Louise Reynolds / [ALR Dying](#)

[India Flint](#)

Liz Spencer / [The Dogwood Dyer](#)

Arun & Sonal Baid / [Aura Herbal](#)



MATERIALS

Finishing

Examples of finishing include:

*Just like other processing stages, finishing processes can use large amounts of toxic chemicals, energy and water.

- Drying
- Shrinking
- Stone washing
- Sandblasting
- Enzyme Washes
- Water Jet Fading
- Water repellent
- Stain Release
- Coatings & Films
- Flame/fire retardant
- Anti-Microbial (odor control)
- Permanent Press
- Other “performance” finishes
- Resins (formaldehyde helps shrinkage, chlorine based, etc.)
- Softeners

Dimpora

Dimpora’s hydrophobic porous system keeps the rain out and lets the sweat evaporate. Dimpora stands for the combination of dimension and pore. Both are key to their vision of a seamless breathable membrane formed directly on any 3D surface. They aim to take a step forward in an established industry, relying on 2D large scale processes, towards the individual point of sales assembly of your personal outdoor equipment.

Tandem Repeat

A self-healing and biodegradable fabric coating that reduces microfiber shedding and increases the fiber’s lifetime.

MARC JACOBS

“We expect our vendors to respect and adhere to the same business philosophy in the operation of their businesses. California law requires companies to disclose their efforts to address the concerns regarding slavery and human trafficking raised by the California Transparency in Supply Chain Act of 2010 (the “Act”). MJI has a Vendor Code of Conduct which is based on principles of ethical business practices and recognizing the dignity of others, and specifically prohibits the use of involuntary or forced labor, human trafficking, child labor, and harassment and abuse. MJI shares and expects its direct product suppliers (including their designated manufacturing facilities and third parties involved with the manufacturing process) and license partners to adhere to and to implement MJI’s Vendor Code of Conduct (including Supplemental Guidelines) as well as MJI’s Employee Code of Conduct. MJI’s ongoing internal risk assessment of its supply chain is aimed at understanding the potential challenges in a global supply chain. We rely on and analyze information gathered from external resources, updates from expert organizations, and companies dedicated to social compliance issues. MJI engages external third party compliance auditing firms to perform announced, semi-announced and unannounced assessments of a selection of MJI’s direct product vendors each year to evaluate compliance with MJI’s Vendor Code of Conduct and Supplemental Guidelines.”



Jewelry, Accessories & Footwear



OVERVIEW

Jewelry

Jewelry has a notorious dark side, but there are many ways to create and sell jewelry thoughtfully and respectfully. For thousands of years, jewelry has held a role of significant cultural and symbolic value for humans for thousands of years. In fact, [archeologists have found](#) Neanderthal jewelry dating back at least 135,000 years, pre-dating interaction with modern humans! For years, jewelry has been used to mark a rite of passage, signify status, or even as currency.

Unfortunately, the production of jewelry can have devastating impacts on the environment and workers around the world. It is not uncommon to hear of conflict in the diamond industry, for example. However, most of the damage is buried in an obscure supply chain in ways the jeweler, and especially consumer, may never see. These issues are not only related to precious minerals, but less expensive metals, stones, crystals, plastics, and other materials can be problematic, and at times even murkier.

In terms of durability and longevity, two sustainability values, jewelry does fairly well. It is generally highly valued and often passed down through generations as heirlooms. When fine jewelry is disposed of, raw materials are generally re-purposed because they are highly valued. Even costume (or more affordable, non-fine) jewelry tends to be more timeless and less differentiated by seasonal trends. On average, Americans spend \$6,163 on an engagement ring, according to [The Knot's 2016 Real Weddings Study](#) (almost 20 percent of the 2016 US median income of \$31,099, according to the [U.S Census Bureau](#)).

When sourcing jewelry materials, it is of utmost importance to ask questions and strive for complete transparency. Many jewelers and metal refiners are committed to using 100 percent recycled metals, for which there is reliable certification. When sourcing new materials, we recommend establishing direct relationships with mines and suppliers - visit them in person, try to support suppliers who have a positive impact on their communities.



JEWELRY

Issues related to jewelry

Lack of transparency

The most challenging aspect of jewelry is traceability. The supply chain for precious metals and stones is one of the most obscure, since many come from remote parts of the world and conflict zones.

Use of non-renewable resources

Many materials used to make jewelry are not renewable resources. Gold, for example, [came from outer space!](#) It forms when stars explode into a supernova, and it arrived on earth via meteorites a few billion years ago. Many gemstones, like opals and diamonds, take thousands, millions or even billions of years to form in the earth. As designer Pamela Love [stated](#), “I think we sometimes forget that these beautiful materials that become jewelry come from the earth, and that they won’t always be there... And the earth isn’t going to make more for us. We have to be responsible and recycle whenever we can.”

One alternative to virgin materials is recycled materials. A strong market exists to source recycled metals, and sourcing stones and other materials is possible, albeit harder. (Read what Catbird has to say about [sourcing recycled diamonds](#).) Another good alternative is to use man-made materials. For example, lab grown diamonds can be made exactly the same as the highest quality diamonds mined in nature.

Negative impact on workers and communities

Mining, trading, and processing of materials can be extremely dangerous for workers. Silicosis, for example, is an occupational disease that can affect workers in mines, quarries, foundries, or cutting stones (as well as [sandblasting denim](#)). It is an incurable lung disease caused by the inhalation of silica dust that is released during operations in which rocks, sand, concrete and some ores are crushed or broken. The [World Health Organization](#) estimates that more than 24,000 people die in China each year from the disease, which scars the lungs and leads to severe respiratory problems and death.

Human rights abuses, including slavery, are not uncommon in the jewelry supply chain. The U.S. Department of Labor’s [2018 List of Goods Produced by Child Labor or Forced Labor](#) cites gold as the good with the most child and forced labor listings by number of countries.

Additionally, some indigenous peoples and other local residents near mines have been forcibly displaced. During times of war, civilians have suffered enormously as armed groups have enriched themselves by exploiting precious minerals. As if this was not enough, environmental pollution from mining has polluted waterways and soil with toxic chemicals, harming the health and livelihoods of entire communities, according to [Human Rights Watch](#).

[Human Rights Watch](#) reports are a good resource to learn about more specific examples of dangerous working conditions in the jewelry industry.

International trade in minerals can play a significant role in financing and perpetuating human rights violations in conflict regions

Many areas of the world where precious minerals are found, such as Colombia and Africa’s great lake regions also experience violent conflict and human rights abuses. International trade in minerals can play a [significant role](#) in financing and perpetuating human rights violations in these conflict regions, as militant and violent groups exploit precious materials for profit to fund their activities.



JEWELRY

Issues related to jewelry cont'd

Mining can have incredibly harmful environmental impacts

Mining is an incredibly dirty industry that uses toxic chemicals, is highly energy consuming, generates heaps of waste, and leaves long-lasting scars on landscapes and communities. Here are some important facts you should know about mining:

- Much of the mercury released into the environment is the result of small-scale and artisanal gold mining (ASGM), according to [Pure Earth](#). Mercury used in the gold separation process (known as “amalgamation”) results in the discharge of an estimated 1,000 tons of mercury annually, representing about 30 percent of the world’s anthropogenic mercury releases. Once mercury pollution reaches waterways, it is transformed into methylmercury, one of the most toxic organic compounds and a powerful neurotoxin. As much as 95 percent of all mercury used in ASGM mining is released into the environment, according to United Nations Industrial Development Organization (UNIDO).
- [Earthworks](#) states that an open pit mine is the most common type of industrial metal mine, which creates huge, permanent scars on the landscape. Rio Tinto’s [Bingham Canyon](#) mine southwest of Salt Lake City turned a mountain into a hole almost [a kilometer deep and four kilometers wide](#). Since the ore extracted from today’s mines is extremely low grade, they generate huge amounts of waste: the average gold ring generates over [20 tons](#). Even when everything goes right, mine waste (and therefore a mine waste disposal site) often contains toxic substances, such as arsenic, mercury, and cadmium, that are harmful to public health, fish and wildlife when released into the environment.
- Metal mining is the nation’s #1 toxic polluter, according to the U.S. Environmental Protection Agency’s Toxics Release Inventory.

Material Processes

At times it is easy to forget materials processing when it comes to jewelry, but metal, stones, and other materials

undergo all sorts of processes to extract them from the earth and alter their appearance. Most fine jewelers have an understanding of how different metals are mixed. For example, 24 carat (pure) gold is too soft to make jewelry out of, so it is often mixed with other alloys, like copper, zinc, nickel, silver, and platinum. Almost every metal goes through a chemical process to become useful. The most toxic part of the process is the coating, plating, or finishing.

Gemstones can undergo all sorts of processes in addition to cutting and carving, such as bleaching, surface coating, and other harmful procedures. You can learn more about all the different processes from the Gemological Institute Of America (GIA) [here](#).

Limitations of existing standards

Many great resources, certifications, and organizations exist for more sustainable and ethical jewelry production, though some are more useful and legitimate than others. The Kimberley Process (KP) is the most widely accepted certification for “conflict-free” diamonds. The KP defines conflict diamonds as “rough diamonds used to finance wars against governments,” but [leaves out](#) diamond smuggling, violence by governments and private security firms, corruption, child labor, gender-based violence, environmental degradation, worker and community exploitation in the mining areas, illicit financing, and other issues associated with the diamond trade – which is problematic. We believe it is generally good to participate in these well-intended initiatives, but it is important to understand and be honest about their limitations.

[Human Rights Watch](#) research found that many companies are over-reliant on the Responsible Jewellery Council for their human rights due diligence, stating, “The RJC has positioned itself as a leader for responsible business in the jewelry industry, but has flawed governance, standards, and certification systems. Despite its shortcomings, many jewelry companies use RJC certification to present their gold and diamonds as “responsible.” This is not enough.”

WING YAU, WWAKE

“We spent a long time this year working to provide full provenance for our stones. The sapphires are either from Montana, Australia, or a specific mine in Malawi, which is a dream textbook development project. The mining community has built a school based off the profits from the mine; they’re planting trees; they made uniforms for the girls so that they can go to school in decent clothing. I’m excited to keep growing our business with them because it’s helping real people. We work really closely with our vendors to know more and more about those projects and I’m really eager to build on them and see how we can help in a deeper way.”

WORKSHEET

Ethical Metalsmiths'

Questions to learn more about your supplier.

1. Who is the right person to talk to? What is their name, and contact information? Record the date and time of your call.
2. Can they verify that 100 percent of the silver, or gold you are buying is from recycled sources?
3. If not, what portion can they guarantee and where does the rest come from?
4. Do they know about the copper that they alloy with to make sterling, where does it come from?
5. What about other alloys?
6. Can they ensure that none of their metal - recycled or new - has come from known conflict zones (like Democratic Republic of the Congo)?
7. Can they ensure that the scrap, old jewelry, etc. that they buy is not part of a money laundering scheme? In other words do they screen the people they buy from?
8. What products are made with materials refined in house? (Ex. sheet, wire, bezel, findings, chain, ear wires) - often a refiner will make sheet and wire, but not the findings, those they are buying from somewhere else and re-selling.
9. What kind of system do they have in place to keep refining toxics out of the environment? (ex. scrubbers to clean the air, water purification and re-use systems for solid waste)
10. Do they monitor and aim to reduce energy and water use over time?
11. What can they tell you about the treatment of their own employees? Fair living wages, rights, and safety?
12. Would they consider communicating answers to these questions on their website, in other words, make their process more transparent to jewelers?

WORKSHEET

“Golden Rules”: Gold & Precious Metals Sourcing Policy

The Golden Rules are a set of criteria for more responsible mining developed by the [No Dirty Gold \(NDG\)](#) campaign based on broadly accepted international human rights laws and basic principles of sustainable development.

The Golden Rules hold that mining companies and operations must:

1. Respect **basic human rights** outlined in international conventions and law
2. Obtain the **free, prior, and informed consent** of affected communities.
3. Respect **workers’ rights and labor standards**, including safe working conditions
4. Ensure that operations are not located in areas of armed or militarized **conflict**
5. Ensure that projects **do not force** communities off their lands
6. Ensure that projects are not located in protected areas, **fragile ecosystems**, or other areas of high conservation or ecological value
7. Refrain from **dumping mine wastes** into the ocean, rivers, lakes, or streams
8. Ensure that projects **do not contaminate water, soil, or air** with sulfuric acid drainage or other toxic chemicals
9. Cover all costs of **closing down** and cleaning up mine sites
10. Fully **disclose information** about social and environmental effects of projects
11. Allow **independent verification** of the above

Publicly sign and endorse “The Golden Rules:” Gold and Precious Metals Sourcing Policy.

NDG asks jewelers and jewelry retailers to pledge to source only from mines who meet the criteria listed on the page before this. By signing the pledge, you show your customers your commitment to ethical mining and corporate social responsibility. If you are a retailer and would like to endorse the Golden Rules, please share a signed and dated copy of [this document](#), printed on your letterhead and email it to: retailers@nodirtygold.org.



JEWELRY TOOLS & RESOURCES

Examples

A few examples of how some jewelers and artisans are integrating sustainability:

[Melissa Joy Manning](#)

On her website, Melissa Joy Manning talks about handmade production, designing for sustainability, sourcing recycled metals from a Green Certified refinery, and more. (Another thing that's pretty cool is that Melissa gives discounts to military service members and teachers.)

[WWAKE](#)

Read about Wwake designer Wing Yau's [visit to a Colombian gold mine](#).

[Pippa Small](#)

With a background working in human rights, Pippa Small focuses on projects that give communities a re-found respect for traditional design and a sense of self-confidence, pride in their creations and a path towards economic independence. Her collaboration with [Turquoise Mountain](#) in Afghanistan is one example of this work, which you can read about [here](#).

[Bombolulu](#)

Bombolulu Workshops and Cultural Centre is located in Mombasa, Kenya, and works with more than 100 men and women artisans with disabilities to help them overcome their physical limitations and empower them economically and socially to become fully integrated members of their communities. This nonprofit organization produces crafts of a very high standard, including jewelry using recycled metals.

[Brilliant Earth](#)

Brilliant Earth educates their consumers about the issues with detailed descriptions and links to articles. See their pages on [Gold Mining and the Environment](#) and [Conflict Diamond Issues](#).

[Hoover & Strong](#)

Hoover & Strong is a refiner. See their public environmental policy and compliance disclosure [here](#).

[Alexandra Hart](#)

Check out the "Consumer Questions Answered" section on Alexandra Hart's [sustainability page](#).



JEWELRY TOOLS & RESOURCES

Tools

Tools to implement better practices in jewelry production:

[United Nations Guiding Principles on Business and Human Rights \(OHCHR\)](#)

The Organisation for Economic Co-operation and Development (OECD) has developed the “Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas,” as a leading due diligence standard for minerals.

[Responsible Jewellery Council Certification Self-Assessment Workbook](#)

This workbook is a tool for evaluating your company’s performance against the RJC Code of Practices (COP) for diamonds, gold and platinum group metals. The COP defines responsible ethical, human rights, social and environmental business practices and is divided into six sections (tabs in the workbook), each one detailing a number of provisions that can be independently audited to provide objective evidence in support of getting RJC certification.

[Responsible Jewellery Council Risk Assessment Toolkit](#)

The RJC Risk Assessment Toolkit (the Toolkit) provides a mechanism for Members to conduct risk assessments and facilitate the implementation of the RJC Code of Practices.

[Responsible Jewellery Council Human Rights Due Diligence Toolkit](#)

The RJC designed this Toolkit to fulfill the requirements of the Code of Practices for a Human Rights Due Diligence process, but feel free to use your own approach, as appropriate to your circumstances. The Toolkit is likely to be most useful for small to medium enterprises, that have low human rights risks, and/or for those undertaking Human Rights Due Diligence for the first time. However it can be used by any kind of business, and supplemented where needed with more detailed risk tools such as the RJC Risk Assessment Toolkit. The Toolkit was developed using the UN Guiding Principles on Business and Human Rights, Human Rights Compliance Assessment – Quick Check (The Danish Institute for Human Rights), Integrating Human Rights Due Diligence into Corporate Risk management Processes (ICMM), and “My Business and Human Rights – A guide to human rights for small and medium-sized enterprises” (European Commission).

[Ethical Metalsmith’s List of Questions to Learn more About Your Supplier](#)

Not sure about your materials? This is a list of questions to get a conversation started with your supplier courtesy of the organization Ethical Metalsmiths.



JEWELRY TOOLS & RESOURCES

Tools

Tools to implement better practices
in jewelry production cont'd:

[Gemstone and Sustainable Development Knowledge Hub](#)

The Gemstone and Sustainable Development Knowledge Hub aims to facilitate learning across the full supply chain of colored gemstones from mines to markets, and improve the sector's contributions to sustainable development. The hub is a collaboration between the University of Delaware (USA), the University of Queensland (Australia), and the University of Lausanne (Switzerland), and is supported by the Tiffany & Co. Foundation. They are also working with museums, gem miners, gemologists, dealers, jewelry manufacturers, grassroots organizations and development agencies in this endeavor.

[US Department of Labor \(USDOL\) Comply Chain App](#)

The USDOL Comply Chain: Business Tools for Labor Compliance in Global Supply Chains mobile app contains best practice guidance for companies on ways to develop strong social compliance systems to reduce child labor and forced labor in supply chains. The app includes eight modules ranging from stakeholder engagement to code of conduct provisions, and from auditing to remediation to reporting. Companies that are new to social compliance can work through the modules in order, and more experienced companies can select modules based on their continuous improvement goals. Another app, USDOL [Sweat & Toil](#), contains more than 1,000 pages of research from all three reports. Sweat & Toil helps you easily sort data by region, country, assessment level, good, and type of exploitation, all without the need for an Internet connection. You can download the free apps from the iTunes or Google Play store and access the data on their [website](#).



