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The Complicated Choices in a Cup of Coffee

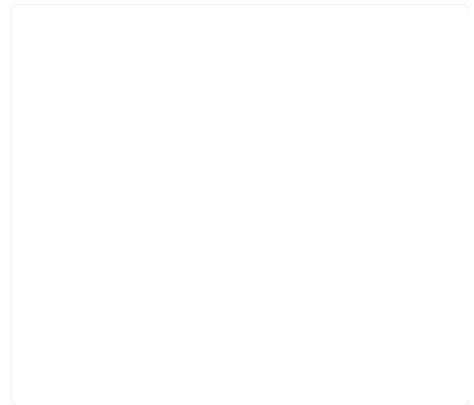


By [Gemma Alexander](#)

© MAY 5, 2021 [Coffee](#)

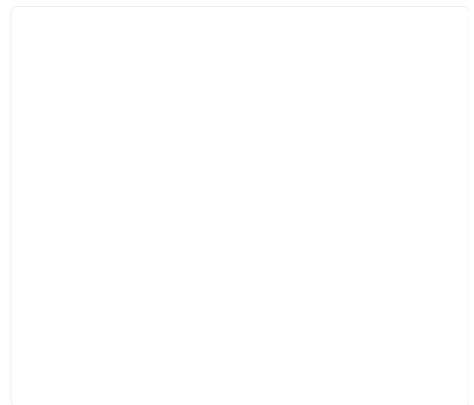


Coffee can be complicated, and I'm not even talking about the heated debates over cold-brew versus percolator. Coffee is made from the beans of a tropical tree that may be grown in small family farms or vast monoculture plantations. Your coffee beans pass from farmers to processors to traders to importers to roasters to retailers before finding their way into your kitchen. At every step of production there are cost, environmental, and ethical tradeoffs. Finding a truly sustainable cuppa might be impossible, but coffee's carbon emissions can vary by [up to 77%](#). A little education about your



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coffee choices makes it easier to [shop your values](#).

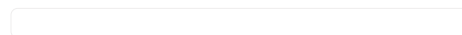
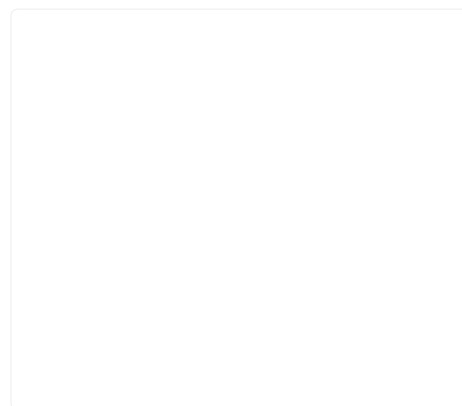
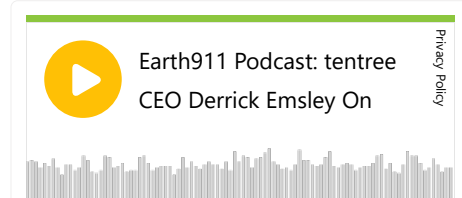
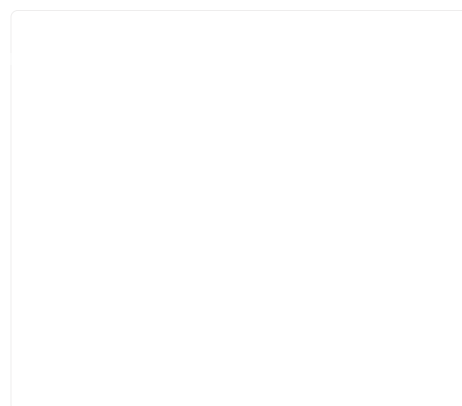
Quitting Coffee

Quitting coffee might seem the most sustainable choice. But that might be misguided. Sixty percent of the world's coffee is produced by 12.5 million [smallholders](#) (farming less than 12 acres) for whom coffee – a woody perennial that can be grown on slopes and even in shade – is one of the most sustainable crops available and who have few other options for income.



The Farm

Only five agricultural products [contribute to deforestation](#) more than coffee. More than [2.5 million acres](#) of forest just in Central America have been cleared for coffee. Growing coffee in full sun increases production but requires more chemical inputs and much more water – about [140 liters](#) per serving. Monocropping on previously forested mountainsides destroys habitat for [birds](#) and [butterflies](#) and increases erosion. Monocultures also increase the risk of crop disease and [extinction](#). Eco-minded farmers can make sun-grown coffee [more sustainable](#). Some sun-grown coffee is even [certified organic](#). But [shade-grown coffee](#) is a safer choice for sustainability. Coffee naturally grows in the shade of taller trees in high-elevation tropical forests.



The Farmer

Coffee produced on plantations in [17 countries](#) may be utilizing child labor or forced labor. Some of that coffee may be [finding its way](#) into the cups of coffee brands known for ethical sourcing standards. But there is [very little research](#) to quantify the problem. Small farmers are also vulnerable. The retail price of a cup of coffee is about [8-10 times](#) what the farmer receives. Wholesale prices often drop below the farmers' production cost.

Regardless of farm size, workers are often exposed to [dangerous levels](#) of agricultural chemicals, and [gender inequality](#) is a systemic problem.



