

Brewers Association  
2016 Sustainability  
Benchmarking Update



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Interior photos provided by breweries unless otherwise noted.

# summary

In 2015, the Brewers Association (BA) published the first [Sustainability Benchmarking Report](#), which included sector data from 2014. Since then, the BA has provided members an online suite of [Sustainability Benchmarking Tools](#) to drive industry-wide continuous improvement in environmental and financial performance.

This document is an update to the inaugural report, and it highlights certain data from 2015. Electricity, natural gas, water, and purchased CO<sub>2</sub> were evaluated based on a normalized scale per barrel (bbl) of beer packaged.

Best-in-class performance from the first two years of submitted data includes:

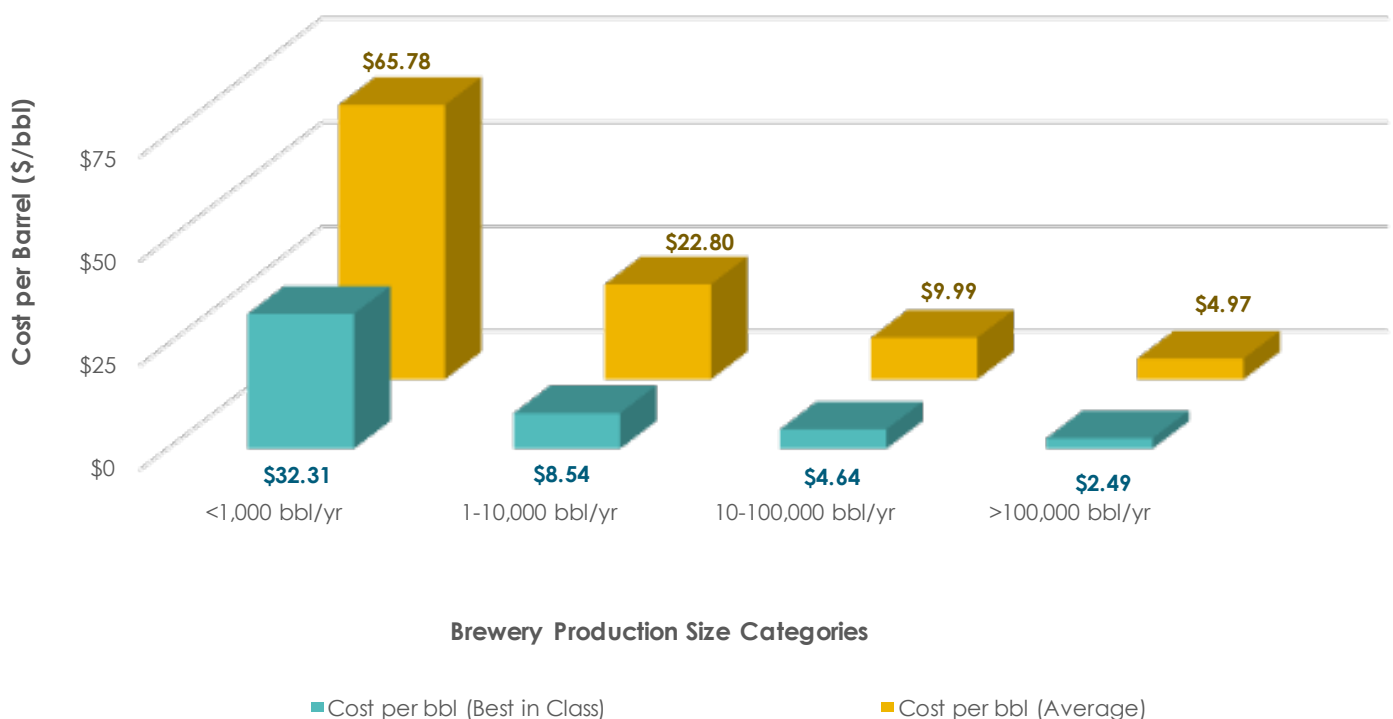
- 6.7 kWh electricity/bbl (ranged from 6.7-709)
- 0.84 therm natural gas/bbl (ranged from 0.84-37.6)
- 3.31 bbl water/bbl (ranged from 3.31-81.7)
- 0 lb CO<sub>2</sub> purchased/bbl (ranged from 0-78)

Sustainability benchmarking and sharing of best practices is not a one-time project. The online benchmarking tools are intended to provide an ongoing platform that constantly refreshes and identifies new best practices through tracking of sustainability-related key performance indicators (KPIs). As benchmarking participation grows, the data will become more robust, and drivers behind those best-in-class performers will be identified and shared.