Organizations

Industry-wide:

[Ethical Metalsmiths](#)

Based in the US, the vision of Ethical Metalsmiths is to lead jewelers and consumers in becoming informed activists for responsible mining, sustainable economic development and verified, ethical sources of materials used in making jewelry. They provide a wealth of information and resources on their website, from an [Information Library](#) to a [Material Sourcing](#) directory and more. Ethical Metalsmiths works directly with jewelers and metalsmiths (student, professional and hobbyist) to raise awareness of material sourcing issues and harmful studio / manufacturing practices that the profession currently relies on. Ethical Metalsmiths collaborates with other organizations and community groups to realize its mission. You can join their [Ethical Consortium of Jewelers](#) or become a member of their organization.

[Jewelry Industry Summit](#)

Though a number of jewelry industry responsible sourcing programs exist, there's never been an industry-wide consensus on what constitutes a vision ALL stakeholders can support. Through organized participatory Summits and active year-round work by dedicated volunteers, this initiative strives to encourage and facilitate meaningful, solution driven activities that continue to advance sustainability and responsible sourcing in the jewelry industry. They host an annual summit that brings together stakeholders from all sectors of the jewelry industry to develop shared visions for sustainable business and responsible sourcing. They also provide great resources on their [website](#).

[Responsible Jewellery Council](#)

Based in the UK, the Responsible Jewellery Council is a standards and certificate organization for the whole jewelry supply chain from mine to retail. They developed standards like the RJC Code of Practices and the Chain-of-Custody Standard for precious metals.

[Jewelers Vigilance Committee \(JVC\)](#)

The JVC was formed in 1917 to provide education and self-regulation to the jewelry industry. Members pledge to comply with all laws applicable to the jewelry industry and make accurate representations about the products they sell. JVC refers to themselves as legal compliance experts in the jewelry industry, established to educate and protect all levels of the jewelry industry against liability, litigation and to stop negative publicity. JVC educates the trade to understand complex regulatory and compliance rules governing all phases of manufacturing, stamping, marketing, and sale of fine jewelry – helping make the jewelry marketplace more profitable and better for everyone. Both regulatory government agencies that oversee business and the industry rely on JVC for guidance on legal compliance.



Organizations

Metal:

[EARTHWORKS](#)

Earthworks is a nonprofit organization dedicated to protecting communities and the environment from the adverse impacts of mineral and energy development while promoting sustainable solutions.

[European Partnership for Responsible Minerals](#)

The European Partnership for Responsible Minerals (EPRM) is a multi-stakeholder partnership aiming to increase the proportion of responsibly-produced minerals from conflict-affected and high risk areas and to support the socially responsible extraction of minerals that contributes to local development. EPRM focuses on four conflict minerals: tin, tantalum, tungsten and gold.

[The Alliance for Responsible Mining](#)

The Alliance for Responsible Mining focuses on supporting artisanal and small-scale miners. They provide information about the effects of irresponsible mining and empower the industry to be part of the solution. The Alliance for Responsible Mining calls on the different mining corporations to ensure the protection of the environment, communities, and the people in addition to lobbying for laws and legislation that would ascertain the protection of the people and the environment.

Gold:

[No Dirty Gold](#)

No Dirty Gold, a project of [Earthworks](#), is an international campaign working to ensure that gold mining operations respect human rights and the environment. The No Dirty Gold campaign seeks to educate consumers, retailers, manufacturers about the impacts of irresponsible gold mining, and to enlist their support to persuade the mining industry to clean up its act. If you're a retailer, you can sign on to the [Golden Rules](#). Your customers can take the No Dirty Gold [pledge](#) and [follow](#) your work.

[Pure Earth](#)

Formerly known as the Blacksmith Institute, Pure Earth is a US-based, non-profit organization dedicated to reducing public health risks from toxic pollution in low- and middle-income countries. Since 1999, Pure Earth has conducted more than 90 projects around the world to remediate contaminated sites and reduce public exposures to chemicals and heavy metals. Many of Pure Earth's projects are designed to identify, assess and reduce public and occupational exposures to mercury contamination, especially in connection to gold mining. Much of the mercury released into the environment is the result of small-scale and artisanal gold mining. You can read about their work to eliminate mercury use in gold mining, remediate contaminated sites, and reduce health risks [here](#).



Organizations

Gold:

[Soledaridad Network](#)

Solidaridad's global gold program became a founding member of several new collaborative initiatives, such as the European Partnership for Responsible Minerals, which are expected to have a long-term global impact. At the same time, through new programmes in mining communities, Solidaridad is on track to double the size of its support to small-scale mining communities with a new focus on women's empowerment. Solidaridad also laid the groundwork for innovative models to scale up successes, in particular through working with social entrepreneurs and impact investors.

[Artisanal Gold Council](#)

The Artisanal Gold Council works directly with artisanal and small-scale gold mining communities (ASGM) and local experts to develop integrated and practical solutions that address the unique circumstances that exist in different locations around the world. They aim to improve the ASGM sector through awareness, training, education, and capacity building. They focus on the following strategic areas: Improved practices, Governance, Livelihoods, Health, Environment, Gender equality, Market access and development.

[World Gold Council](#)

The World Gold Council is a market development organization for the gold industry that provides information about responsible gold mining practices in addition to industry data, research. They created [Responsible Gold Mining Principles](#) to be a framework that sets out clear expectations for investors and downstream users as to what constitutes responsible gold mining.

Recycled metals:

[Harmony Recycled & Precious Metals](#)

Harmony is a company that offers recycled metals that have been independently certified by [SCS Global Services](#). They also provide useful [information and resources](#), which they refer to as a list of all things "green" in the jewelry industry. Links include recycled metal information, responsible mining initiatives, organizations, Canadian and recycled diamonds, gemstones, green jewelers, fair trade articles, news articles and more.



Organizations

Recycled metals cont'd:

[TerraCycle](#)

TerraCycle is an organization that facilitates collection of unrecyclable or hard to recycle waste and turning it into a variety of everyday products and materials. The TerraCycle jewelry line is made with non-virgin, third-party certified* recycled silver. Recycling silver reduces the environmental costs from the extraction and processing of precious metals. Third-party certification through Hoover & Strong Harmony Metals and Gems.

Diamonds:

[World Diamond Council](#)

The World Diamond Council represents the diamond industry in the development and implementation of systems to control the trade in diamonds embargoed by the United Nations or covered under the KPCS. The World Diamond Council System of Warranties Statement reads: "The Diamonds herein invoiced have been purchased from legitimate sources not involved in the funding of conflict and in conformance with United Nations resolutions. The seller hereby guarantees that these Diamonds are conflict free, based on personal knowledge and/or written guarantees provided by the Supplier of these Diamonds."



Suggested Reading

Industry-wide:

[“Along the Ugly Path to Beautiful Jewellery: Mining precious metals and stones can often have devastating human, environmental and political impact. What’s being done about it?”](#)

By Hettie Judah, Business of Fashion, July, 2014

[“Negative impacts of today’s metal mines”](#)

From the Earthworks Organization

[“Wwake’s Wing Yau Set the Trend for Opal Jewelry—5 Years Later, She’s Leading the Charge on Sustainable Mining”](#)

By Emily Farra, Vogue, May, 2018

[“Why Mercury-Free Gold Is the Future of Sustainable Jewelry”](#)

By Janelle Okwodu, Vogue, March, 2017

[“How I’m Livin’” Interview with Pamela Love](#)

By Alden Wicker, Ecocult, August, 2016

[How the jewellery industry is cleaning up its act”](#)

By Annachiara Biondi, Vogue Australia, April, 2018

[The Fair Jewelry Action blog](#)

Focuses on human rights and environmental justice within the jewelry sector. Here you will find interesting and informative reads.



JEWELRY TOOLS & RESOURCES

Suggested Reading

- Gold:
- [“This is Why Trees Come Down When the Gold Price Goes Up”](#)
By Rishi Iyengar, Time, January, 2015
 - [“The Environmental Disaster That is the Gold Industry”](#)
By Alastair Bland, Smithsonian, February, 2014,
 - [“Behind Gold’s Glitter: Torn Lands and Pointed Questions”](#)
By Jane Perlez and Kirk Johnson, The New York Times, June, 2010,
 - [“Mount Polley mine disaster: 3 years later concerns still remain”](#)
By Cherise Seucharan, CBC News, August, 2017
 - [“As a Gold Mine Prepares to Close, Montana Argues Over the Hole in the Ground”](#)
By Kirk Johnson, The New York Times July, 2005,
 - [“Threat of Mercury Poisoning Rises With Gold Mining Boom”](#)
By Shefa Siegel, Yale Environment 360, January, 2011
 - [“Gold Boom Spreading Mercury as 15 Million Miners Exposed”](#)
By Cam Simpson and Heather Walsh, Bloomberg, May, 2012,
- Gem & colored stones:
- [“The dangerous world of Pakistan’s gem trade: Inside the world’s oldest gem market in Pakistan, home to terrorist financiers & drug smugglers”](#)
by Adnan R. Khan, Maclean’s, May, 2014
 - [“Education key to ending child labor in Sri Lanka’s gem mines UCA 2013 article concerning child labor in Sri Lanka gem mining”](#)
By UCA New Reporters, UCA News, May, 2014
 - [“Secret Rocks: The \\$10 billion jewels industry is shrouded in beauty—and mystery. Is change about to come?”](#)
By Shibani Mahtani and Patrick Barta, The Wall Street Journal, May, 2013
 - [“How the shiny ‘agate’ stones & rosary beads are killing workers”](#)
By Jason Overdorf, Global Post via PRI, March, 2013
- Fair trade:
- [“Fair Trade Gold Q&A – From South America to Toronto”](#)
By Nat Rudarakanchana, International Business Times, April, 2014



ACCESSORIES & FOOTWEAR

Overview

Accessories and footwear should be approached in the same way as clothing. We've created this section mainly to share some resources specifically relevant for accessories and footwear designers.

You will find in-depth information in our [Materials Index](#) for the materials frequently used for accessories and footwear, including metal and leather, among others. When it comes to materials, the same thought process applies whether you're designing accessories, clothing, packaging, or any product. See our [Questions To Ask For All Materials](#).

You should utilize all Design Strategies when designing accessories and footwear, but we'd like to take note of two strategies in particular: Use Fewer Materials and Design for Disassembly. Many designers make the simple mistake of integrating circular materials without designing for disassembly. It's not uncommon to find upwards of 20 different materials in any one shoe, for example. Unless your product is 100 percent compostable or recyclable in a single material stream, you will need to make it easy to separate each material. Otherwise, even if part of the shoe is recyclable or compostable it will end up in a landfill.

Transparency would be a major achievement because the supply chain for materials frequently used in accessories and footwear is especially opaque. Simply knowing where everything comes from, all the way back to the source of raw materials, would be a really big deal and something you should be extremely proud of. Aim for complete transparency.



 TOOLS & RESOURCES

For all accessories

Tools that can be used for all footwear & accessories:

[The Kering Standards for Raw Materials](#)

This is an immensely helpful document that presents some good guidelines to follow. Resources include company standards, future goals, recommended certifications of traceability, preferred sourcing countries, recommended standards, and more.

Step To Sustainability

A truly incredible resource with in-depth information aimed at implementing sustainability in footwear but applicable beyond. Technically in pilot form, this program provides training resources on How to Implement Sustainable Manufacturing in Footwear, developed with the support of the Lifelong Learning Programme of the European Union. You can access their tools here and each of the units:

1. [Standardisation and Certification Systems](#)
2. [Sustainable Materials and Components for Footwear](#)
3. [Ecodesign and Product Engineering](#)
4. [Sustainable Manufacturing Technologies and Processes](#)
5. [Environment Regulations and Standards](#)
6. [Health and Safety at Work \(HSW\) in Footwear Industry](#)
7. [REACH and consumer safety – legislation for the footwear industry](#)
8. [Contractual, Social and Trade Legislation](#)
9. [Sustainable packaging for footwear](#)
10. [Supply Chain And Logistics In Footwear Management](#)
11. [Green Marketing](#)
12. [Corporate Social Responsibility Practices](#)

Suggested reading

[“An Inside View of How LVMH Makes Luxury More Sustainable”](#)

Harvard Business Review

[“Gucci Unveils A Centre Of Creativity, Craftsmanship & Sustainability: The new Gucci ArtLab is a futuristic centre of industrial craftsmanship and experimentation for leather goods and shoes.”](#)

Alice Casely-Hayford, Vogue UK, April 2018



 TOOLS & RESOURCES

For footwear

Tools:

[Better Shoes Foundation](#)

Footwear company Po-Zu created the Better Shoes Foundation to promote sustainable development and practices across the global shoe industry by providing an open-source platform where people can be inspired by the advances others are making. They've consolidated data including information, guidance and ideas from across the industry in a clear, concise guide. See their [Better Shoes Foundation Cheat Sheet](#).

[The Kering Standard for Leather Goods and Shoe Manufacturing](#)

(See p.90)

Examples:

[Kenneth Cole](#)

Read about the CFDA Kenneth Cole Footwear Innovation Award.

[Veja](#)

Veja purchases wild rubber, which has allowed us to preserve 120,000 hectares of the Amazon forest thus far.

[Nisolo](#)

Read fair trade company Nisolo's Impact Report.

Reports & studies:

[Centre for Sustainable Manufacturing and Reuse/recycling Technologies \(SMART\) Loughborough University](#)

A research program at Loughborough University focused on recycling footwear. In addition to developing recycling techniques, they publish papers, including:

- The Challenges in Achieving a Circular Economy within Leather Recycling (2016)
- An Air-Based Automated Material Recycling System for Postconsumer Footwear Products (2012)
- Development of an Economically Sustainable Recycling Process for the Footwear Sector (2010)
- Recycling of Footwear Products (2007)

[Labour on a Shoe String](#)

Change Your Shoes and the Clean Clothes Campaign

[Trampling Worker Rights Underfoot](#)

A Snapshot on the Human Rights Due Diligence Performance of 23 Companies in the Global Footwear Industry



TOOLS & RESOURCES

For handbags

Suggested reading:

[Kenneth Cole](#)

The CFDA Kenneth Cole Footwear Innovation Award

[The Kering Standard for Leather Goods and Shoe Manufacturing](#)

(See p.90)

[Brother Vellies](#)

Read CFDA + Lexus Fashion* Initiative 2015-2017 finalist Brother Vellies' Sustainability Story.

[Anti-deforestation Leather](#)

The Green Carpet Challenge, Gucci, Rainforest Alliance, and The National Wildlife Federation teamed up to create a line of luxury handbags made from anti-deforestation leather.

[Stella McCartney](#)

Stella McCartney bags made in Kenya support communities with the production of printed canvas bags.



TOOLS & RESOURCES

For eyewear

Examples:

*Unfortunately, there aren't really guides, standards, or resources dedicated specifically to sustainability in eyewear. But some eyewear designers are using innovation and more sustainable materials like bioplastics, recycled materials, and sustainably sourced wood.

Crafting Plastics

Crafting Plastics eyewear collection created from test samples of new biodegradable plastics.

Genusee

CFDA Elaine Gold Launch Pad 2017-2018 finalists, Ali Rose and Jack Burns of Genusee, are disrupting the linear eyewear market by employing a circular economy through the use of both a buy-back program and subscription/membership business model, and making eyewear out of recycled plastic.

Stella McCartney

The Stella McCartney eyewear collection is made using bio-acetate composed of over 50% natural sources. The product's formula combines cellulose, the most common organic compound on earth, and also renewable and biodegradable, together with natural plasticisers, which differ from DEP (Diethyl Phthalate), as they derive from citric acid, a natural substance obtained through a fermentation process.

Gucci

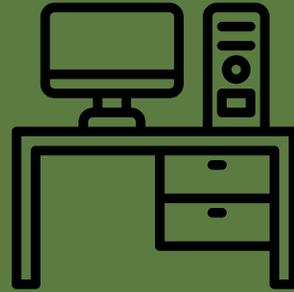
Gucci launched an innovative sunglasses model made in liquid wood.

Modo

Modo's ECO® biobased frames are made with 63% castor seeds.

Tophead

Tophead's incorporates eco friendly materials including wood, bamboo, bioplastic & recycled skateboard decks, free from plastic materials.



Sustainable Buildings & Offices



SUSTAINABLE BUILDINGS & OFFICES

Overview

When it comes to sustainability in buildings, the same environmental concerns apply whether it's your retail store, factory, warehouse, office, or any other facilities.

Unlike other business aspects where sustainability can seem more abstract and difficult to measure, implementing sustainability in buildings can be incredibly satisfying with results that are both easy to measure and save you money.

NOTE

Don't forget about people!

This section focuses on providing you with tools and resources to implement environmental sustainability. It should be used in congruence with tools found in the People section regarding employees, communities, and supply chain workers. Though some certifications listed here take human wellbeing into account - like the WELL or Living building standards.

For example, the WELL Building Standard includes key criteria like fitness, comfort, and mind in addition to things more typically measured in regards to sustainability (for example air and water). Factors like health and wellness awareness, healthy sleep policies, workplace family support, biophilia (the idea that humans have an affinity towards the natural world), ergonomics, noise, thermal comfort, and beauty.



