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Homebrewing More Sustainably



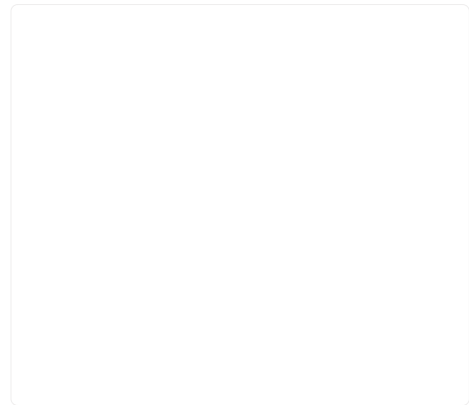
By [Gemma Alexander](#)

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Homemade is more sustainable than a commercial product from a huge corporation. At least, it feels like that would be true. But what about economies of scale? When it comes to beer, homebrewers know that beer you brew yourself tastes better. But is it less wasteful? Does it produce fewer emissions or use less energy per gallon? Finding the answer is surprisingly tricky, but there are practical steps you can take to make your homebrew as sustainable as it is tasty.

Tastes Great, Less Impact?



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What Do You Think?

Are companies responsible for recycling the products and packaging they make or is that the customer's responsibility?

- Companies are responsible
- It's a partnership between companies and customers
- Customers are responsible

NEXT

No one has performed life cycle analysis on the environmental impact of homebrewing, let alone analyses to compare homebrewing to the [environmental impact of commercial beers](#). Just think of the differences in methodology among industrial operations, craft breweries, and microbreweries. Surprisingly, industrial beer manufacturers are [twice as efficient](#) as craft brewers. But there are exceptions like [New Belgium's carbon-neutral Fat Tire Ale](#). The impacts are probably even harder to measure in the infinitely more varied world of homebrewing. Ultimately, if you enjoy brewing beer, and you enjoy the beer you brew, the real question is, how can you brew more sustainably?

Materials

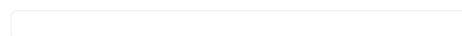
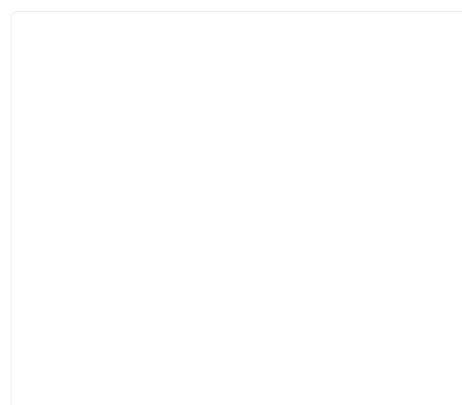
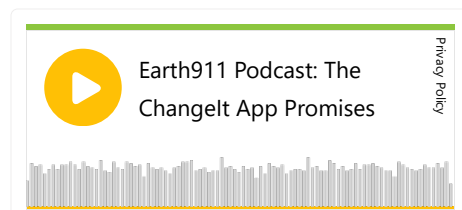
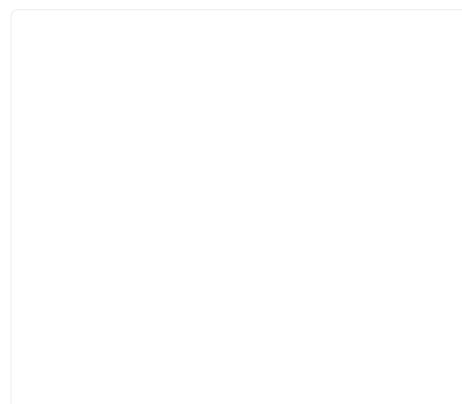
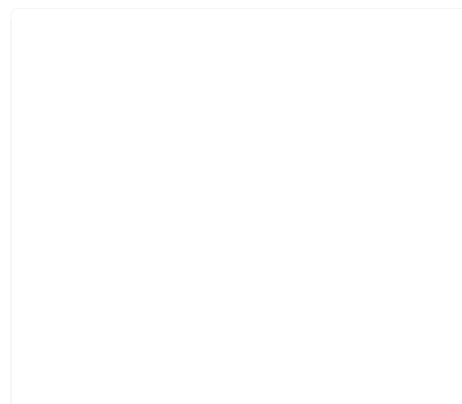
Most homebrewers either reuse bottles or skip packaging entirely by using kegs. There is inevitably some material loss with bottles, and washing them uses a lot of water (and energy to heat the water) so many brewers prefer kegging despite the energy use from refrigeration. Both options save energy because commercial recycling rates are so low. Only [half of aluminum cans](#) and [one-third of glass bottles](#) are recycled.