It is encouraging to see the number of BA members that have recognized business value in continuing to input monthly data through 2016 and into 2017, setting and tracking progress against targets, and sharing best practices.

The next benchmarking report will focus on trends and other insights from the analysis of data from 2014, 2015, and 2016. Data presented in this report supersedes previous studies, and should be considered the most up-to-date.

## 2015 Best-in-Class Cost per Barrel



# acknowledgements

This ongoing project would not be possible without the support of the BA Sustainability Subcommittee and the craft breweries that collected data and shared best practices.

## BREWERS ASSOCIATION SUSTAINABILITY SUBCOMMITTEE:

*Cheri Chastain\* – Sierra Nevada Brewing Co.*

*Christian Ettinger – Hopworks Urban Brewery*

*Ian Hughes – Goose Island Beer Co.*

*Saul Kliorys – Great Lakes Brewing Co.*

*Peter Kruger – Bear Republic Brewing Co.*

*Walker Modic – Bell's Brewery, Inc.*

*Damon Scott – Brewers Association*

*Chuck Skypeck – Brewers Association*

*Kris Spaulding – Brewery Vivant*

*John Stier – Brewers Association*

*Luke Truman – Allagash Brewing Co.*

*Katie Wallace\* – New Belgium Brewing Co.*

*\*Committee Co-Chair*

We would also like to thank the sustainability management consulting team from [Antea@Group](mailto:Antea@Group), who collected and analyzed the data and developed this benchmarking update.

Particular thanks go to the many breweries that took the time to enter data and provided input for this update. Sharing sustainability-related data and best practices in the craft beer segment is an ongoing process. Forty-seven breweries have now submitted data for two consecutive years, and are listed in the Returning Reporters group, on the following page. These breweries have found value in tracking their data and benchmarking against their own operations over time. Thirty-one breweries have joined the reporting effort for 2015 and are listed in the First Time Reporters group.

The BA is excited to see the influx of additional breweries signing up for access to the online benchmarking tools. This helps increase sharing of best practices and demonstrates the industry's focus on efficiency and responsible growth and operations. The table below presents the number of participating breweries that submitted data and the number of BA-registered members in 2015.

Production Volume Categories, Benchmarking Study Participants, and BA Membership

Production Volume	Benchmarking Participants**	BA Membership
1 to 1,000 bbl/yr	14 breweries	2,528 breweries
1,000 to 10,000 bbl/yr	26 breweries	1,052 breweries
10,000 to 100,000 bbl/yr	28 breweries	195 breweries
100,000 to 1,000,000 bbl/yr	10 breweries	36 breweries

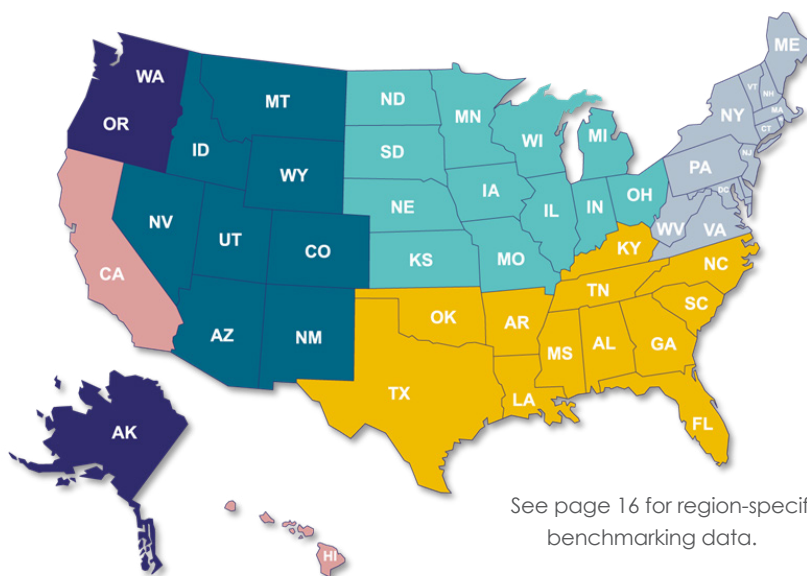
\*\* Breweries may not have submitted data for all environmental attributes benchmarked.