WORLD GREEN BUILDING COUNCIL

The benefits of green buildings

The world over, evidence is growing that green buildings bring multiple benefits. They provide some of the most effective means to achieving a range of global goals, such as addressing climate change, creating sustainable and thriving communities, and driving economic growth.

Highlighting these benefits, and facilitating a growing evidence base for proving them, is at the heart of what we do as an organisation.

The benefits of green buildings can be grouped within three categories: environmental, economic and social. Here, we provide a range of facts and statistics from various third-party sources that present these benefits.



Environmental

One of the most important types of benefits green buildings offer is to our climate and the natural environment.

Green buildings can not only reduce or eliminate negative impacts on the environment by using less water, energy or natural resources, but they can, in many cases, have a positive impact on the environment (at the building or city scales) by generating their own energy or increasing biodiversity.

At the Global Level

- The building sector has the largest potential for significantly reducing greenhouse gas emissions compared to other major emitting sectors – [UNEP, 2009](#).
 - This emissions savings potential is said to be as much as 84 gigatonnes of CO₂ (GtCO₂) by 2050, through direct measures in buildings such as energy efficiency, fuel switching and the use of renewable energy – [UNEP, 2016](#).
 - The building sector has the potential to make energy savings of 50 percent or more in 2050, in support of limiting global temperature rises to 2°C (above pre-industrial levels) – [UNEP, 2016](#).
- Green buildings achieving the Green Star certification in South Africa have been shown to save on average between 30 - 40 percent energy and carbon emissions every year, and between 20 - 30 percent potable water every year, when compared to the industry norm.
 - Green buildings achieving the LEED certification in the US and other countries [have been shown](#) to consume 25 per cent less energy and 11 per cent less water, than non-green buildings.

At a Building Level

- Green buildings achieving the Green Star certification in Australia [have been shown](#) to produce 62 percent fewer greenhouse gas emissions than average Australian buildings, and 51 percent less potable water than if they had been built to meet minimum industry requirements.
- Green buildings certified by the Indian Green Building Council (IGBC) results in energy savings of 40 - 50% and water savings of 20 - 30% compared to conventional buildings in India.



Economic

Green buildings offer a number of economic or financial benefits, which are relevant to a range of different people or groups or people.

These include cost savings on utility bills for tenants or households (through energy and water efficiency); lower construction costs and higher property value for building developers; increased occupancy rates or operating costs for building owners; and job creation. Since the publication of WorldGBC's groundbreaking 2013 report, [The Business Case for Green Building](#), we have sought to strengthen the link between green buildings and the economic benefits they can offer.

At the global level

- Global energy efficiency measures could save an estimated €280 to €410 billion in savings on energy spending (and the equivalent to almost double the annual electricity consumption of the United States) [European Commission, 2015](#).

At a country level

- Canada's green building industry generated \$23.45 billion in GDP and represented nearly 300,000 full-time jobs in 2014 – [Canada Green Building Council / The Delphi Group, 2016](#).
- Green building is projected to account for more than 3.3 million U.S. jobs by 2018 – [US Green Building Council / Booz Allen Hamilton, 2015](#).

At a building level

- Building owners report that green buildings - whether new or renovated - command a 7 per cent increase in asset value over traditional buildings – [Dodge Data & Analytics, 2016](#).
- Green building is projected to account for more than 3.3 million U.S. jobs by 2018 – [US Green Building Council / Booz Allen Hamilton, 2015](#).



Social

Green Green building benefits go beyond economics and the environment, and have been shown to bring positive social impacts too. Many of these benefits are around the health and wellbeing of people who work in green offices or live in green homes.

- Workers in green, well-ventilated offices record a 101 per cent increase in cognitive scores (brain function) - [Harvard T.H. Chan School of Public Health / Syracuse University Center of Excellence / SUNY Upstate Medical School, 2015.](#)
- Employees in offices with windows slept an average of 46 minutes more per night - [American Academy of Sleep Medicine, 2013.](#)
- Research suggests that better indoor air quality (low concentrations of CO2 and pollutants, and high ventilation rates) can lead to improvements in performance of up to 8 per cent - Park and Yoon, 2011.

Our [Better Places for People](#) project focuses on creating buildings which are not only good for the environment, but also support healthier, happier and more productive lives.

WorldGBC and the Green Building Council of South Africa established a joint project to develop a framework to enable complex socio-economic issues to be integrated into any green building rating system in the world.



Retail opportunities

Retail offers a unique opportunity as sustainability efforts come face-to-face with consumers in the retail space. They can see your action (or non-action) and quickly learn about the efforts your company is making. This also applies to e-commerce and packaging. There are multiple areas to consider when looking at retail operations:

Communicate to Consumers

Consider your retail presence great opportunity to put your values out there and share them with consumers. Whether it's your flagship store or you're one of many brands sold by a separate vendor, use your creativity to tell your story. See [Communication & Marketing Strategies](#) for more ideas.

Community

What impact do the retail operations have on the community? Do you have public spaces? Do you hold public events? We recognize this is not appropriate or useful for all brands, but having a presence in the local communities around your stores is a great place to start.

Displays

In-store signage and displays (including window displays) can all impact overall sustainability. Do your signs, posters, and other displays get thrown out when you are done with them? Consider alternative ways of reusing them. Could they be shred for packaging? Donated to local schools or creative reuse stores for art projects? Donated to prop houses or other retail rental companies?

Packaging

See the [Packaging](#) section of this guide.

WORKSHEET

Sustainable buildings & offices

1. Use less water

Use Low-Water Appliances

- This includes things like low flow toilets, washing machines, dishwashers, faucets, and any other water-using appliance. (The ENERGY STAR® seal means you're buying an appliance that uses 10-50% less energy and water. Check out the [Energy Star website](#) to see what gets the seal of approval.)

Make Sure Plants and Gardens are Low-Water

Make Sure the Water Leaving Your Facility is Clean

- Make sure whatever water leaves your facility is not harmful to people or the environment, and does not put undue stress on stormwater and drainage infrastructure.

Can You Filter and Recycle Your Own Water?

- This is most relevant to factories and wet-processing facilities that tend to use large volumes of water.

2. Use less energy

Turn off the Lights and Use Natural Light

- You'll save money on energy and maybe even feel better – exposure to natural light at work has been linked to better sleep, more physical activity and even a better mood.

Turn Everything Off When You're Not Using It

- Shut down computers and turn off all lights, printers, copiers, electric heaters, ac, and any other office electronics.

- Using smart power strips can stop the drain and save you money. Power strips also make it easy because you could shut everything off with one switch.

Make Sure You're Using Low-Energy Use Electronics

- Switch to LED light bulbs. In addition to reducing your monthly electric bill by up to 75%, they last 25 times as long as traditional incandescent bulbs and don't contain any potentially harmful toxins like mercury, according to GreenNYC.
- The ENERGY STAR® seal means you're buying an appliance that uses 10-50% less energy and water. Check out the [Energy Star website](#) to see what gets the seal of approval.

3. Use better energy

Use Renewable and Low-Carbon Energy

- Install solar energy.
- Talk to your utility company. Many offer businesses the option to use more renewable energy out of the mix of energy that they purchase.

Measure Your Carbon Footprint!

- You can use an existing carbon calculator, or make your own! Here are a few free ones: [Carbon Fund's Business Carbon Calculator](#), [California Small Business Carbon Calculator](#). Measure your personal carbon footprint with this [WWF Calculator](#)
- DO AN ENERGY AUDIT!
 - Talk to your city to see if they'll do this for free.

WORKSHEET

Sustainable buildings & offices cont'd

4. Don't use toxic chemicals

Use non-toxic cleaning products:

- A great resource to learn more about which products are safe and non-toxic is the Environmental Working Group (EWG).
 - For cleaning products, see their [Guide to Healthy Cleaning](#).
 - For personal care products (like hand soap), see their [Skin Deep Database](#).

5. Reduce waste

The Goal = Zero Waste!

- Ideally, whatever (minimal) waste you make would be recyclable or biodegradable.

Use Less Paper - Or Go Paperless!

- Use digital tools to share files.
- When you have to use paper, make sure to copy and print on both sides. You can also stock your office with recycled and chlorine-free paper.
- Recycle paper in recycling bins, scrap paper, shred it for packing material, or even compost it (learn more about composting to see which papers apply).

Use and Wash Real Dishes, Silverware and Water Bottles

- The environmental impact of making, re-using and washing is far less than disposable plates, utensils, water bottles, etc. Remember to only run the dishwasher when it's full and choose the air-dry setting or open the door after the final rinse.

- Encourage your employees to use reusable coffee mugs, water bottles, takeout containers, and bags in general. Perhaps you'll even provide them with these items and tell them how to use them?

Drink Tap Water

- Avoid single-use plastic bottles. Consider an office water filter.
- You can learn about the quality of your tap water [here](#).

Compost

- Some stuff shouldn't go to landfills – food scraps, napkins, grass clippings, leaves and many other items can be composted. (If all New Yorkers composted, they'd cut down on waste by 31%!)
 - Learn how to compost in [NYC](#) and [LA](#).

6. Have indoor plants

Plants Make Offices Healthier and More Enjoyable

- They can absorb indoor pollution and increasing the flow of oxygen.

7. Shop local

- Benefits including reduced environmental impact, job creation, better service, and community benefit, among other things. We've listed them in the [People](#) section.
- You can read more about it and create a Local Purchasing Policy with this [B Lab Resource Guide](#).

WORKSHEET

Sustainable buildings & offices cont'd

8. Reduce impact from travel

Prioritize public transportation

- Take the train, bus, or subway instead of renting a car for business travel. Recommend employees do the same for their commute, in addition to carpooling and bike options.

If You Can, Choose Train or Bus over Airplane

- Air travel is a major source of human-induced climate change – traveling by train or bus produces 85% less pollution than a plane flight.

Use Technology

- Encourage your office to invest in videoconferencing and other technological solutions that can reduce employee travel.

9. Measure & Track Your Improvement

Measure, Track and Work on Improving the Above Areas

- Start with specific goals for your workplace sustainability initiatives and work to continually improve.

10. Get Your Entire Company Involved!

To achieve meaningful change, employee engagement makes a big difference so consider building a “green” team and providing training (and budget) for sustainability initiatives.



City & government programs

City programs for New York City and Los Angeles:

[LA Green Business Program](#)

The City of Los Angeles Green Business Program (LAGBP) has two simple goals: to provide resources that help businesses become greener and more sustainable in everything they do, and to receive recognition for their achievements with an official certification. This free and voluntary assistance program, launched in 2014, is aimed at increasing energy and water efficiency, generating cost-savings, reducing waste, and creating a healthier environment for Angelenos.

[GreeNYC](#)

GreeNYC is dedicated to educating, engaging and mobilizing New Yorkers to help New York City meet its ambitious sustainability goals of generating zero waste and reducing greenhouse gas emissions 80 percent by the year 2050. GreeNYC helps New Yorkers take easy actions with big impacts – both for themselves and for the city as a whole. The message: by reducing energy use, eliminating waste and choosing a more sustainable lifestyle, New Yorkers will make their lives better for themselves and their families, save money AND make NYC the most sustainable big city in the world! (This is part of the larger initiative NYC Built to Last, you can read an in-depth report about the program [here](#).)



TOOLS & RESOURCES

Tools

These organizations provide thorough resources and tools to make buildings more sustainable:

ENERGY STAR Resources

ENERGY STAR provides tons of great tools and suggestions to improve sustainability in buildings, including:

- [Low- and no-cost energy-efficiency measures](#)
- [Invest in energy-efficiency measures that have a rapid payback](#) - A list of ideas to get started with saving energy that often have a rapid payback. Complete these before you invest in capital equipment to make sure you install only the equipment you need. The best part? These upgrades continue to save you money long after the initial project cost is paid off.
- [Locate energy programs in your area](#) - find local energy efficiency programs that have partnered with ENERGY STAR in your state using the Directory of Energy Efficiency Programs.

U.S. Environmental Protection Agency (EPA)

The EPA provides tools to help you learn and understand the issues, as well as help you reduce your environmental footprint. Visit the [EPA Greener Living website](#) to learn more. Examples include:

- [Environmental Management System \(EMS\)](#) - An EMS is a set of processes and practices that enable an organization to reduce its environmental impacts and increase its operating efficiency. This page provides information and resources related to EMS for small businesses and private industry, as well as local, state and federal agencies.
- [WasteWise](#) - EPA's WasteWise encourages organizations and businesses to achieve sustainability in their practices and reduce select industrial wastes.
- [Watersense](#) - WaterSense provides facility managers, building owners, and other stakeholders with a variety of resources and initiatives to help them save water, energy, and operating costs.

WHOLE BUILDING DESIGN GUIDE® (WBDG)

A web-based portal providing access to up-to-date information on a wide range of building-related guidance, criteria and technology from a 'whole buildings' perspective. Development of the WBDG is a collaborative effort among federal agencies (from the US Department of Defense to NASA), private sector companies, non-profit organizations and educational institutions.

World Green Building Council

A global network of Green Building Councils which works to transform the places we live, work, play, heal and learn. They provide a lot of great resources on their website.



Standards & certifications

Green building & facilities certifications:

BREEAM

BREEAM is a leading sustainability assessment method for master planning projects, infrastructure and buildings. It recognizes and reflects the value in higher performing assets across the built environment lifecycle, from new construction to in-use and refurbishment.

Green Globes®

Overseen by the Green Building Initiative® (GBI), The Green Globes® certification program provides customized guidance in the design, construction and operation of high-performance interiors and buildings. Buildings are rated on a 1,000 point scale spread across seven categories: Energy, Indoor Environment, Site, Water, Resources, Emissions, and Project/Environmental Management. Users can indicate that certain credits may not be applicable to a project, a feature unique to Green Globes.

Leadership in Energy and Environmental Design (LEED)

Developed by the U.S. Green Building Council (USGBC), LEED is available for virtually all building, community and home project types. LEED provides a framework to create healthy, highly efficient and cost-saving green buildings.

The Living Building Challenge

The Living Building Challenge is a green building certification program and sustainable design framework that visualizes the ideal for the built environment. The idea is that Living Buildings give more than they take, creating a positive impact on the human and natural systems that interact with them. With the Living Building Challenge, you can create buildings that are:

- Regenerative spaces that connect occupants to light, air, food, nature, and community.
- Self-sufficient and remain within the resource limits of their site. Living Buildings produce more energy than they use and collect and treat all water on site.
- Healthy and beautiful.



Standards & certifications

Green building & facilities
certifications cont'd:

[TRUE Zero Waste](#)

The TRUE Zero Waste certification system enables facilities to define, pursue and achieve their zero waste goals, cutting their carbon footprint and supporting public health. TRUE is a whole systems approach aimed at changing how materials flow through society, resulting in no waste. TRUE encourages the redesign of resource life cycles so that all products are reused and promotes processes that consider the entire lifecycle of products used within a facility.

[ENERGY STAR certification for your building](#)

Did you know that your building can earn ENERGY STAR certification just like a refrigerator or light bulb? To be certified as ENERGY STAR, a building must meet strict energy performance standards set by EPA. Specifically, to be eligible for ENERGY STAR certification, a building must earn an ENERGY STAR score of 75 or higher, indicating that it performs better than at least 75 percent of similar buildings nationwide. Through Portfolio Manager, EPA delivers 1 - 100 ENERGY STAR scores for many types of buildings. The ENERGY STAR score accounts for differences in operating conditions, regional weather data, and other important considerations. Learn more about how the [1 - 100 ENERGY STAR](#) score is calculated.

[SITES](#)

Administered by Green Business Certification Inc. (GBCI), SITES offers a comprehensive rating system designed to distinguish sustainable landscapes, measure their performance and elevate their value. SITES certification is for development projects located on sites with or without buildings—ranging from national parks to corporate campuses, streetscapes to homes, and more.

[WELL Building Standard](#)

The WELL Building Standard explores how design, operations and behaviors within the places where we live, work, learn and play can be optimized to advance human health and well-being. It is a performance-based system for measuring, certifying, and monitoring features of the built environment by looking at seven factors including air, water, nourishment, light, fitness, comfort, and mind.

Standards for apparel
manufacturing facilities:

See the [Materials Processing & Manufacturing](#) section of this guide for standards specific to apparel manufacturing facilities.

EXAMPLE

Eileen Fisher

As stated on the [Eileen Fisher website](#), where you can read all about the green initiatives at their headquarters, stores and New Jersey distribution center.

Our Headquarters: Sunlight in Irvington

Built at the edge of the Hudson River, our award-winning corporate headquarters in Irvington, New York, blurs the lines between architecture and nature. The soaring, skylight-lit space offers employees sweeping river views; the loft-like plan is punctuated by glassed-in meeting areas, gathering spots furnished with sofas and a spacious cafe for eating.

“For most of us, breathing fresh air or sitting by the water or being in a sunlit room is relaxing,” says Shona Quinn, EILEEN FISHER Sustainability Leader. “Eileen had these values in mind when we renovated our offices.” From 1912 to 1988, the brick structure was home to Lord & Burnham, a greenhouse manufacturer whose notable projects included the glass conservatory at the New York Botanical Garden. In 1992 EILEEN FISHER took up tenancy; in 2007 we asked architect Earl Everett Ferguson to help us expand and transform the space. The project, along with our Creative Center at 111 Fifth Avenue in New York City, won a Good Design Is Good Business Award from Architectural Record in 2011. The renovation took a holistic look at not just energy efficiency but the ways in which design fosters creativity, collaboration and community. By choosing an open plan, lighting costs were reduced and employee satisfaction increased— river views could be accessed by everyone.