Numerous fair trade certifications exist to address these issues. But a better choice may be direct trade, where coffee roasters buy their beans directly from the growers. There is no direct trade standard, and the [value of the term](#) is already being questioned. But at its best, direct trade allows consumers to learn about the product directly from someone close to its production. Buying direct trade coffee is more work because it means tracking down a [local roaster](#) or coffee shop that buys beans directly from the farm. But it may avoid the confusion that comes with larger certification schemes.

Processing

There are three different [fermentation methods](#) for turning

coffee cherries into coffee beans: wet, semi-washed, or dry. The amount of water used for processing is [insignificant](#) compared to the water used to grow the beans. But wet coffee processing plants are a major source of river pollution and even dry processors produce incredible [amounts of waste](#). There are sustainable [reuse strategies](#) for this waste, including ecological [restoration](#). But many certification systems only look at the farms where coffee is grown, and few farmers process their own beans.

Distribution

Surprisingly, international transport of coffee is a relatively [minor component](#) of its carbon impact. But coffee is a commodity that can be resold multiple times. A greater number of links in the distribution chain drives down prices for farmers while also obscuring the ethical and environmental standards of production

Retail

Is there a perfect product? [Different certifications](#) prioritize different aspects of sustainability. Although none of them is perfect, all of them are meaningful.

Coffee Certifications

[USDA Certified Organic](#)

Organic certification ensures that coffee is grown and processed without the use of synthetic chemicals. USDA [standards for coffee](#) also include manufacturing and supply chain controls, but do not explicitly provide protections for farmers or regulate waste produced by farms and processors. Some dilution of the product is permitted.



Source: ams.usda.gov

Rainforest Alliance

This certification forbids deforestation, encourages shade-farming, and guarantees farmers a “[Sustainability Differential](#)” payment. It allows dilution of the product with uncertified beans under some circumstances. After merging with UTZ in 2018, the Rainforest Alliance developed a [new certification standard](#) that replaces the pass/fail approach with an emphasis on context and progress beyond baseline requirements. Rainforest Alliance [doesn't automatically decertify](#) farms when human rights abuses are detected.



Source: rainforest-alliance.org

Bird Friendly Coffee

The Smithsonian's shade-grown certification includes and goes beyond organic farming standards, with specifications for canopy height and insect biodiversity. It does not allow any portion of uncertified coffee to be mixed into the product. This certification has the highest environmental standards, but it does not explicitly protect workers.



Source: Nationalzoo.si.edu

Fair Trade USA

Fair Trade USA offers coffee farmers a [guaranteed minimum price](#); since 2011, it has been \$1.40/lb (\$1.70/lb for certified

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organic). This may not be sufficient to keep farmers afloat. However, the last time coffee traded above this minimum was in 2017. The organization prohibits child and forced labor but admits no product certification system can provide a 100% guarantee. Consumers can trace Fair Trade coffee beans back to the source. Fair Trade USA was the American affiliate of Fair Trade International until 2011. [Despite its flaws](#), it still provides value.



Source: Just-food.com

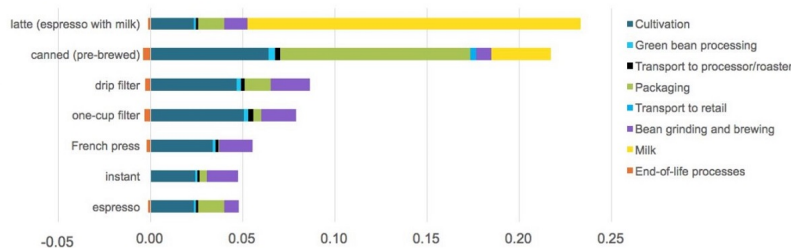
[Fairtrade America](#)

Fairtrade America launched as the American affiliate to Fair Trade International in 2013. It focuses on a handful of food products, including coffee. There is [significant overlap](#) between Fairtrade America's standards and those of Fair Trade USA.

What You Control

A [life cycle analysis](#) of coffee found that how you drink your coffee can have a major impact on how sustainable it is.

Carbon footprint comparison of coffee brewing scenarios



Source: Oregon.gov

Milk makes the latte the most carbon-intensive cup, while espresso has the lowest impact. Instant coffee is also a lower-carbon option, primarily because so little coffee is used per serving. The common practice of brewing a whole pot of coffee when only a few cups are needed then leaving the

warming plate on is as wasteful as single-serve capsules. Ceramic mugs washed in a dishwasher outperform all single-use cups. Even though laminate bags and vacuum-sealed “brick packs” are not recyclable, these two [packaging types](#) have the lowest impact, while the steel can, which is recyclable, performed worst. Coffee grounds can be composted or used in [other ways](#) to reduce waste.

Bottom Line

Harmful farming practices developed to produce the most coffee at the lowest price, so more sustainable options will always cost more. If you can afford to maintain your current habits of drinking certified coffee, that’s great. But if certified coffee seems too expensive, try this: commit to spending your current coffee budget on certified or direct trade coffee. Instead of mindlessly guzzling a pot of coffee every day, take time to appreciate coffee as the luxury item it really is. Each morning, drink a single cup slowly, savoring the sweet taste of sustainability.

Feature image by [Craig Melville](#) from Pixabay

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[Shopper’s Dilemma: Buy Fair Trade or Locally Produced?](#)



By [Gemma Alexander](#)

Gemma Alexander has an M.S. in urban horticulture and a backyard filled with native plants. After working in a genetics laboratory and at a landfill, she now writes about the environment, the arts and family. See more of her writing [here](#).

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