# reporting breweries

## Returning Reporters

Alaskan Brewing Co. (AK)  
 Allagash Brewing Co. (ME)  
 Bear Republic Brewing Co. (CA)  
 Bell's Brewery, Inc. - Comstock (MI)  
 Bell's Brewery, Inc. - Kalamazoo (MI)  
 Beltway Brewing Company (VA)  
 Brewery Vivant (MI)  
 Broken Compass Brewing (CO)  
 Craft Brew Alliance - Kona (HI)  
 Craft Brew Alliance - Portland (OR)  
 Craft Brew Alliance - Portsmouth (NH)  
 Craft Brew Alliance - Woodinville (WA)  
 Discretion Brewing (CA)  
 Dry Dock Brewing Co. - North (CO)  
 Dry Dock Brewing Co. - South (CO)  
 Elliott Bay Brewhouse and Pub - Burien (WA)  
 Elliott Bay Public House and Brewery - Lake City (WA)  
 Elliott Bay Brewery and Pub - West Seattle (WA)  
 Epic Brewing Company (CO)  
 Ethereal Brewing (KY)  
 FiftyFifty Brewing Co. (CA)  
 Flying Fish Brewing Co. (NJ)  
 Fremont Brewing Co. - East (WA)  
 Fulton Beer (MN)  
 Goose Island Beer Co. (IL)  
 Great Divide Brewing Co. (CO)  
 Great Lakes Brewing Co. (OH)  
 Hopworks Urban Brewery (OR)  
 Iron Horse Brewery (WA)  
 Jackie O's Taproom Brewery - Campbell St. (OH)  
 Jackie O's Public House & Brewpub - West Union St. (OH)  
 Lazy Magnolia Brewing Co. (MS)  
 Maine Beer Co. (ME)  
 New Belgium Brewing Co. (CO)  
 Odell Brewing Co. (CO)  
 Revolution Brewing - Kedzie (IL)  
 Rising Tide Brewing Co. (ME)  
 Sierra Nevada Brewing Co. - Chico (CA)  
 The Saint Louis Brewery - Bottleworks (MO)  
 The Saint Louis Brewery - Taproom (MO)  
 Stillmank Brewing Company (WI)  
 Upland Brewing Co. (IN)  
 Upper Hand Brewery (MI)  
 Urban Chestnut Brewing Co. - Grove (MO)  
 Urban Chestnut Brewing Co. - Midtown (MO)  
 Yards Brewing Co. (PA)  
 Zipline Brewing Co. (NE)



## First Time Reporters

10 Barrel Brewing Co. (OR)  
 14th Star Brewing Co. (VT)  
 Arbor Brewing Company (MI)  
 Aslan Brewing Company (WA)  
 Bathtub Row Brewing Co-op (NM)  
 Blue Point Brewing Co. (NY)  
 Breckenridge Brewery (CO)  
 Butcherknife Brewing Company (CO)  
 Dark Horse Brewing Co. (MI)  
 EagleMonk Pub and Brewery (MI)  
 Ellison Brewery & Spirits (MI)  
 Elysian Brewing Co. (WA)  
 Four Peaks Brewing Co. (AZ)  
 Fullsteam Brewery (NC)  
 Grand Rapids Brewing Company (MI)  
 Horse & Dragon Brewing Company (CO)  
 Land-Grant Brewing Company (OH)  
 Left Hand Brewing Company (CO)  
 Maui Brewing Co. - Kihei (HI)  
 Mother's Brewing Co. (MO)  
 Mount Hood Brewing Co. (OR)  
 North Coast Brewing Co. Inc. (CA)  
 One Well Brewing (MI)  
 Pigeon Hill Brewing Co. (MI)  
 Rockford Brewing Company (MI)  
 Sierra Nevada Brewing Co. - Mills River (NC)  
 SKA Brewing (CO)  
 Town In City Brewing Co. (TX)  
 Upslope Brewing Company - Flatiron Park (CO)  
 Upslope Brewing Company - Lee Hill (CO)  
 Witch's Hat Brewing Co. (MI)

# objective

This Sustainability Benchmarking Update includes 2015 data and supplements the original [Sustainability Benchmarking Report](#) produced by the Brewers Association (BA), which included 2014 data.