For privacy, glass-walled conference rooms were situated in the middle of the workspace and along the non-window sides of the building. Multiple kitchens, stocked with china and silverware, encourage employees to prepare healthy food. They can eat at the indoor cafe or gather at picnic tables at the river’s edge.

What no one anticipated, of course, was Hurricane Sandy. Even though our headquarters are located 20 miles north of the mouth of the Hudson River, rising sea levels caused the Hudson River to rise four feet and flood our headquarters. Muddied and waterlogged, we launched a second renovation. Now, even on calm sunny days, we have new respect for the strength of the river—and the urgency of addressing climate change.

Design with Nature in Mind

Energy

- Natural light and open floor plan saves energy
- CFLs, halogen bulbs and automatic light sensors
- 29 internal climate zones, efficient HVA

Materials

- Reclaimed wood floors, natural fibers, recycled rugs
- Sustainable maple veneer on desks with recycled wood
- Locally sourced materials and labor
- Low-flow bathroom fixtures

Air Quality

- Paints, stains and sealants: low/no VOCs
- Green Guard certified filing cabinets
- Contained spaces for copy machines

Location

- Close to train/ restaurants, limiting need for car travel

Cultural Connection

- Open spaces promote collaborative work
- Kitchens with china/ silverware eliminate waste
- Informal gathering spaces with living room-like furnishing
- Loft-like space for eating; outdoor picnic tables at the water’s edge
- Quiet Room, Yoga Room, Lactation Room

EXAMPLE

Ikea

From the [IKEA 2017 Sustainability Report](#)

“Environmental performance is important, but sustainability is about more than just the building. We want all of our stores and shopping centres to contribute to healthy and sustainable living, and promote fairness and inclusiveness for the people working there, visitors, and the communities around them. Our approach is underpinned by the IKEA Group Sustainable Store guidelines which we update to reflect new learnings and best practice from each new store we build.”

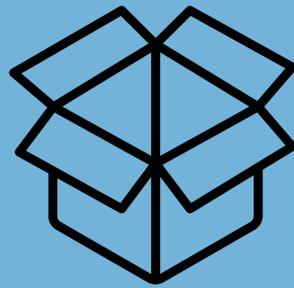
Key factors that IKEA mentions:

Energy and Resources

- Natural light: Large windows and skylights feed the store with daylight, creating a pleasant and enjoyable shopping experience.
- Building certification- BREEAM Excellent (LEED in the US)
- Natural light- Large windows and skylights feed the store with daylight, creating a pleasant and enjoyable shopping experience.
- Lighting- Motion and daylight sensors control the lighting, which is all LED.
- Heating and cooling- Heat pumps, solar thermal collectors and a combined heat and power plant that uses biogas to heat and cool the store.
- Renewable energy- Solar photovoltaic panels (or purchasing renewable energy from the local utility when possible)
- Water Collected rainwater provides enough water to flush the toilets in the store.
- Building materials All building materials selected for their low impact and recyclability, and to create a pleasant indoor environment.
- Accessibility Shuttle bus connects the store to

surrounding areas, and the site links seamlessly into the cycle network.

- Transport Six electric vehicle charging stations powered by 100 percent renewable electricity.
- Recycling Customers can recycle a range of household items at the recycling hub.
- Better air quality The use of heat pumps reduces emissions from the store.



Packaging



PACKAGING

Overview

This section refers to all materials used for packaging and labeling along a product's entire lifecycle. It includes shipping packaging, storage packaging, hang tags, hangers, garment bags and basically anything that protects, holds or travels with your product.

Packaging, which is largely single-use, contributes to massive amounts of pollution across our globe. This pollution can be visible, like the plastic that washes up on ocean shores. However, it is often invisible, for example airborne microplastics. Most packaging does not get recycled even if it is technically recyclable. This can cause detrimental impact, not only in its disposal but also in its production and the extraction of natural resources used to make it.

The best first step is to reduce your packaging. Simply use less material and make it more compact. One great thing about using less packaging is that it usually means spending less money on packaging materials and shipping, which can equal HUGE savings.

Packaging materials should be thought of like any other material you are using. Refer to the [Questions To Ask For All Materials](#) worksheet in the materials section of this guide. Common materials used for packaging include plastic, paper, and adhesives, among others. There are some new and exciting packaging materials, like biodegradable bioplastic, but these are not always necessarily better as we mention in the materials section of this guide. As always, it is important to exercise due diligence when choosing the most sustainable option. This section aims to provide you with examples, resources, and information to help you do that.

Your customers are essential to your success. It is pointless to use packaging that is recyclable, reusable, or compostable if your customers don't know how to do it. It is your job to educate them about sustainability and what they need to do to play their part. See the [Communication & Marketing Strategies](#) section of this guide to learn more about communicating sustainability to your customers.

WORKSHEET

Make packaging more sustainable

The following are steps you can take for more sustainable packaging:

Use less packaging

- Optimize packaging design: Speak with suppliers about how you can use less.
- Consider alternative types of packaging: Do you need a box? Could the garment be shipped in a pouch or bag?
- Design products to require less packaging: For example, the more compact and light-weight, the less packaging required. Design efforts here can yield huge cost savings!

Use recycled, recyclable, renewable, and biodegradable materials

- Use packing made of recycled materials
- Consider new, innovative materials: For example, look at traditional petroleum resins vs bio-based recyclable resins vs compostable resins.

Know where raw materials come from

- Understand where your packing suppliers get their materials: Refer to the [Questions to ask for all materials Worksheet](#) of this guide.
- Consider sourcing and supply chain certifications: Examples include: SFI, FSC, PEFC

Create a Packaging Restricted Substance List (PRSL)

- Create an official list of substances you do not want used in your packaging and publish it publicly.
- Work together with your suppliers to ensure no restricted substances are being used.

Use Retail-Ready Packaging

- Where appropriate, use packing from the factory that is retail-ready from early on to avoid excess packaging.

MARA HOFFMAN

“In 2016, we began shipping all swimwear in compostable plastic poly bags, sourced through TIPA. Trade regulations require that every item be packed in a bag, but choosing to use compostable bags instead of conventional plastic minimizes the negative impacts associated with using standard plastic. *Our poly bags will decompose in a landfill much faster than standard plastic, and can be added to a home or industrial compost, where they’ll decompose within a matter of months...* Our hang tags are made from 80% recycled paper and printed with soy-based inks. Even the hang tag strings, along with all garment sew-in labels, are made of 100% organic cotton.”



TOOLS & RESOURCES

Examples

A few examples of how brands are taking different approaches to sustainable packaging:

[Patagonia](#)

Patagonia talks about why they use plastic and shares a study on the challenges of garment delivery.

[Walmart](#)

Read the article “Walmart Unveils New Sustainable Packaging Priorities to Complement Zero-Waste Goal” from sustainable brands.

[REI](#)

See REI’s Sustainable Packaging Guidelines.

[Sustainable Pack Design](#)

This website is the product of a collaborative effort between several organizations engaged with the packaging industry.

[Rent the Runway](#)

Worked with Washington & Perry to design a reusable garment bag shipper, basically converting three pieces of packaging (plastic mailing bags, cardboard boxes and vinyl garment bags). The heavy fabric bags can be used over and over again, only the label has to be reprinted.

[Allbirds](#)

Shoe company Allbirds worked with packaging company Lumi to design a shoe box that can be shipped with no additional packaging. Also see their creative “[Scrap the Wrap](#)” alternatives for gift wrapping.

[People Tree](#)

People Tree explains why they use plastic packaging.



TOOLS & RESOURCES

Tools

Sustainable packaging tools:

[Sustainable Packaging Guidelines \(SPGs\)](#)

This is a useful set of guidelines and templates from the Australian Packaging Covenant.

[Packaging for People, Planet & Profit Sustainability Checklist](#)

This guideline may have been created for the food industry, but it's totally applicable to ours as well.

[AFRIM'S Packaging Restricted Substances List](#)

This is a great resource when it comes to making your own RSL for packaging.



Suggested reading

On sustainable packaging:

[“What Is Sustainable Packaging?”](#)

Katherine O’Dea, *Sustainable Brands*

[“How fashion and beauty people really feel about packaging waste: We asked influencers, editors, PR pros, stylists and more for their take”](#)

Whitney Bauck, *Fashionista*, March, 2018

[“Better bags: fashion wakes up to eco-friendly packaging”](#)

Emily Sutherland, *Drapers*, July, 2018

[“Research calls for plastic hanger retail reform”](#)

David Styles, *EcoTextile News*, August, 2018

[“How to Make Your Packaging More Sustainable” Video](#)

A video from *Lumi Packaging*

[“Density Matters: Sustainable Package Design”](#)

Trending Packaging, January, 2017

On bioplastics:

[“Corn Plastic to the Rescue: Wal-Mart and others are going green with “biodegradable” packaging made from corn. But is this really the answer to America’s throwaway culture?”](#)

Elizabeth Royte, *Smithsonian Magazine*, August, 2016

[“The Environmental Impact of Corn-Based Plastics”](#)

Laura McInnes, *Scientific America*



Standards & certifications

ASTM

ASTM certification establishes standards for identifying plastic products and materials that will compost satisfactorily in municipal and industrial aerobic composting facilities. Formerly known as The American Society of Testing and Materials, ASTM International is a globally recognized leader in the development and delivery of international voluntary consensus standards.

Biodegradable Products Institute (BPI)

The Biodegradable Products Institute is a non-profit, multi-stakeholder association of key individuals and groups from government, industry and academia, which promotes the use and recovery of compostable materials through municipal composting.

CONEG

The Coalition of Northeastern Governors (CONEG) has drafted model toxics legislation aimed at banning the intentional use of lead, mercury, cadmium and hexavalent chromium in packaging and packaging inks.

Cradle to Cradle

A Cradle to Cradle process transforms traditional “take, make and waste” manufacturing systems into creators of goods and services that generate ecological, social and economic value. The process transcends traditional and irresponsible business practices where raw materials are extracted from the earth and ultimately discarded in landfills.

DEBIO

DEBIO is a Norway-based certifier of organic forestry standards, in accordance with the general principles and criteria of the International Federation of Organic Agriculture Movements (IFOAM). DEBIO sustainability standards include extensive and comprehensive regulations for organic forestry (including plantation forestry) and wild harvesting of non-wood products.

Forest Stewardship Council (FSC)

The Forest Stewardship Council is an independent, non-governmental, not-for-profit organization established to promote the responsible management of the world's forests. FSC certification is a voluntary, market-based tool that supports responsible forest management worldwide. FSC-certified forest products are verified from the forest of origin through the supply chain. The FSC label ensures that the forest products used are from responsibly harvested and verified sources, and come from well-managed forests in accordance with environmentally and socially responsible guidelines, as elaborated by the FSC Principles and Criteria.

Scientific Certification Systems (SCS)

SCS verifies and certifies manufacturing and marketing claims related to the environment, sustainability, stewardship, food quality, food safety and food purity. They have developed internationally recognized standards and certification programs in pursuit of the highest level of environmental performance and social accountability. SCS assessments lead to the recognition of accomplishments in greenhouse gas inventories and offsets, agricultural production, food processing and handling, forestry, fisheries, flowers and plants, energy, green building, product manufacturing and corporate social responsibility.

Sustainable Forestry Initiative (SFI)

A forest certification standard that is internationally recognized and accepted. Their criteria are based on principles that promote sustainable forest management, including measures to protect water quality, biodiversity, wildlife habitat, species at risk, and Forests with Exceptional Conservation Value. SFI chain-of-custody certification is an accounting system that tracks fiber content through production and manufacturing to the end product. And fiber sourcing certification addresses the fact that all forest landowners play a critical role in the long-term health and sustainability of forest – and that 90 percent of the world's forests are not certified.



TOOLS & RESOURCES

Sourcing resources

Here are some suppliers working on more sustainable packaging:

*If you already have a packing designer and supplier, ask them about sustainable options. Many packaging companies already offer more sustainable alternatives or can work with you to find custom solutions.

[TIPA Sustainable Packaging](#)

Corn-based packaging that is compostable in home compost. Clients include Mara Hoffman & Recover.

[RePack](#)

A reusable and returnable packaging service. Their reusable packages are made of recycled materials and are made to last at least 20 cycles. Returning an empty RePack is free of charge, anywhere in the world. Clients include Flippa K and MUD Jeans.

[Earthpack](#)

A recycled packaging company that supplies fashion-forward bags and boxes to eco-conscious retailers across the country. Clients include Vans, Stussy, TOMS, Patagonia, and Volcom.

[EcoEnclose](#)

A company focused on recycled and recyclable packaging, working to be an “ecologically net positive” company by 2030.

[DUO](#)

Duo produces mailing bags using Green PE, a thermoplastic sustainable resin made from sugar cane, a renewable material that’s also 100% recyclable.

[Normn](#)

Paper based hangers that are 100 percent recycled and recyclable. Compact and stackable, they are up to three times more space efficient than regular hangers. Clients include Topshop, Puma, and Reformation.

[Braiform](#)

A biodegradable paper-based alternative to bubble wrap and styrofoam peanuts that is Garment hangers and packaging solutions. Instead of just making hangers, they reuse them, reducing the pollution generated from manufacturing by 70 percent. Their hangers are designed to go through the cycle many times and still appear in top condition in-store. They are then recycled back in virgin production of new garment hangers.



Sourcing resources, cont'd

More sustainable packaging:

[Ditto Sustainable Brand Solutions](#)

Paper-based marketing and display tools for conscientious retailers. Their signature paper hangers and their Garments on Ditto program aims to make shipping on hangers far more efficient and replace the billions of one-use, virgin plastic hangers now going into landfills every year to renewable and compostable ones. Clients include Gap, REI.

[Viupax™](#)

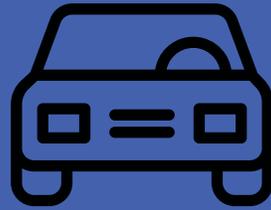
Footwear packaging that uses up to 50 percent less cardboard and occupies up to 57 percent less volume than traditional shoe boxes. Their design reduces packaging production and shipping costs, and can be transformed into a paper bag, reducing the costs even further.

[Ecolife](#)

Biodegradable and compostable garment and apparel bags. Engineered to provide high level of protection for garments, with ultraviolet protection, breathable, and without any heavy metals or toxic material.

REFORMATION

“Typical hangers are made of plastic or metal and have the lifespan of only 3 months. *We use recycled paper hangers to lessen the demand for new materials and to keep junk from landfills.* Americans toss 102 billion plastic bags a year. We opt for reusable totes because they lighten the load. Plus they’re way cuter...Our packaging is plastic-free and made from 100% recycled paper products or compostable bio-based films. Plus our tape and hangers use bio-based, non-toxic adhesives. Our garment bags are made from 30% recycled plastic and always get reused. It’s the best we could find, but we want it to be better.”



Transportation & Logistics



TRANSPORTATION & LOGISTICS

Overview

Transportation and logistics include the movement of goods and people. Whether it's a raw material moving to a production facility, a product shipped to your customer, or your employees' commute, transportation can have a significant impact on people and the environment. Improving the social and environmental impact of your transportation and logistics is a great place to start your sustainability journey.

Transportation optimization can have a huge positive effect on the local areas where your goods are produced in terms of reducing greenhouse gas emissions, congestion, and noise pollution while improving local air quality. Optimizing transportation for sustainability usually means increased efficiency in business operations, which can also save your company a lot of money.

In today's complex global fashion supply chain, products and their components are usually transported many times using multiple forms of transportation. In 2015, the U.S. logistics industry moved more than 49.5 million tons of goods worth nearly \$52.7 billion every day, which is more than 56 tons of freight per person per year, according to the [EPA](#). Projections are that by 2025, as international commerce increases and supply chains become more global and complex, shipments of U.S. goods will grow another 23.5 percent, and by 2040, a total of 45 percent.

Pollution emitted from transportation contributes to smog and to poor air quality, which has negative impacts on the health and welfare of people around the world. For example in the U.S., the transportation sector is responsible for:

- Over 50 percent of nitrogen oxides (NOx) total emissions inventory
- Over 30 percent of volatile organic compounds (VOCs) emissions
- Over 20 percent of particulate matter (PM) emissions

Within transportation, heavy-duty trucks are the fastest-growing contributor to emissions.

US EPA SMARTWAY® PARTNERSHIP

“There are many important reasons for establishing a green freight program. *The freight industry has far-reaching and complex environmental, social, and economic impacts that accrue at the local level but have global consequences.* While the freight industry provides a critical service to the world’s growing population, it nonetheless accounts for a significant portion of the total emissions of black carbon, greenhouse gases, and other pollutants from the transport sector. In certain regions of the world, the freight sector’s contribution of GHG emissions can be inordinately high. In India, only 5 percent of vehicles are trucks, yet they consume 46 percent of transport fuel and generate 63 percent of carbon dioxide (CO₂) and 59 percent of particulate matter emissions (which includes black carbon).”

WORKSHEET

Make your transportation & logistics more sustainable

Understand, track and measure how your goods are transported

Understand

- The first step is simply to understand how your goods are transported during every step of the supply chain, from raw material through all stages of production, distributors, retail, user, and landfill/incinerator/recycling facility.
- Things to think about include: emissions, natural resource utilization, waste and recycling, efficiency, impact on people (at all levels) in terms of health and safety

Measure

- Once you understand the big picture, start to track, measure and reduce your environmental impact. Only with good information can one make effective decisions about what to produce and how much, where to locate inventory and how best to transport it.

