

# Go Big or Go Home: A Comparison of Sustainability in Macrobreweries, Craft Breweries, and Local Breweries

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## Introduction

Beer has been a favorite drink amongst Americans for centuries. An influx of German immigrants in the mid-1800s spurred the growth of the brewing industry when they brought with them the popular lager style of beer. Advances in technology allowed breweries to store their beer longer and transport it to more locations. The World Wars and Prohibition caused a decline in the brewing industry, but it wasn't long before the industry recovered. In more recent years, the industry has seen tremendous growth in the craft brewing industry in particular. The craft brewing industry has increased by 90% in just 20 years. Throughout its growth, the craft brewing industry has gained a reputation for being more sustainable than other types of breweries. However, considering how resource intensive brewing is and how large craft breweries are becoming, it is important to question whether or not they are more sustainable than macrobreweries or smaller, local breweries. I argue that due to their numerous sustainable efforts and their willingness to share what sustainable methods they use, craft breweries are indeed the most sustainable type of brewery.



## Results

The results show that the craft breweries, New Belgium and Sierra Nevada, are leading the way in sustainability with 19 and 18 points, respectively. However, the local brewery, Bad Habit, is not far behind with 16 points. Anheuser-Busch is significantly below the other breweries at only 12 points. While it can be concluded that Sierra Nevada and New Belgium are significantly more sustainable than Anheuser-Busch, it is more difficult to assume that they are more sustainable than local breweries because of the less significant difference.

| Sustainability Scores | Sourcing Methods | Water Use | Energy Use | Packaging | Transportation | Total |
|-----------------------|------------------|-----------|------------|-----------|----------------|-------|
| Anheuser-Busch        | 2                | 3         | 2          | 3         | 2              | 12    |
| Sierra                | 4                | 2         | 5          | 3         | 4              | 18    |
| New Belgium           | 4                | 4         | 4          | 4         | 3              | 19    |
| Bad Habit             | 3                | 3         | 2          | 5         | 3              | 16    |

## Methods

Case studies of Anheuser-Busch (macrobrewery), Sierra Nevada (craft), New Belgium (craft), and Bad Habit (local) were conducted to assess the sustainability of different sizes of breweries. A combination of literature reviews, brewery website analyses, and interviews were used to attain the needed information. A grading scale (Table 1) was developed to determine which brewery is the most sustainable.

| Sustainability Scoring Rubric | Sourcing Methods   | Water Use  | Energy Use   | Packaging   | Transportation   |
|-------------------------------|--|--|--|---|--|
| 1-2                           | No significant efforts to source locally or source from sustainable businesses | Water to beer ratio over 4.0; no water recycling; no significant water reduction efforts | Few renewables; not much energy recycling; no significant efforts to reduce energy | Bottles only; little to no recycled content; no efforts to reduce packaging materials   | Trucks only; no efforts to reduce transportation impacts on environment        |
| 3-4                           | Some local resources/resources from sustainable businesses                     | Water to beer ratio under 4.0; some water recycling; some water reduction efforts        | Uses some renewables; recycles energy; some goals to reduce energy                 | Few cans; some recycled content; efforts to reduce packaging materials                  | Some rail; a few efforts to reduce transportation impacts on environment       |
| 5                             | Mostly local resources/resources from sustainable businesses                   | Water to beer ratio under 3.8 hl; frequent water recycling; many water reduction efforts | Mostly renewables; much recycling of energy; many goals to reduce energy           | Cans or mostly kegs; much recycled content; clear efforts to reduce packaging materials | Uses mostly rail; many efforts to reduce transportation impacts on environment |



## Conclusion

Craft breweries have the reputation of being more sustainable than other sizes of breweries, and this seems to be the case in this study. The two breweries studied are taking extra steps to ensure that their businesses are sustainable. They are large enough that they have the funds to implement new sustainable methods, and they operate on a scale that makes sense for them to employ eco-friendly brewing techniques. Due to their small size and smaller scale of operation, microbreweries are also able to operate fairly sustainably. For example, Bad Habit's strength is that it caters primarily in-house to the local public. However, it lacks much of the monetary means to implement more cutting edge sustainable technology. These results are not entirely conclusive due to the small size of the study, so doing a study that includes more breweries could shed more light on sustainability in the different levels of brewing. As the brewing industry continues to grow, it is important for consumers to know where to get the most sustainable brew.

Picture Sources:  
[https://en.wikipedia.org/wiki/New\\_Belgium\\_Brewing\\_Company](https://en.wikipedia.org/wiki/New_Belgium_Brewing_Company)  
<http://finkens.com/bad-habit-makes-good-beer/>  
<http://beerstreetjournal.com/2-guys-see-millions-in-damage-for-watered-down-budweiser/anheuser-busch-logo-7/>  
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