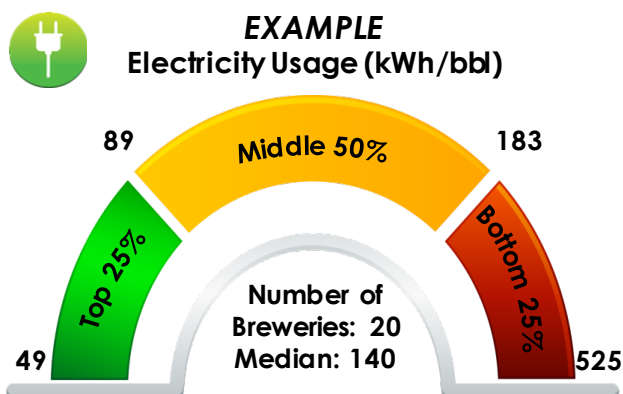
This update focuses on four environmental attributes as key performance indicators (KPIs): electricity, natural gas, water, and carbon dioxide. In some sections, wastewater costs and greenhouse gas emissions are also discussed. Although there are other KPIs highlighted in the 2015 Sustainability Benchmarking Report, and additional metrics can be entered on the dashboard, KPIs presented in this report capture the primary environmental and economic attributes of concern to the craft brewing industry.

In the following pages, there are comparisons between production size categories, industry market segments, and geographic regions. Each comparison provides a different perspective for breweries regarding usage rates and costs among their peers. We hope you find the information presented in this report helpful for informing business and operational decisions that will continue to make your brewery more sustainable and more profitable for years to come.

**Project Description:** The BA engaged Antea Group, a global consultancy, to provide a supplementary update to the inaugural benchmarking study. This update provides a brief summary of utility, resource, and production data from 78 breweries. Antea Group ensures trusted third-party data collection and aggregation, user anonymity, and consistent use and comparison of KPIs. Participation in the study was voluntary, with requests for participation made through the BA, state and local guilds, and Antea Group. Participants were asked to submit their 2015 monthly data using the BA online benchmarking dashboard.

**Environmental Attributes:** Normalized usage and cost efficiencies for electricity, natural gas, water, and purchased carbon dioxide are discussed. The cost of municipal wastewater treatment and calculation of greenhouse gas emissions are also included. Other environmental attributes in the online database include solid waste disposal and recycling efficiencies.

**Normalizing to Barrels Packaged or Taxable Beer:** The usage and cost of attributes were normalized on a per-barrel scale for each participating brewery. A standard normalizer global beverage companies use in determining intensity factors is based on volume of packaged product. Packaged beer, "finished beer," and volume that goes straight to brite beer tanks for onsite consumption are all included in this category.

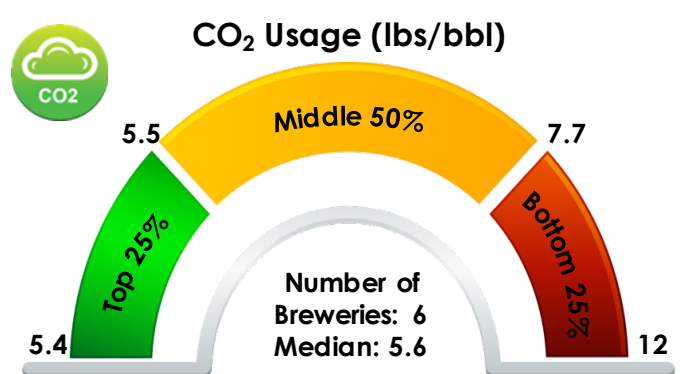
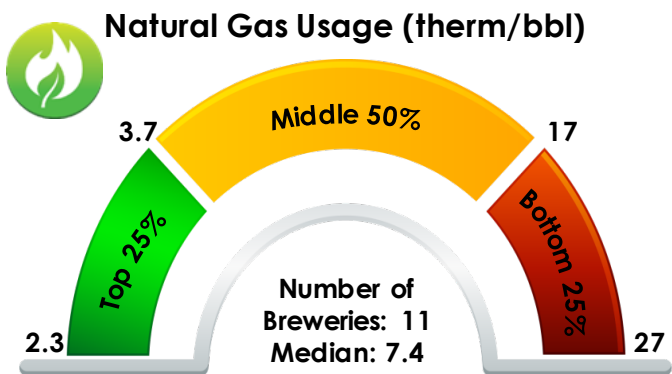
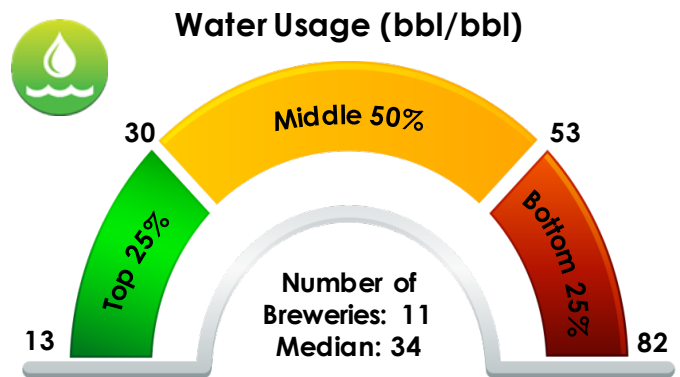
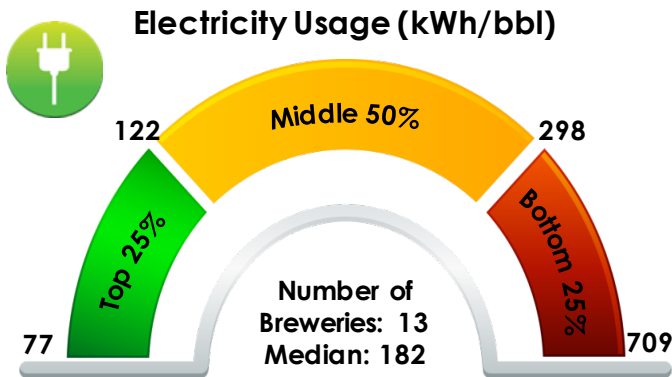