Engage

- Share any relevant data and engage with vendors to apply best practices, reduce impact, improve utilization, and optimize routes.
- Implement an internal or “shadow” price on carbon high enough to materially affect investment decisions.

Use renewable energy and reduce your carbon footprint

Calculate your carbon footprint

- This can be initially be done using basic calculators that carbon offset companies provide . For more accurate and more complex calculations, options are listed in the tools section below.

Consider carbon offsets

- Reducing your carbon footprint should be your priority. But until you're completely neutral or actually improving air quality, consider purchasing carbon offsets. You should do due diligence to make sure your're buying from companies that are transparent (and ideally third party certified).
- Consider planting trees!

Choose the mode of transportation with the lowest impact

There are many modes of transportation to choose from, including rail, road, air, and water. Which mode is the most sustainable depends on your specific product and company, each has its advantages and disadvantages.

- Shipments by land and sea have significantly smaller carbon footprints than air shipments. Air shipments are most common in the final leg of transportation, from retail to consumer, so incentives can be provided to consumers for selecting slower shipping.
- For land transportation, trains and more efficient trucks are preferable.

WORKSHEET

Make your transportation & logistics more sustainable cont'd

Minimize transportation distance

Reduce the distance materials need to travel between production facilities, distribution centers, retail, and beyond

- Slower modes of transportation use less energy. For example, ocean transport has a much lower carbon footprint than air transport, as mentioned above. But, driving a vehicle slower than its' maximum speed also greatly reduces energy consumption.

Consolidate & increase density of shipments

- Moving the same quantity of goods in fewer trips reduces spending on fuel, vehicle maintenance, and energy.

Engage with your carriers

- Work with your transportation companies to comply with best practices, reduce impact, improve utilization, and optimize routes.
- Help educate them about basic efficiently tips such as properly inflated tires, driving during off hours when there is less traffic and idle time, combining shipments to reduce empty space in trucks and when possible, using lower emission fuels, hybrid vehicles or electric vehicles.
- Best practices show that better routing, loading, driver training and advanced tech can improve fuel efficiency by 87%, resulting in a reduction of 15,000 tons of CO2 emissions – equivalent to savings of \$11 million.

Reduce waste

Employee Transportation

This includes how your employees commute to and from work as well as business travel. Encourage public transportation, carpooling, bicycling, walking, etc. Days spent working at home reduce transportation if they are possible. If you have employees that drive, consider installing electric car chargers at your workplace.

Reduce environmental noise

Environmental noise refers to unwanted or harmful outdoor sound created by human activities, including noise emitted by means of transport, road, rail, air and sites of industrial activity.

- According to the [WHO](#), excessive noise seriously harms human health and interferes with people's daily activities. It can disturb sleep, cause cardiovascular and psychophysiological effects, reduce performance and provoke annoyance responses and changes in social behavior.

Design products and packaging with less volume and weight.

- To use less and better packaging, see [Packaging](#).
- To design more compact and lightweight products, see [Design Strategies](#).



TOOLS & RESOURCES

Examples

Examples of company sustainable logistics & transport initiatives:

[Gap Inc.](#)

Gap Inc. was recognized by the U.S. Environmental Protection Agency with the 2017 SmartWay Excellence Award, a recognition of top environmental performers and leadership for freight supply chain efficiency. They effectively hauled 99 percent of all freight with environmentally and energy efficient SmartWay carriers, rigorous management of their supply chain network and tracking efficiencies in moving freight to and from Distribution Centers to reduce their carbon footprint. They review transportation network performance weekly to ensure efficiency and reduce fuel emissions.

[Amour Vert](#)

With every purchase of a t-shirt, Amour Vert plants a tree in North America with partner American Forest®, helping to offset their carbon footprint.

[Johnson & Johnson](#)

On their website, Johnson & Johnson publicly shares their company [Climate Policy](#). You can read about their Fleet Efficiency and logistics programs [here](#).

[Home Depot](#)

This Forbes article dives into why Home Depot is investing in a more efficient supply chain.

[Walmart](#)

Read about how Walmart improved the efficiency of their truck fleet.

[Ikea](#)

You can read all about Ikea's transport sustainability initiatives on page 46 of this sustainability report.

Examples of sustainability initiatives at shipping companies:

[DHL](#)

DHL provides Green Logistics Solutions to help their clients calculate, account for and reduce their emissions. Tools include carbon reporting and expert help in implementing eco-efficient logistics processes.

[USPS](#)

USPS offers sustainability services to their customers through the program BlueEarth®.



TOOLS & RESOURCES

Tools

Transportation & logistics tools:

[How to Develop a Green Freight Program: A Comprehensive Guide and Resource Manual](#)

This 5-module toolkit developed by EPA SmartWay provides the information needed to learn about and implement a green freight program.

[Global Green Freight Guide to creating and Implementing a Green Freight Initiative](#)

A project of the [Clean Climate Coalition](#), Global Green Freight provides step-by-step guidance and resources to help make your freight operations cleaner and more efficient.

[Corporate Climate Stewardship: Guidelines for Best Practice Climate Action in the Paris Agreement Era](#)

Developed by Gold Standard, CDP and WWF, these guidelines offer recommendations on how to structure an ambitious climate strategy.

[Retail Leaders Association Sustainability in Retail Logistics & Transportation](#)

A concise, informative brief on how retailers can make logistics & transport more sustainable.

Tools to calculate & reduce your carbon footprint:

[B Lab & GIIRS Resource Guide: Calculating Greenhouse Gas Emissions](#)

This comprehensive guide from B Lab & GIIRS covers all the basics of calculating greenhouse gas emissions in addition to sharing helpful information and resources.

[Native Energy Small Business Calculator](#)

Native Energy has created four different calculators to measure carbon footprint for Facilities, Travel, Events, & Freight.

***Note: Wondering whether or not to use carbon offsets?**

We recommend reading: [“Should You Buy Carbon Offsets? A practical and philosophical guide to neutralizing your carbon footprint”](#) from the NRDC.



Standards & certifications

[GLEC Framework](#)

The GLEC Framework for Logistics Emissions Methodologies allows companies to consistently calculate their GHG footprint across a global multi-modal supply chain to inform their business decisions and efforts to reduce emissions. Comparing greenhouse gas emissions (GHG) across different modes of transport can be like comparing apples to oranges because so many methodologies exist, the GLEC Framework aims to combine existing methods into one framework and fill the gaps, enabling a company to understand its carbon footprint alongside cost and time to decide the best way to transport its goods.

[Greenhouse Gas \(GHG\) Protocol](#)

GHG Protocol establishes comprehensive global standardized frameworks to measure and manage greenhouse gas (GHG) emissions from private and public sector operations, value chains and mitigation actions. Building on a 20-year partnership between World Resources Institute (WRI) and the World Business Council for Sustainable Development (WBCSD), GHG Protocol works with governments, industry associations, NGOs, businesses and other organizations. They offer online training on our standards and tools, as well as the “Built on GHG Protocol” review service, which recognizes sector guidance, product rules and tools that are in conformance with GHG Protocol standards.

[Air Cargo Carbon Footprint \(RP1678\)](#)

A global standard to measure air cargo carbon footprint at shipment level; also recognized as the reference methodology for air cargo by the Global Logistics Emissions Council (GLEC) in their framework for logistics emissions calculation methodologies.

[EN 16258: Methodology for calculation and declaration of energy consumption and GHG emissions of transport services \(freight and passengers\)](#)

This European Standard establishes a common methodology for the calculation and declaration of energy

consumption and greenhouse gas (GHG) emissions related to any transport service (of freight, passengers or both). It specifies general principles, definitions, system boundaries, calculation methods, apportionment rules (allocation) and data recommendations, with the objective to promote standardized, accurate, credible and verifiable declarations, regarding energy consumption and GHG emissions related to any transport service quantified. It also includes examples on the application of the principles.

[Gold Standard for the Global Goals](#)

Gold Standard for the Global Goals is designed to accelerate progress toward climate security and sustainable development. The standard enables initiatives to quantify, certify and maximize their impacts toward climate security and the Sustainable Development Goals. It is tailored to provide the right safeguards, requirements and methodologies to measure and certify impact - from market instruments like carbon credits and Renewable Energy Labels to gender equality and improved health.

[Verified Carbon Standard](#)

The VCS Program is a voluntary greenhouse gas program that can be third-party certified. By using carbon markets, entities can neutralize, or offset, their emissions by retiring carbon credits generated by projects that are reducing GHG emissions elsewhere. Once projects have been certified against the VCS Program’s rigorous set of rules and requirements, project developers can be issued tradable GHG credits that are called Verified Carbon Units (VCUs). Those VCUs can then be sold on the open market and retired by individuals and companies as a means to offset their own emissions. Over time, this flexibility channels financing to clean, innovative businesses and technologies.

[Supply Chain Operations Reference \(SCOR\) Model](#)

The SCOR model is unique in that it links business processes, performance metrics, practices, and people skills into a unified structure. Process reference models integrate the well-known concepts of business process engineering, benchmarking, process measurement and organizational design into a cross-functional framework.



 TOOLS & RESOURCES

Organizations

Transport & Environment

The mission of Transport & Environment is to promote a transport policy based on the principles of sustainable development at both EU and global levels - a transport policy should minimize harmful impacts on the environment and health, maximize efficiency of resources (including energy and land), and guarantee safety and sufficient access for all.

Clean Cargo Working Group (CCWG)

A business-to-business leadership initiative involving major brands, cargo carriers, and freight forwarders dedicated to reducing the environmental impacts of global goods transportation and promoting responsible shipping. CCWG tools measure and reporting ocean carriers' environmental performance on carbon dioxide emissions.

Smart Freight Centre (SFC)

Established as a global nonprofit organization in 2013, SFC's vision is "Smart Freight" – a transformation to an efficient and environmentally sustainable global logistics sector. SFC mobilizes business to reduce emissions and recognizes leaders. SFC is independent from industry or government, and has a global network across stakeholder groups with local presence.

Global Green Freight

Initiated by the Climate and Clean Air Coalition with support from the EPA, Global Green Freight is a large-scale effort to reduce the climate and health impacts and improve the energy and economic efficiency of transporting those goods and materials.

SmartWay® Transport Partnership

The EPA's SmartWay® Transport Partnership helps companies and organizations achieve their freight supply chain sustainability goals by providing credible tools, data, and standards—at no cost—for measuring, benchmarking, and improving environmental performance. There are three types of SmartWay® Partners:

1. Shippers are companies and organizations that ship or receive freight.

2. Carriers are companies that carry or move goods for shippers.
3. Logistics Companies are companies that hire freight carriers and manage freight shipments for shippers.

Coalition for Responsible Transportation (CRT)

CRT is a national coalition of importers, exporters, trucking companies, clean truck manufacturers and ocean carriers formed to facilitate the implementation of practical and sustainable solutions to reduce port truck pollution in a manner that balances the environmental needs of port communities with efficient flow of commerce.

Partnership on Sustainable Low Carbon Transport (SLoCaT)

SLoCaT promotes the integration of sustainable transport in global policies on sustainable development and climate change. It consists of a multi-stakeholder partnership of over 90 organizations which is supported by the SLoCaT Foundation. The thematic scope of the Partnership is land transport including freight and passenger, both motorized and non-motorized. The policies proposed by SLoCaT are universal, but the geographical scope of the Partnership is mainly for developing countries, its focus is on Asia, Latin America and Africa.

Green Freight Asia

Green Freight Asia is a network of Asian road freight companies working together to improve fuel efficiency, reduce carbon dioxide emissions, and lower logistics costs across the entire supply chain. The group is made up of large, medium, and small logistics companies and customers of logistics companies.



Organizations

[Green Freight Europe \(GFE\)](#)

GFE is an industry-driven program to support companies in improving the environmental performance of freight transport in Europe. The program drives reductions of carbon emissions by:

- Establishing a platform for monitoring and reporting of carbon emissions, to assist in the procurement of transportation services and based on existing standards;
- Promoting collaboration between carriers and shippers in driving improvement actions and monitoring progress;
- Establishing a certification system to reward shippers and carriers who fully participate in the program.

It is also a platform for companies to share best practices, promote innovations and communicate sustainability improvements. Furthermore, it fosters cooperation with other related initiatives, programs and working groups globally.

[APICS Supply Chain Council \(APICS SCC\)](#)

APICS SCC is a nonprofit organization that advances supply chains through research, benchmarking and publications. They maintain the Supply Chain Reference model (SCOR), a framework for evaluating and comparing supply chain activities and performance. APICS SCC enables corporations, academic institutions and public sector organizations to address the ever-changing challenges of managing a global supply chain to elevate supply chain performance.

[Climate and Clean Air Coalition \(CCAC\)](#)

The CCAC is a voluntary partnership of governments, intergovernmental organizations, businesses, scientific institutions and civil society organizations committed to improving air quality and protecting the climate through actions to reduce short-lived climate pollutants. Their global network currently includes over 120 state and non-state partners, and hundreds of local actors carrying out activities across economic sectors, and their scope covers transportation and much more.

NOTE

What is noise pollution?

According to the [US Environmental Protection Agency](#):

The traditional definition of noise is “unwanted or disturbing sound”. Sound becomes unwanted when it either interferes with normal activities such as sleeping, conversation, or disrupts or diminishes one’s quality of life. The fact that you can’t see, taste or smell it may help explain why it has not received as much attention as other types of pollution, such as air pollution, or water pollution. The air around us is constantly filled with sounds, yet most of us would probably not say we are surrounded by noise. Though for some, the persistent and escalating sources of sound can often be considered an annoyance. This “annoyance” can have major consequences, primarily to one’s overall health.

Health Effects

Noise pollution adversely affects the lives of millions of people. Studies have shown that there are direct links between noise and health. Problems related to noise include stress related illnesses, high blood pressure, speech interference, hearing loss, sleep disruption, and lost productivity. Noise Induced Hearing Loss (NIHL) is the most common and often discussed health effect, but research has shown that exposure to constant or high levels of noise can cause countless adverse health affects.

Learn more about the health effects:
[The Noise Effects Handbook](#), Office of Noise Abatement and Control, US EPA, 1981
[Noise and Its Effects](#), by Dr. Alice H. Suter, Administrative Conference of the United States, November 1991

Protection from Noise

Individuals can take many steps to protect themselves from the harmful effects of noise pollution. If people must be around loud sounds, they can protect their ears with hearing protection (e.g., ear plugs or ear muffs). There are various strategies for combating noise in your home, school, workplace, and the community.

Learn more about noise pollution prevention:
[Noise Pollution Clearinghouse](#)



Customer Care & Repair



CUSTOMER CARE & REPAIR

Overview

During the use phase of a product's life, customer care can have significant environmental impact. In fact, some studies have found that the greatest environmental impact of a garment over its life is during customer use.

Many of these impacts can be significantly reduced through better consumer care. For example, 80-90 percent of the total energy used by a typical washing machine is to heat the water, so energy consumption can be dramatically reduced if consumers wash in **cold water and forego the dryer for a clothesline**. Not only does air drying use less energy, it's also better for your clothes and increases their longevity. (Paul Dillinger, VP of Global Product Innovation at Levi Strauss and Company, once called the dryer "a cruel torture chamber for your clothes.")

Washing clothes also contributes significantly to water contamination through the use of toxic detergents and softeners, as well as the release of microplastics from synthetic fibers. Some detergents and softeners are better than others, one great resource to share with your customers is the [Environmental Working Group's Guide to Better Cleaning](#).

In terms of microplastics, studies are still in early phases of understanding the problem and developing solutions. Possible solutions are currently in development, including filters for washing machines and coatings or processes that prevent synthetic fibers from shedding. The [Guppy Friend Washing Bag](#) is the only solution currently on the market. Still, these don't solve the initial problem, so it is important to take this very seriously when choosing to use synthetic fibers. When you do decide to use a synthetic fiber, we'd like to emphasize washing these products less!

PULSE OF THE FASHION INDUSTRY REPORT 2018 —

“Educating consumers on how to improve the usage of a garment increases its durability and *prolongs its lifetime*, lowering its overall footprint. A study by WRAP found that extending a garment’s life by just three months would lower the water, carbon, and waste footprint by 5–10%.”

WORKSHEET

Design for & educate your customers about sustainable use

1. Design for durability and longevity

- Create high quality products that last for years and can be repaired.
- Adopt a Quality Assurance Program to enhance durability and longevity.

2. Design for low-impact care & educate your customers about it

Design for low-impact care, which includes:

- Wash less, wash in cold water, wash only when loads are full, wash on shorter cycles, use front-loading, energy efficient machines, air dry, use non-chlorine bleach and safe laundry detergents, don't dry clean

Educate your customers about it

- Care labels are a great place to communicate instructions on how to wash, dry, mend, and further care for your product (in addition to information about materials, recyclability, and instructions for disassembly, if applicable).
- In addition to providing information with a product itself, provide resources on your website. This is a great opportunity to make creative content!

3. Educate your customers about repair

- Most people don't know how to repair damaged clothing, so you have a great opportunity to help them. This can

include written or visual guides. For specialized products or materials you might even want to provide physical repair kits.

4. Create an in-house care & repair program

- Provide services to repair and refurbish products for your customers.
- Track and measure repairs to improve product quality and longevity.