As for brewing equipment, long-lasting glass or steel is preferable to [plastic](#), a nonrecyclable petroleum product responsible for [microplastics](#) and [global pollution](#). Buy used equipment whenever possible and maintain your equipment properly so you don't have to replace it. If you upgrade, pass your old gear on to someone else; when it's no longer usable, recycle it.

Ingredients

Choose local, organic ingredients that have been minimally processed for the best and most sustainable beer. [Buying local](#) cuts transportation emissions and [builds local food resilience](#). Few people have room to grow their own barley but consider growing your own hops. Finding [organic](#) ingredients used to be a challenge for homebrewers, but it is getting easier.

[Using grain](#) instead of malted barley extract is not only the



sign of a more accomplished brewer, it skips processing and packaging steps and allows you to avoid additives like [corn syrup](#). It also gives you control over the waste stream. Use spent grain and hops in [bread](#) or in [dog treats](#); feed it to the [chickens](#), or use it to [make compost](#).

Many brewers don't know that you can [reuse yeast](#) and even maintain your own [cultures](#). But even if you buy yeast each time, when you're done, [don't put it down the drain](#) where it can interfere with water treatment.

As with [soda](#), the amount of carbon dioxide directly generated during fermentation is negligible when compared to other activities – like burning fossil fuels to deliver all those brewing supplies.



Buy local ingredients when you can and consider growing your own hops.

Energy and Water

When it comes to transportation emissions, [last mile distribution](#) has more impact than delivery to a centralized facility, which is a drawback of homebrewing. But finished homebrew doesn't require distribution, which is [nearly 10%](#) of the impact of commercial beers. It's hard to say whether bringing home beer ingredients or finished beer generates more emissions. Either way, buying in bulk will minimize trips.

There is often a trade-off between saving water and saving electricity. Which you prioritize will depend on your local water supply and the [source of your electricity](#). Unless your home is powered by [renewable energy](#), it will be hard to compete with the efficiency and huge solar arrays of commercial breweries. You can [cut down on the energy you use](#) by using

the right size pot for the heat source and volume of water. Quality cookware will heat evenly and faster, which will reduce boiling time. Accurate readings from a good thermometer will help you be more efficient and improve your brew. Insulating the fermentation vessel will maintain the correct temperature without the need for external heating or refrigeration.

Commercial brewing takes at least [four liters](#) of water to make one liter of beer (one gallon to make two pints). It can take [five to 10 gallons](#) of water to produce one gallon (four pints) of homebrew. But you can use less water by chilling your wort more efficiently. Instead of running cold water, use an ice bath or a [wort chiller](#). When you're done, water plants with the bathwater or use the spent hot water from a wort chiller to clean your equipment. Using a temperature-controlled fermentation chamber allows you to [skip the chilling step](#) entirely. Whether you chill first or not, [kegging](#) can save water by eliminating bottle washing.



For your brewing equipment, steel or glass is preferable — buy used if you can.

Cleaning

Even though cleaning is the biggest use of water in brewing, don't cut corners on this step. By all means, use [eco-cleaners](#), but most importantly use good technique. The most wasteful batch of beer is the one you have to throw out. (But if you do get a bad batch, minimize the impact by filtering it through your nutrient-hungry [lawn](#) rather than the municipal water purification system.)

Keep Learning

Brewers are always trying to get better. To explore the sustainable side of homebrewing in-depth, try one of these books:

- [Homebrew Beyond the Basics: All-Grain Brewing & Other Next Steps](#)
- [Sustainable Homebrewing: An All-Organic Approach to Crafting Great Beer](#)
- [The Wildcrafting Brewer: Creating Unique Drinks and Boozy Concoctions from Nature's Ingredients](#)

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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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