EILEEN FISHER

“We’d like our clothes back now. Renew is more than a take-back program. It’s part of *our vision for a future without waste.*”



TOOLS & RESOURCES

Examples

Examples of customer care & repair initiatives:

[Eileen Fisher](#)

Eileen Fisher established a take-back program called EILEEN FISHER Renew. Customers are encouraged to bring back old EILEEN FISHER clothes and receive a \$5 Rewards Card for each item. The old items are then re-sold online and in stores as the Renew Collection, turned into one-of-a-kind pieces as the Resewn Collection, or saved for recycling.

[Patagonia](#)

Patagonia's Repair & Care Guides walk customers through everything from simple fixes like how to fix an unthreaded drawstring, patch a small hole, or remove all sorts of specific types of stains, to more complicated things like how to install a completely new zipper. As they put it, "Learn to repair tears, remove stains, figure out what those hieroglyphics on the care tags mean, and more."

[Stella McCartney](#)

Stella McCartney's #Clevercare video series offers fun videos that demonstrate how to care for different items, from the iconic Fallabella bag to tailored pieces.

[Levi's](#)

Levi's advises its customers to stop washing their jeans after every wear and provides washing tips to minimize damage and keep denim looking better, fitting better, and lasting longer. Levi's has gone to great lengths to encourage customers to [air-dry](#) their jeans, including hosting a design competition for air-drying racks called the [Care to Air](#) Design Challenge.

[Reformation](#)

Reformation encourages their customers to "wash smart" and provides them with easy ways to lower a garment's environmental impact. As they put it, "Good news: up to two-thirds of clothes' carbon footprint occurs after you take it home. That's incredible because a lot of all the nasty stuff in the fashion industry is in your hands to fix."

[Nudie Jeans](#)

Nudie Jeans offers free repairs on their products for life in Nudie Repair Shops and a Mobile Repair Station. If a customer doesn't live near a Nudie Repair Shop, they can order a free-of-charge [Repair Kit](#).

NUDIE JEANS

“Every pair of Nudie jeans, no matter where you buy them, comes with a promise of free repairs. In 2017 we repaired 49,235 pairs of jeans, collected 7,463 pairs for reuse for new products and as patching material, which means *we saved 40,000 kg of clothes from being thrown away and saved 345,000,000 liters of water.*”





Organizations & people

Craft of Use

What if we pay attention to tending and wearing garments? What if we favor their use as much as their creation? The Craft of Use – the satisfying and resourceful ideas and practices associated with using clothes – changes the way we think about care for the future in unprecedented, profound ways. For what the craft of use represents is compelling possibilities and practicalities for fashion mainly within the clothes we already have. Use is not dependent on producing and consuming more. It takes its bearings from the skills, practices and ideas of tending and wearing, in the context of real lives. The craft of use is a glimpse of fashion not dependent on a growth economy or rising consumption alone. Despite evidence that highlights the major limitations of dealing with sustainability issues primarily in a business context, this context continues to dominate the environmental response of the fashion sector. The craft of use offers a different point of departure for fostering change, by favoring sensitivity to people's lived experience rather than industrial or commercial ideas about what sustainability actions are or should be. It sees sustainability in fashion as a political challenge more than a technical one, exploring its relationship with consumerism alongside alternative ways and infrastructures of consumption. It builds ideas of a new responsibility in fashion tied to new knowledge, skills, satisfaction and connectivity in the life world of users of clothes: the craft of use.

Local Wisdom

A sister project of Craft of Use, Local Wisdom was originated by Dr Kate Fletcher in 2009 and is now funded by The Leverhulme Trust. The project, which links together a network of partners and design activity in seven centers of high fashion consumption spread across three continents, explores satisfying and resourceful practices associated with using clothes. This 'craft of use' aims to challenge the dependency of the fashion industry on increasing material throughput and propose solutions through sustained attention to tending and using garments and not just creating them. Local Wisdom combines

ethnographic research methods with design process. It gathers stories and images from the public of how people use their clothes at community photo shoots. These use practices are then the basis and inspiration for design projects in the UK, USA, Canada, Denmark, Australia and New Zealand which aim to amplify these practices and explore their integration into larger programs or original business models.

Tom of Holland & The Visible Mending Programme: making and re-making

The Visible Mending Program seeks to highlight that the art and craftsmanship of clothes repair is particularly relevant in a world where more and more people voice their dissatisfaction with fashion's throwaway culture. By exploring the story behind garment and repair, the Program reinforces the relationship between the wearer and garment, leading to people wearing their existing clothes for longer, with the beautiful darn worn as a badge of honor. By writing this blog, running darning workshops and taking repair work commissions Tom provides mending inspiration, skills and services to people and hopefully persuade them that shop-bought clothes deserve care and attention too, just like a precious hand-knit.

Denim Therapy

A denim repair shop based in NYC with over four decades of experience restoring and reconstructing jeans, jackets, and more. No matter the adjustments needed on your blues, they offer a wide range of denim repair services, including hemming, tailoring, stitching, and many other restoration techniques. They also offer customization services, including inserts, distressing, chainstitch embroidery, patches, and many more.



Organizations & people, cont'd

[Celia Pym](#)

Celia Pym is a London-based artist, knitter and darning who specializes in visible repairs. From a recent [article](#) in the Financial Times: “Pym describes her style of mending as ‘unapologetic’. Her work uses a mix of threads, colors and texture so that something as simple as a pair of socks or a scarf becomes a strange visual kaleidoscope under her attention. ‘I’m interested in what’s wrong and off,’ she says of her mending skills, which invariably make old moth-eaten cashmeres and long-loved heirlooms far more beautiful in the remaking. ‘I like it when things are lumpy and bumpy. It’s nice when you can see the landscape of damage, which although I am mending, I am also distorting.’”

[Reknit](#)

A small operation based out of Boston, MA. People can send them a knit sweater or clothing and they will unravel and restore the yarn and knit a new scarf and send it back within a few weeks.



Suggested reading

Books:

[*Craft of Use: Post-Growth Fashion*](#)

Kate Fletcher

[*Fix Your Clothes: The Sustainable Magic of Mending, Patching, and Darning*](#)

Raleigh Briggs

[*Mend & Make Fabulous*](#)

Denise Wild

[*Mending Matters: Stitch, Patch, and Repair Your Favorite Denim & More*](#)

Katrina Rodabaugh



End of Use, Reuse & Recycling



END OF USE, REUSE & RECYCLING

Overview

When a product is discarded, there are different routes it can take. It could be donated to charity for re-use, downcycled into a lower value material (insulation, for example), recycled or upcycled into a new product or material of equal or superior value, biodegrade back into the earth, be incinerated, or get buried in a landfill.

Understanding that at current consumption rates we'll not be able to continue "business as usual", fashion sustainability initiatives are currently focusing much of their energy on creating a circular fashion economy, in which all products will either be infinitely recyclable or renewable and biodegradable, without negative harm to people and the planet. In May 2018, 94 companies had already signed the [2020 Circular Fashion System Commitment](#). As Eileen Fisher puts it, "we're working toward a world in which the clothes we wear today become tomorrow's raw materials."

While many exciting circular innovations and programs will likely reach scale in the next 5-10 years, for now circularity is not a reality. Less than 1 percent of materials used to produce clothing are recycled into new clothing, according to [A New Textiles Economy Report 2017](#), which includes recycling after use, as well as the recycling of factory off-cuts. Expert interviews and some reports suggest that the rate of recycling clothing after use could be below 0.1 percent.

The EPA estimates that the recycling rate for textiles in clothing and footwear in 2014 was 15.6 percent, with 84.4 percent either going to landfill (the vast majority) or into an incinerator. Overall, charities sell only 20 percent of the clothing donated to them at their retail outlets. Some of the bigger charities sell more than that—30 percent at Goodwill, 45 to 75 percent at the Salvation Army and 40 percent at Housing Works, to give a few examples.



WORKSHEET

Reuse, recycling, and proper disposal

Find circular opportunities

- Try to design products and packaging that are reusable and either infinitely recyclable or compostable. No waste should be created along a product's entire lifecycle.
- Aim to design products that not only do no harm, but benefit society.
- If it is not possible to design a circular product, find other ways to support the development of a circular economy. For example, you could choose to incorporate a single circular element into your product, or you could financially support circularity innovation through investment or charitable giving.

Label how consumers should recycle or dispose of products

The care label on your product should specify what customers should do with unwanted items. This may include donating, recycling, disassembling, throwing in the compost, or returning it to your company.

- You could make it easier for your customers by providing this information in other places as well, like at the point of purchase or on your website.

Take responsibility for your own waste

Create a Take Back Program

- Encourage your customers to bring back the products you sold them when they are no longer wanted. Some companies provide store credit, for example.
- Analyze what has been returned to measure the quality, longevity, and value of your products and improve them.
- Properly dispose of, reutilize, or recycle the products you take back.

Recycle, compost, or otherwise utilize your pre-consumer waste

- This includes things like fabric offcuts and deadstock.
- You should be working to minimize and completely eliminate pre-consumer waste.

EILEEN FISHER

“We’ve always believed in *design that stands the test of time*. In 2009, we started a take-back program, part of a circular system that preserves the value of our clothes at every stage. So when you’re done with your clothes, we take them back, in any condition, to be resold or renewed through techniques like overdyeing and mending. And the pieces we can’t use? We save every scrap, because they’re tomorrow’s raw materials. Damaged garments are re sewn into one-of-a-kind designs—just one of the solutions we’ve created to address the mounting problem of textile waste.”



TOOLS & RESOURCES

Examples

Theory

Through their Theory for Good program, Theory collects gently used Theory clothing on behalf of Year-Up, a non-profit devoted to empowering young adults. Customers who donate clothing can exchange it for new items at a reduced price.

Nudie Jeans

Through their ReUse program, Nudie takes back their jeans through a trade-in program (giving customers 20 percent off a new pair when they hand in an old one), refurbishes them, and resells them both online and at Nudie brick-and-mortar stores. Nudie Jeans has also made chic rugs and campstools out of recycled denim.

Hanky Panky

First, Hanky Panky encourages customers to donate gently worn bras to a local homeless or women's shelter or to national organization such as Support the Girls. For items that are not suitable for donation (for hygiene purposes or because they're simply worn out), they created the Lingericycle™ initiative. Hanky Panky sends customers free Lingericycle mailers upon request, which customers can send back with their old bras and panties (from any brand). Items are finely shredded. Metal items such as underwires and hooks are separated out by magnets and sent to a metal recycler while fabric components are ultimately converted into carpet padding.

The RealReal x Stella McCartney

The RealReal and Stella McCartney are working in partnership to make a positive impact and advance their shared values: sustainability and the promotion of the circular economy in luxury fashion. For every Stella McCartney item you consign on the RealReal, Stella McCartney will give you \$100 credit at her store.

Patagonia Worn Wear

In addition to sharing extensive information on how to repair your Patagonia clothes and offering repair services, Patagonia takes all of their products back for recycling or

repurposing. Anything that can be refurbished is re-sold through their Worn Wear program, and customers are given store credit for turning in these pieces. Non-resellable items may be turned into brand new fabric or repurposed in other ways.

Madewell

In collaboration with the Blue Jeans Go Green™ denim recycling program, Madewell asks its customers to bring them pre-loved jeans, and in return gives customers \$20 towards new ones.

NIKE

Nike's Reuse-A-Shoe program recycles athletic shoes at the end of their life, giving them a new life through Nike Grind. Nike Grind materials are created from recycled athletic footwear and surplus manufacturing scraps to make performance products, ranging from new footwear and apparel to sports surfaces. Today, Nike Grind materials are used in 71 percent of Nike footwear and apparel products, in everything from yarns and trims, to some of their premium jerseys and shoes. Premium sports surfaces include running tracks, courts, turf fields, gym floors, carpet padding and playgrounds.



TOOLS & RESOURCES

Textile collection & recycling organizations

Collection, sorting & repair resources:

[American Textile Recycling Service \(ATRS\)](#)

ATRS is a US-based donation bin operator that collects, sorts, donates and resells gently used, out of season, unwanted clothing, shoes, toys and household. ATRS ensures almost everything is used, nothing is wasted. – About 45 percent is usable “as is” in the growing second-hand clothing market – 20 percent is used for upholstery and automotive stuffing – 30 percent is used for industry wiping rags – ATRS gives away 3 percent for disaster relief. This equates to several trailer loads of blankets, warm wear, suits and household items every month.

[Bank and Vogue](#)

Bank and Vogue works to provide innovative and relevant solutions for the crisis of stuff. They work with suppliers across the US and Canada, from thrift stores and manufacturers to well-known retailers and have a distribution network that spans the globe. Bank & Vogue buys credential clothing (original, unsorted, unopened clothing donations) from charities and for-profit collectors across North America and then re-purposes it through multiple channels.

[Blue Jeans Go Green Denim Recycling Program](#)

Drop off your or mail used denim to Blue Jeans Go Green and they will turn it into UltraTouch™ Denim Insulation made from 80 percent post-consumer recycled denim. They've been at it for over a decade and have recycled over 2 million pieces of denim. Brand collaborators include Madewell, Guess, and Saks Fifth Avenue.

[I:CO](#)

I:CO is an international circular solutions provider for the collection, certified sorting, reuse and recycling of discarded clothing and shoes. They put great emphasis on continuously supporting innovative, new recycling technologies with the aim of closing the loop of production cycles. The I:CO take-back system makes it possible to collect used clothing and shoes at a retailer's point of sale and give them a new life through reuse or recycling. Headquartered in Germany, I:CO has additional branches in the USA, Japan, China and France. Partners include H&M, Adidas, American Eagle Outfitters, The North Face, and more.

[Fashion Positive Material Reutilization Tool: Find a Textile Collections and Processing Provider](#)

Learn about textile or garment collections and material processing, and find a provider in your area.



TOOLS & RESOURCES

Textile collection & recycling organizations

Collection, sorting & repair resources:

[Materials for the Arts](#)

Materials for the Arts is New York's premiere reuse center, collecting unneeded items from businesses and individuals, and making these donations available for free to its recipients: nonprofit organizations with arts programming, government agencies, and public schools. They collect items like art supplies, art books, beads and jewelry, fabric (large pieces), trim and sewing notions, office supplies, paper, and office supplies. They do not collect clothing or fabric scraps. The MFTA warehouse is operated by the New York City Department of Cultural Affairs with additional support from the City's Departments of Sanitation and of Education.

[refashionNYC](#)

refashionNYC is NYC's official clothing reuse program in partnership with NYC Department of Sanitation and Housing Works to make textile donations as easy as possible, through a convenient in-building service. You can enroll your building to receive a refashionNYC collection bin. Tax receipts are available on the bin. Their partnership with Housing Works provides this convenient collection while fighting the dual crises of homelessness and AIDS. They'll visit your building to discuss how many bins you'd like, what sizes are best and where they should be placed. Buildings simply call or email for a free pick up when the bin is full. Eligible buildings include apartment buildings with 10 or more units, office buildings, commercial businesses, schools and institutions. Accepted items include clothing (from women, men & children), shoes, purses, gloves, scarves, hats, belts, towels, curtains, bedding and linens, clean rags and torn clothing. You can also read about [GrowNYC Zero Waste Programs: Greenmarket Clothing Collection](#).

[Revolve Waste](#)

Focused on taking circular textiles to the next level, REvolve began in 2013 and re-launched in The Netherlands in 2019. They aim to address the technical, data-driven, and systemic components of circular textiles. Their work builds and develops the connections of a new, circular industry. Collaborations are focused on cotton and polyester resources and address the biggest short-term hurdles to circular textiles. Individual projects are tailored to each client.

[Secondary Materials and Recycled Textiles \(SMART\) Association](#)

SMART is a global organization of companies involved in the reuse and recycling of textiles and related secondary materials. As an international trade association working to promote the for-profit textile recycling industry SMART serves the common interests of its members through advocacy, networking, and education.



Textile collection & recycling organizations

Collection, sorting & repair resources:

[TEXAID](#)

Materials for the Arts is New York's premiere reuse center, collecting unneeded items from businesses and individuals, and making these donations available for free to its recipients: nonprofit organizations with arts programming, government agencies, and public schools. They collect items like art supplies, art books, beads and jewelry, fabric (large pieces), trim and sewing notions, office supplies, paper, and office supplies. They do not collect clothing or fabric scraps. The MFTA warehouse is operated by the New York City Department of Cultural Affairs with additional support from the City's Departments of Sanitation and of Education.

[The Renewal Workshop](#)

Based in Oregon, the Renewal Workshop takes discarded apparel and textiles and turns them into Renewed Apparel, upcycled materials or recycling feedstock. Data is collected on everything that flows through the system and is given back to their brand partners to help them improve the production and design of future products. It is a zero waste system that recovers the full value out of what has already been created as a way of serving customers, partners and planet. Partners include Coyuchi, Prana, Nau, and Outerknown, among others.

[Wearable Collections](#)

Wearable Collections is a NYC based company focused on keeping clothing, textiles and shoes out of landfills while generating funds for charities. They accept all used clean clothing including shoes, sneakers and hats in addition to household items such as linens, towels, handbags and belts.

[Yerdle Recommerce](#)

Yerdle makes it easy for brands to buy back and resell used items by providing technology and logistics to develop white-label re-sale programs. Patagonia, Eileen Fisher and REI partnered with Yerdle to launch and operate their recommerce programs. Find out more [here](#).



Textile collection & recycling organizations

Textile scrap recycling:

FABSCRAP

FABSCRAP provides convenient pickup and recycling of textiles for businesses in New York City. Any business creating textile waste can recycle fabric scraps, cuttings, headers, mock-ups, samples, overstock, bolts, production remnants, and any other unwanted excess fabric. FABSCRAP provides reusable recycling bags in two colors (black for proprietary materials and brown for everything else). Once filled bags are picked up from your business, FABSCRAP processes, sorts, and consolidates scrap to prepare materials for recycling and reuse. They work with brands like Eileen Fisher, Oscar de la Renta, Marc Jacobs, Loomstate, Tracy Reese, and more.

Companies producing new textiles from textile waste:

[Re:Newcell](#)

[TEIJIN Recycled Polyester](#)

[The Infinited Fiber Company](#)

[ECONYL](#)

[Pure Waste Textiles](#)

[Recover](#)

[SaXcell](#)

[Worn Again](#)



TOOLS & RESOURCES

Suggested reading

Articles:

[“Fast Fashion Is Creating an Environmental Crisis”](#)

Alden Wicker, Newsweek, September, 2016

[“The hidden trade in our second-hand clothes given to charity”](#)

Andrew Brooks, The Guardian, February, 2015

[“Here’s where your donated clothing really ends up: Only 25% of clothing collected for thrift shops actually sells in the stores. What happens to the rest of it?”](#)

Paul Jay, CBC News, May, 2018

Reports & studies:

[*EPA Textiles Specific Data*](#)

The US Environmental Protection Agency measures the generation, recycling, combustion with energy recovery, and landfilling of textile material in municipal solid waste.

[*The impact of second-hand clothing trade on developing countries*](#)

Sally Baden and Catherine Barber, Oxfam, September 2005

[*Developments in global markets for used textiles and implications for reuse and recycling*](#)

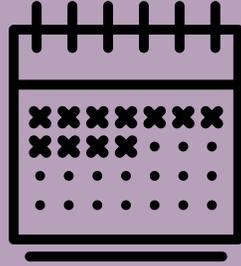
Hanna Ljungkvist, David Watson, Maria Elander, A Mistra Future Fashion Report, 2018

[*Mistra Future Fashion Reports*](#)

The Mistra Future Fashion program is a cross-disciplinary research program that holds uniquely a system perspective on the fashion industry. Its vision is to close the loop in fashion and clothing – enabling a systemic change in the Swedish fashion industry, leading to a sustainable development of the industry and society. They have produced many reports around the topic of textile recycling, which can be found [here](#).

[*A New Textiles Economy: Redesigning fashion’s future*](#)

The Ellen MacArthur Foundation & Circular Fibres Initiative, 2017



Event Production



EVENT PRODUCTION

Overview

Events and fashion shows often take an unnecessary environmental toll, involving large amounts of energy, transportation, water, and waste. It is not uncommon for all set design materials from a fashion show to go directly into the trash. Event organizers should take sustainability into account when organizing all aspects of an event, including:

- Site selection
- Transport of attendees
- Recruiting and training of the event workforce & participants
- Sourcing of materials, supplies and services
- Managing impacts on communities, environments, & economies
- Planning and managing potential legacies
- Accessibility of an event

With large events it is best to ensure an independent report, which complies with international standards, such as the Global Reporting Initiative (GRI). These standards can be a useful reference for smaller events too.

WORKSHEET

Make your event more sustainable

Choose more sustainable vendors

- Choose vendors that have their own sustainability policy.
- Use venues and materials that already exist.
- If possible, use an existing venue that already offers the services you need, minimizing transport requirements. This could include things like catering and A/V. Choosing venues with good natural lighting and insulation can further reduce energy use.
- Most of the time, renting flatware, dishes, and glasses is more sustainable than using ones that are disposable (even recycled, recyclable, and compostable ones). There are exceptions, depending on transport

Don't pollute

- Don't use chemical or other products that could harm people, animals, or the environment.
- Work with your venue and vendors to ensure that all cleaning solutions and any other wastewater are disposed or appropriately so as to not cause damage to the local environment.
- When possible, we request that all cleaning products be environmentally friendly.
- Don't contribute to noise pollution

Use less water

- Ideally, for drinking water serve tap water in reusable cups
- Avoid bottled water. If required, choose

from brands that use minimal and more sustainable packaging and sourcing. For example, a paper carton is preferable to a plastic bottle.

- Use low water-use facilities (like kitchens and toilets) and look for solutions to reduce industrial water use even more.

Use less & cleaner energy

- Aim to reduce your footprint
- You can use a free event online carbon calculator, like those from MyClimate or Carbonfund.
- If you can't eliminate your carbon footprint, consider carbon offsets.
- Use Renewable Energy
- Monitor, measure and reduce your power consumption. This could include solar, wind, or biofuels.
- Use low-energy lighting and equipment
- Turn things off when not in use

WORKSHEET

Make your event more sustainable cont'd

Reduce or eliminate waste

- Aim for zero waste
 - This means that none of the waste generated at your event goes to landfill, but is recyclable or compostable. Given the current US recycling dilemma, check with your local recycling facility to ensure recyclables will actually be recycled. Composting is an idea option, but be sure to use due diligence in selecting a compostable product. Many compostable products are only compostable in industrial compost facilities, so you need to make sure the products will make it to one (many don't). Many compostable products are also made out of less-than-ideal materials, so you must also do due diligence to ensure the wood/paper/bioplastic is sustainably made.
- Choose electronic over paper
 - If possible, choose digital marketing, tickets, run-of-show, brochures, etc.
- Use less and non-disposable decor
 - Too often, décor used at fashion shows is simple thrown away after the event.
 - Whenever possible, use materials that already exist (either rented, or invest in materials you know you'll use repeatedly).
 - If possible, reduce décor materials (perhaps aim for a more minimal aesthetic). Otherwise, use materials that can be rented or re-used.

- If your guests don't need giveaway items, don't give them any stuff
 - Work with local suppliers to donate used materials in the community
 - Ask your venue/caterer to donate unused food items to local organizations, such as shelters

Use low-impact modes of transportation

- Take transportation into account when selecting a venue
 - Select a venue with easy access to public transportation and, if long-distance travel is required, transportation hubs.
 - If you are offering accommodation, make it within walking distance of the venue.
- Promote and/or provide low-impact modes of transportation
 - If possible, encourage biking or public transportation
 - If driving is required, offer carpooling services and utilize low-emission vehicles.
- Consider a digital event. For example, teleconferencing or live-streaming. This is certainly lower-impact than hosting a large event.
- Use low-impact transportation and shipping for the transfer of all goods related to the event
- See our [Transportation & Logistics](#) section for more detail

WORKSHEET

Make your event more sustainable cont'd

Work with local vendors

- There are many well-documented benefits to supporting local vendors. Benefits include reduced environmental impact, job creation, better service, and community benefit, among other things - we've listed them in the [People](#) section.
- You can read more about it and create a [Local Purchasing Policy with this B Lab Resource Guide](#).

Start planning your event well in advance

- Avoid last-minute event planning and execution, which often results in a much heftier social and environmental impact including long, inhumane working hours, rush air shipping, etc.



TOOLS & RESOURCES

Examples

Examples of sustainable event production:

[CFDA Fashion Awards 2018 sustainable carpet, carpet made from regenerated waste](#)

Carpeting used at the 2018 CFDA Fashion Awards was created by Aquafil and ege carpets, and made with ECONYL® regenerated nylon fiber. Italy-based Aquafil takes waste from oceans and landfills, then transforms it into ECONYL® yarn. This yarn performs in the same way as virgin nylon and can be recycled infinitely without ever losing its quality. After the awards, worn parts will be recycled at Aquafil's carpet recycling plant in Phoenix, while areas in good condition will be reused as they are.

[CFDA Fashion Awards 2017 sustainable meal](#)

The CFDA Fashion Awards sourced décor and menu items with an eye to the environment. All produce was grown specifically for the evening at Brooklyn Grange and other sustainable local farms for culinary designer Jane Coxwell, author of *Fresh Happy Tasty* and CFDA Chairwoman Diane von Furstenberg's personal chef, who created the Mediterranean-inspired menu. After the event, Hammerstein Ballroom composted all uneaten food with plans to return the compost to Brooklyn Grange. The tabletop was dressed in sustainable items, from 100 percent linen napkins completely free of optic brighteners and table linens, glasses, plates, flatware, and décor that were entirely reusable and recyclable.

[The Special Event Company](#)

Read about the Special Event Company's Sustainability Policy.

[Sustainable Music Festival](#)

Read this article about a music festival going green.



Standards & certifications

Standards & certifications for sustainable event production:

[ISO Sustainable Events](#)

ISO 20121 is a management system written to inform the process of organizing an event. It offers guidance and best practice to help you manage your event and control its social, economic and environmental impact. Every action counts, from relying on tap water instead of plastic bottles to encouraging use of public transport. You might find that it also helps you cut unnecessary costs. ISO 20121's flexible approach means that it can be used for all types of events. The standard has been developed with input from many different stakeholders, including representatives from the event industry, to make it practical and useful. It addresses all stages of an events' supply chain, and includes monitoring and measuring guidelines.

[APEX/ASTM Sustainable Event Standard](#)

The APEX standard provides definitions of specific operational actions with key performance matrix and scoring that comprise a sustainable event. Spearheaded by the US Environmental Protection Agency and the Green Meeting Industry Council, the standards were developed in collaboration between APEX (the Events Industry Council's Accepted Practices Exchange) and ASTM (an ANSI certified international standard development organization). Hence the standards are referred to as the APEX/ ASTM Environmentally Sustainable Event Standards. They cover nine areas or sectors of meeting management: Audio Visual / Production, Destination Selection, Meeting Venue, Accommodations, Exhibits, Onsite Office, Communications, Food and Beverage, and Transportation. They use eight categories intended to capture the environmental and social areas to consistently be included in each sector that are measured under the standard including Staff Management and Environmental Policy, Communication, Waste Management, Energy, Air quality, Water Procurement, and Community Partners.

[GRI Event Organizers Sector Supplement \(EOSS\)](#)

This summary guide provides organizations in the event organizers sector with an overview of sustainability reporting, the Global Reporting Initiative (GRI), and the GRI Event Organizers Sector Supplement (EOSS).



TOOLS & RESOURCES

Suggested reading

Event production organizations:

[The Sustainable Event Alliance](#)

Offers a self-paced online course “Implement ISO 20121” that leads participants step by step through the standard – not just focusing on how to comply with its requirements, but opening up why the various elements are important to set up and implement.

Suggested reading:

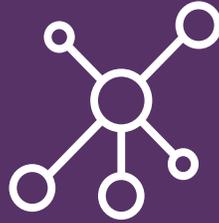
[“When Will Fashion Week Finally Go Paperless?”](#)

Paul McLaughlan, Fashionista, July, 2017

Green Event Book has a lot of great resources:

<http://www.greeneventbook.com/>

<http://www.greeneventbook.com/event-sustainability-checklists/>



Communication & Marketing Strategies



Overview

Data shows employees and consumers care about the social and environmental impact of what they buy. You can read more about it in [The Business Case for Sustainability](#) section of this guide.

Rule # 1 is Honesty. There is no perfect path to sustainable fashion, and nobody is totally sustainable. Consumers know this too. Many companies choose not to talk publicly about sustainability (even some companies with big sustainability programs) because they don't want to communicate progress until achieving "perfect sustainability performance." They fear accusations of 'greenwashing' as well as public dissatisfaction with their efforts.

(According to the Okala guide, Greenwashing is making claims that lack real merit or misrepresent facts about environmental performance – do not do it.) ***The industry needs a new paradigm where perfect is not the enemy of good.*** An approach that works well for many brands is to be transparent and honest about sustainability efforts, both successes AND failures. Conscious consumers are good at cutting through the greenwash, but don't forget their end goal is to support you- and haters always gonna hate!

Sustainability shouldn't be a thing we need to point out, it should be inherent to all design. But the thing is, it's not yet. We hope that you will choose to talk about sustainability with your customers instead of not. Engage them in the conversation. Since CFDA designers play an important role in influencing culture, everyone talking about sustainability would lead to a shift in consumer attitudes. We'd argue that honesty and brand story matter more to consumers than sustainability, so just be honest and ask your customers to join you in your journey. Tell the truth. Include your customers in your sustainability journey, and they will root you on!

In this section you will find some suggestions and examples of sustainability communication and marketing. But remember that each brand's sustainability story is unique. Make your sustainability story personal.

MELISSA JOY MANNING

“We all have inherent power. However we want to use our voices, we can all *effect change*. It’s just a matter of standing up and talking about what you believe in.”



Internal Communication

Internal communication is just as important (*if not more*) than external communication. Sharing your sustainability strategy and goals with your team is important. We've talked about it throughout this entire guide, including [The Business Case for Sustainability](#), [Create a Company Sustainability Strategy](#), [Sustainable Buildings & Offices](#), and more. Why? Internal communication unites the organization on sustainability.

Only when information is communicated through the entire organization can sustainability become an integral part of the company's core business, values, strategic objectives and, ultimately, DNA. Companies need to share leadership's commitment, explain the approach, strategy and targets, and set transparent expectations.

You should consider your suppliers to be part of your extended team and extend the same resources to them. Make it personal!



Examples

In their words:

[“An Update on Microfiber Pollution” from Patagonia](#)

In this post Patagonia talks about a big problem they have not solved and what they're doing about it (microplastic ocean pollution from washing synthetic textiles (such as nylon, acrylic or polyester)).

[Mara Hoffman](#)

“There are options and alternatives in this industry to manufacture responsibly. In 2015, we began learning and uncovering these possibilities and chose to address, change and relay the shifts we were making. With time, we realized that we are always at the beginning - there is always something new to discover and a challenge to tackle. We will continue to set goals to achieve greater levels of sustainability. The aim is to design and manufacture our clothes with greater care and to reduce our impact, generate awareness, and ask you, our lovely customer, to join us in taking action and holding us accountable.”

[Natalie Chanin \(Alabama Chanin\)](#)

“All facets work together to create a collaborative community and idea exchange, healthy growth, and a love of quality goods that last. Our guests can visit to shop with us, eat with us, learn with us (through our workshops), and tour our facility to see the entire operation.”



TOOLS & RESOURCES

Examples

Examples of supply chain transparency:

[Patagonia](#)

On the company website, Patagonia shares its supplier information through The Footprint Chronicles. All textile mills, factories, and farms can be viewed on a map of the world and clicked on for more detailed information about each specific supplier. When looking at a specific product online, customers can see which facilities they came from, linking back to the Footprint Chronicles.

[Eileen Fisher](#)

On the Eileen Fisher website, they provide detailed information about the farms, factories and faces behind their clothing.

[H&M](#)

H&M provides a supplier factory list on their website. It includes first tier manufacturing supplier factories that account for about 98.5% of all commercial pieces produced for the H&M group. It also includes all processing factories, which can be subcontracted by their first tier manufacturing supplier factories for specific tasks. In 2015, they expanded the scope of the list further to be the first major fashion brand to communicate the names and locations of the most important mills that provide their suppliers with fabrics and yarns, making about 60% of the pieces produced for the H&M group.

[Everlane](#)

Everlane's motto is "Exceptional quality. Ethical factories. Radical Transparency." Their #KnowYourFactories.webpage shares all their factories. In addition to supplier information, Everlane reveals the true costs behind all of their products—from materials to labor to transportation. They believe their customers have a right to know how much their clothes cost to make.

[People Tree](#)

People Tree's Makers List invites customers to meet the Fair Trade farmers, artisans and producers who make People Tree products.

[Icebreaker](#)

Icebreaker publishes a Transparency Report to share their commitment to build an ethical and sustainable business. They begin with the words, "We're not perfect, and we're always striving for better."



TOOLS & RESOURCES

Tools

Marketing tools:

[The Okala Green Marketing Guide](#)

In this guide, Okala shares guidelines on green marketing claims, as well as information about how to avoid greenwashing.

Transparency tools:

[The Fashion Transparency Index](#)

Produced by [Fashion Revolution](#), the Fashion Transparency Index is a review of 150 of the biggest global fashion brands and retailers ranked according to how much they disclose about their social and environmental policies, practices, and impact. You may find yourself on this list whether you want to or not, but regardless the information and methodology used can be an extremely helpful and informative resource.

INDUSTRY OF ALL NATIONS

“It’s not what we do, but how we do it...” We are inspired by how things are done. We are not creating a new brand just to fill up shelves. In this modern time it is so easy and in everybody’s hands to do most anything, so the most important thing should be how we do these things. We aim to not negatively affect those around us and to provide opportunities to anyone who is out there working locally and well. We work together to develop clean and sustainable industries around the world. We use all this to create products with the most simple and desirable aesthetic. This is the industry of the people, the Industry of All Nations.”

Appendix

APPENDIX

Philanthropy & civic engagement

Your company has an opportunity to create change and positive impact through philanthropy and civic engagement programs. Not only can these programs help you improve the communities where you work and contribute to positive change on global issues, you can also increase employee engagement and generate business value. There are many ways you can make a difference, including financial donations to non-profit organizations, creating opportunities and incentives for your employees to volunteer their time, investments in start-ups and new technologies, backing political campaigns to make the world a better place, and many more.

Even without making any changes in your business practices or supply chain, you can contribute to improving the industry by donating to or investing in those working to make change. For example, H&M wants to make fashion circular, so every year at the [Global Change Awards](#) they award one million Euro and yearlong coaching to five innovators who come up with solutions to spark the shift towards a circular fashion. The goal is to find innovations that allow major change for the entire industry and help them scale (neither the non-profit H&M Foundation nor H&M group take any equity or intellectual property rights in the innovations).

At the CFDA we have multiple grant programs to support [sustainability](#), [local manufacturing](#), nurturing recent [fashion graduates](#) and [emerging talent](#), and much more. We also established the CFDA Foundation as a separate not-for-profit organization to raise funds for charity and industry activities. Through innovative partnerships with brands, retailers, and CFDA designers, the Foundation is able to leverage fashion and effectively generate awareness and funds for these charitable causes. Our initiatives include [Health, Safety, and Diversity](#), [HIV/Aids](#), [Disaster Relief](#), and [Breast Cancer](#).

YVON CHOUINARD, PATAGONIA

“Science without activism is dead science. We want to fund the little activist organizations that are *out there on the front lines*, the grandmothers in front of the bulldozers.”

TOOLS & RESOURCES

Examples

Examples of corporate philanthropy & civic engagement:

[Tory Burch](#)

In 2009, Tory Burch created the Tory Burch Foundation to support the empowerment of women entrepreneurs. Drawing on their experiences and conversations with businesswomen from around the world, the foundations has developed programs and initiatives that invest in the success and sustainability of women-owned small businesses by providing: Access to Capital, Entrepreneurial Education, and Mentoring and Networking Opportunities.

[Patagonia](#)

Patagonia calls itself “The Activist Company.” Supporting grassroots initiatives has always been part of the company’s DNA, but in 2018 they [sued President Trump](#) in a bid to protect Bears Ears National Monument. You can read their [Environmental + Social Initiatives 2017 Booklet](#) to learn a lot more. Some of their initiative include:

- [1% For The Planet](#): Since 1985, Patagonia has pledged 1% of sales to the preservation and restoration of the natural environment. They’ve awarded over \$89 million in cash and in-kind donations to domestic and international grassroots environmental groups making a difference in their local communities.
- [Patagonia Action Works](#): Understanding that it’s often hard for individuals to know the best way to get involved, this web feature connects people with their local organizations (Patagonia grantees) in order to take action on the most pressing issues facing the world today.

[Brother Vellies](#)

In addition to creating limited edition pieces to raise funds for Planned Parenthood, Brother Vellies creative director Aurora James called upon a group of designers to hold a pop-up market in New York City to raise funds for the [2018 Women’s March and Planned Parenthood](#).

[Warby Parker](#)

An early adopter of the One-for-One model (Along with [TOMS](#)), Warby Parker works to alleviate the problem of impaired vision by working with a handful of partners worldwide to ensure that for every pair of glasses sold, a pair is distributed to someone in need. Since day one they have distributed over 4 million pairs of glasses have been distributed through their [Buy a Pair, Give a Pair](#) program.

TOOLS & RESOURCES

Examples

Examples of corporate philanthropy & civic engagement:

[Urban Zen Foundation](#)

Urban Zen was founded by Donna Karan in 2007 and is dedicated to three initiatives: preservation of culture (past), bringing mind, body and spirit to healthcare (present) and education (future).

[Diane Von Furstenburg](#)

Diane Von Furstenberg is committed to empowering women, not only through fashion but also philanthropy and mentorship. She serves on the board of Vital Voices, a non-governmental organization that supports female leaders and entrepreneurs around the world. In 2010, with the Diller-von Furstenberg Family Foundation, Diane established the [DVF Awards](#) to honor and provide grants to women who have displayed leadership, strength and courage in their commitment to their causes. They also support organizations including the International Rescue Committee (IRC), Friends of the High Line, United States Holocaust Memorial Museum, and more.

[Michael Kors](#)

Michael Kors' philanthropy initiative Kors Cares launched the Watch Hunger Stop campaign in 2013 with a singular focus: recognizing that the elimination of world hunger is at the core of securing children's futures. Since then, they have helped the United Nations World Food Programme (WFP) deliver [10 million meals](#) to children in hunger-stricken areas around the world.

TOOLS & RESOURCES

Suggested tools & reading

Tools to help you understand and implement a corporate philanthropy program:

[“Corporate Philanthropy: The Ultimate Guide”](#)

Double the Donation Organization

[“Increasing Impact, Enhancing Value: A Practitioner’s Guide to Leading Corporate Philanthropy”](#)

Council on Foundations

Articles:

[“How To Win At Corporate Philanthropy”](#)

By Alan Fleischmann, Forbes

[“10 Ways Small Businesses Can Give Back Without Breaking the Bank”](#)

By John Rampton, Entrepreneur Magazine

[“Why Female Designers Are Pledging Proceeds to Planned Parenthood, Standing Rock Sioux, and More Organizations This Holiday Season”](#)

by Steff Yotka, Vogue

[“15 Iconic Female Designers on Where Fashion—and the World—Are Going”](#)

Vogue

[Fashion Revolution Week](#)

In the words of Mara Hoffman

[“24 Brands You Can Shop To Support International Women’s Day”](#)

By Emily Silverman and Lauren Alexis Fisher, Harpers Bazaar

APPENDIX

Child labor

Child labor is complicated

In an ideal world, children would not have to work and could devote all their time to learning and play. But this is not an ideal world, and many families surviving at subsistence level often have little choice. Child labor is usually the result of other problems, like poverty and conflict. In order to solve the problem of child labor you have to address these problems, the root cause. Simply putting a ban on child labor rarely solves the problem, and often makes it worse.

Children should not be put to work if the supplementary income they earn is not necessary to meet their basic needs (like food, housing, healthcare, and education). But if children do have to work, fair labor standards need to be in place. They need fair wages and safe working conditions. Working hours and the nature of the work should be commensurate with the physical and mental abilities of the children performing them. Work should never prevent a child from getting an education, and ideally companies will provide educational and other opportunities for improvement, for example on-site schooling after work.

Bans on child labor can actually have a negative effect on children, and in some cases child labor bans have resulted in an increase in child labor. Many countries where child labor is prevalent are not capable of effectively enforcing child labor bans. When children are no longer legally allowed to work, they sometimes resort to illegal kinds of work, for example prostitution. Legal wages, hours, and workplace safety are not enforced. Bans often result in lower wages for children. For families that require children to work in order to meet basic needs, lower wages for children means they have to work more hours. Well-enforced bans could reduce child labor, but whether those bans improve household welfare that might depend on income from child work is not clear.

It should be noted that for many cultures around the world it is socially acceptable for children to work and imposing a complete ban on foreign producers imposes a western mindset.

At a glance

According to the International Labor Organization study Global Estimates of Child Labour: Results and trends, 2012-2016, on any given day in 2016 152 million children were in child labor.

Of the 152 million:

- 73 million were in hazardous work.
- 48% were age 5-11, 28% were age 12-14, and 24% were age 15-17.
- 58% were male, and 42% were female.
- 70.9% worked in agriculture, 11.9% in industry, and 17.2% in services.

Regional prevalence of child labor:

- Africa 19.6%
- Americas 5.3%
- Arab States 2.9%
- Asia and the Pacific 7.4%
- Europe and Central Asia 4.1%

“For families with subsistence incomes who cannot rely on a societal safety net, an efficiently enforced ban can be devastating. These families must either acquiesce in abject poverty or earn money from activities not affected by a ban. This often means adults and children resorting to underground jobs, such as prostitution. In either case, children bear the loss of such a ban.” - [Frank Wijen](#)

TOOLS & RESOURCES

Organizations

[Teach A Man To Fish](#)

The Teach A Man To Fish organization has established a model of school-based businesses that serve both as learning platforms and as income-generating activities for the school. Through this school-business model, students work on the businesses alongside their academic education. Their [School Enterprise Challenge](#) provides a suite of inspirational educational resources and tools, a vibrant support program, and social media networks to lead teacher and student teams through the school business journey; from coming up with a viable business idea to writing a robust business plan and launching and running a sustainable business. Through the process, students develop 21st-century skills such as teamwork, leadership and communication, while gaining the hands-on business experience to become the employees and job creators of tomorrow.

[No Lost Generation Initiative](#)

Programming under the No Lost Generation initiative is embedded within the humanitarian plans for the Syria and Iraq crises, as well as the Refugee Hosting Countries in the region (Egypt, Jordan, Lebanon, Iraq and Turkey). It reaches children and young people under three pillars of programs: education, child protection, and adolescents and youth. The No Lost Generation partners who will undertake the programming under No Lost Generation comprise of around 30 humanitarian or development organizations, including UN agencies and ngos, each of which has programs in at least three of the six No Lost Generation countries. These partners convene in a working group at the regional level and have jointly agreed on the No Lost Generation goals and the regional level workplan.

[Terre Des Hommes](#)

Terre des hommes Italia (TDH Italy) was founded in 1989 in Milan (Italy), by a group of prominent entrepreneurs and lawyers sensitive to Human Rights, as a non-profit organisation. TDH Italy is part of the Terre des hommes International Federation, with headquarters in Geneva and Brussels, which is currently run by the

Italian Presidency. Their mission is to protect the rights of children in developing countries, without racial, religious, political, cultural or gender-based discrimination. Terre des hommes Italy assists directly almost 2,2 million people, mostly children, with 130 projects in 21 countries. The Federation is present in 67 nations and runs 816 projects, benefitting directly over 6.6 million people. With your help, we could do even more.

[Unicef For Every Child](#)

This website is a gateway to reliable and open data and analysis on the situation of children and women worldwide. Over the past 20 years, UNICEF has supported governments to generate, analyse and use many different forms of data, from longstanding and statistically robust household survey programmes to government administrative data and new forms of community feedback mechanisms. All of these data are within the scope of UNICEF's [Data for Children Strategic Framework](#), which provides guidance to countries on investing in data demand, supply and use.

[International Labour Organization \(ILO\)](#)

The ILO is devoted to promoting social justice and internationally recognized human and labour rights, pursuing its founding mission that social justice is essential to universal and lasting peace. Only tripartite U.N. agency, the ILO brings together governments, employers and workers representatives of 187 member States, to set labour standards, develop policies and devise programmes promoting decent work for all women and men. Today, the ILO's Decent Work agenda helps advance the economic and working conditions that give all workers, employers and governments a stake in lasting peace, prosperity and progress. They do extensive work and research in the area of child labor.

Suggested reading

Articles:

[“Banning child labour imposes naive western ideals on complex problems”](#)

By Frank Wijen, The Guardian

[“Child labour in the fashion supply chain: Where, why and what can be done”](#)

By Josephine Moulds, The Guardian

[“Child Labor Laws Can Be Counterproductive in a Weak Nation”](#)

By Leah K. Lakdawala, The New York Times

Reports & studies:

[“A Dark Side of Institutional Entrepreneurship: Soccer Balls, Child Labour and Postcolonial Impoverishment”](#)

By Farzad R. Khan, Kamal A. Munir and Hugh Willmott.

[“Global Estimates of Child Labour: Results and trends, 2012–2016”](#)

The International Labor Organization, 2017

[“World Report on Child Labour 2015: Paving the way to decent work for young people”](#)

International Labor Organization, 2015

TOOLS & RESOURCES

Suggested reading

Reports & studies cont'd:

[“The impact of minimum age of employment regulation on child labor and schooling”](#)

By Eric V Edmonds and Maheshwor Shrestha, IZA Journal of Labor Policy, 2012
Edmonds and Shrestha use data from 59 mostly developing countries and find that minimum age restrictions do not have any consistent effects on child work or other activities like attending school.

[“Perverse Consequences of Well Intentioned Regulation: Evidence from India’s Child Labor Ban”](#)

By Prashant Bharadwaj, Leah K. Lakdawala, and Nicholas Li, National Bureau of Economic Research, 2013

While bans against child labor are a common policy tool, there is very little empirical evidence validating their effectiveness. In this paper, we examine the consequences of India’s landmark legislation against child labor, the Child Labor (Prohibition and Regulation) Act of 1986. Using data from employment surveys conducted before and after the ban, and using age restrictions that determined who the ban applied to, we show that child wages decrease and child labor increases after the ban. These results are consistent with a theoretical model building on the seminal work of Basu and Van (1998) and Basu (2005), where families use child labor to reach subsistence constraints and where child wages decrease in response to bans, leading poor families to utilize more child labor. The increase in child labor comes at the expense of reduced school enrollment. We also examine the effects of the ban at the household level. Using linked consumption and expenditure data, we find that along various margins of household expenditure, consumption, calorie intake and asset holdings, households are worse off after the ban.

[“Child labor and the law: Notes on possible pathologies”](#)

By Kaushik Basu, Economics Letters

The paper demonstrates that the standard policy for controlling child labor by imposing a fine on firms caught employing children can cause child labor to rise. This ‘pathological’ reaction is, however, reversed as the size of the fine increases.

TOOLS & RESOURCES

Suggested reading

Reports & studies cont'd:

[“Poverty Alleviation and Child Labor”](#)

By Eric V. Edmonds and Norbert Schady, American Economic Journal: Economic Policy, 2012

Poor women with children in Ecuador were selected at random for a cash transfer that is less than 20 percent of median child labor earnings. Poor families with children in school at the time of the award use the transfer to postpone the child's entry into the labor force. Students in families induced to take up the transfer by the experiment reduce paid employment by 78 percent and unpaid economic activity inside their home by 32 percent. Time in unpaid household services increases, but overall time spent working declines.

[“Small hands heavy burden: How the Syria conflict is driving more children into the workforce”](#)

Save the Children & Unicef

According to this report, released by Save the Children and UNICEF, the continued conflict and humanitarian crisis in Syria are pushing an ever growing number of children into an often exploitative labor market. The risk of a “lost generation” of Syrian children has reached critical proportions as children drop out of school to work and contribute to family livelihoods, putting their physical and psychological wellbeing at risk. UNICEF and Save the Children call on partners, governments, civil society, the international community and members of the No Lost Generation Initiative to embark on a series of measures to address child labor inside Syria and in the host countries affected by the humanitarian crisis.

[“Flawed Fabrics: The abuse of girls and women workers in the South Indian textile industry”](#)

By Martje Theuws & Pauline Overeem, SOMO - Centre for Research on Multinational Corporations & ICN - India Committee of the Netherlands

[“Global estimates of modern slavery: Forced labour and forced marriage”](#)

ILO and Walk Free Foundation, 2017

[“Child Labor and Learning”](#)

By Patrick M. Emerson, Vladimir Ponczek, and André Portela Souza, Economic Development and Cultural Change

[“2016 Findings on the Worst Forms of Child Labor”](#)

US Bureau of International Labor Affairs, 2016

APPENDIX

Circularity

Instead of trying to rewrite a definition, we'll use the words of experts.

Section 1: Annie Gullingsrud

In the words of Annie Gullingsrud of [Design for AllKind](#):
*“Circular Fashion is a concept that, in successful orchestration, could ensure the future of our planet and all living things. This approach supports the development of safe, sustainable materials, clean production and energy, fair labor and continuous material loops through reuse, refurbishing, and recycling back to virgin quality materials that go into new fashion. Design for scale, design for the system, and collaboration are all pillars of a functioning Circular Fashion system. **Circular Fashion is the future of fashion. It will guarantee that we have continuous streams of materials without relying on the extraction and production of virgin and finite materials.**”*

Section 2: Ellen MacArthur

The [Ellen MacArthur Foundation](#) was launched in 2010 to accelerate the transition to a circular economy. Their definition and explanation of the Circular Economy is excellent: **What is a circular economy?**

Looking beyond the current take-make-dispose extractive industrial model, a circular economy aims to redefine growth, focusing on positive society-wide benefits. It entails gradually decoupling economic activity from the consumption of finite resources, and designing waste out of the system. Underpinned by a transition to renewable energy sources, the circular model builds economic, natural, and social capital. It is based on three principles:

1. Design out waste and pollution
2. Keep products and materials in use
3. Regenerate natural systems

The concept of a circular economy

In a circular economy, economic activity builds and rebuilds overall system health. The concept recognises the importance of the economy needing to work effectively at all scales – for large and small businesses, for organisations and individuals, globally and locally. Transitioning to a circular economy does not only amount to adjustments aimed at

reducing the negative impacts of the linear economy. Rather, it represents a systemic shift that builds long-term resilience, generates business and economic opportunities, and provides environmental and societal benefits.

Technical and biological cycles

The model distinguishes between [technical and biological cycles](#). Consumption happens only in biological cycles, where food and biologically-based materials (such as cotton or wood) are designed to feed back into the system through processes like composting and anaerobic digestion. These cycles regenerate living systems, such as soil, which provide renewable resources for the economy. Technical cycles recover and restore products, components, and materials through strategies like reuse, repair, remanufacture or (in the last resort) recycling.

Origins of the circular economy concept

The notion of circularity has deep historical and philosophical origins. The idea of feedback, of cycles in real-world systems, is ancient and has echoes in various schools of philosophy. It enjoyed a revival in industrialised countries after World War II when the advent of computer-based studies of non-linear systems unambiguously revealed the complex, interrelated, and therefore unpredictable nature of the world we live in – more akin to a metabolism than a machine. With current advances, digital technology has the power to support the transition to a circular economy by radically increasing virtualisation, de-materialisation, transparency, and feedback-driven intelligence.

Circular economy schools of thought

The circular economy model synthesises several major [schools of thought](#). They include the functional service economy (performance economy) of Walter Stahel; the Cradle to Cradle design philosophy of William McDonough and Michael Braungart; biomimicry as articulated by Janine Benyus; the industrial ecology of Reid Lifset and Thomas Graedel; natural capitalism by Amory and Hunter Lovins and Paul Hawken; and the blue economy systems approach described by Gunter Pauli.



Thank you

This document will continue to grow and evolve to mirror our industry and the sustainable fashion movement.

The most recent edits were made on January 14, 2019.