## What you'll see

The figure to the left is an example of an efficiency chart used to show the top 25%, the middle 50%, and the bottom 25% of performers in production categories. A separate chart is created for each of the four attributes analyzed in this update. In this case, a brewery operating at 75 kWh/bbl would be in the top 25% of peer breweries. This graphic is meant to stimulate awareness of peer efficiency so best practices can be shared and the overall sector can continue to improve.

# benchmarking

0 – 1,000 bbl/year



This production category includes over 65 percent of all BA member breweries. It is mainly characterized by small brewpubs and taproom-focused production breweries. The BA defines a brewpub as a restaurant-brewery that sells 25 percent or more of its beer on-site. The beer is brewed primarily for sale in the restaurant and bar, and is often dispensed directly from brite tanks. Most brewpubs do not separately meter incoming utilities, so there is no easy way to apportion restaurant versus brewery contributions. These data reflect the combined impact of both operations. The normalized usage and costs for this category will be the highest since it does not reflect economies of scale and may be heavily influenced by restaurant operations.

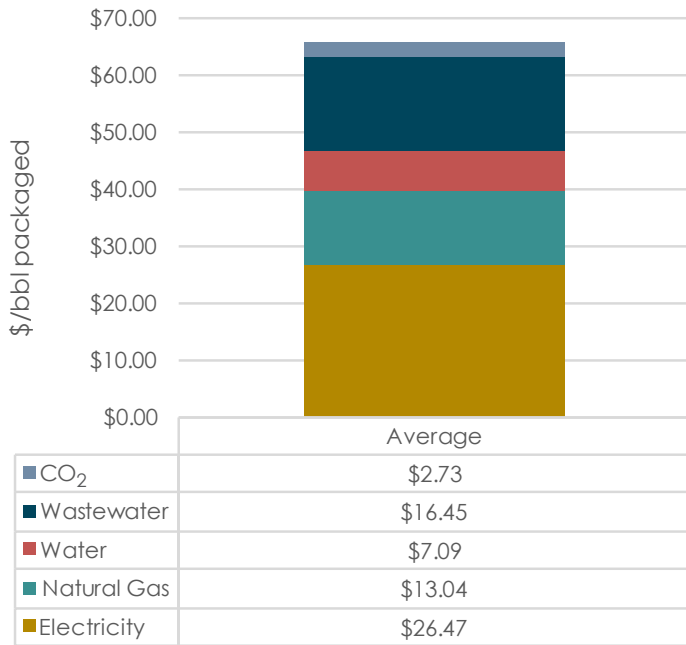
**\*Annual cost savings in this report are based on average brewery-reported costs. Annual environmental benefits in this report are calculated using equivalency factors obtained from the following websites:**

<https://water.usgs.gov/edu/qa-home-percapita.html>

<https://www.eia.gov/tools/faqs/faq.php?id=97&t=3>

<https://www.epa.gov/greenvehicles/greenhouse-gas-emissions-typical-passenger-vehicle-0>

### Average 2015 Cost per Barrel (\$)



If a brewery in this size category could adopt best practices to move from the bottom 25% to the top 25%, they could see the following potential benefits\*:

**Annual Cost Savings - \$31,000**

**Annual Environmental Benefits:**

- 715,000 gallons of water saved (enough to supply 22 people in the community with all of their water needs for one year).
- 310,000 lbs of avoided greenhouse gas emissions (the equivalent of taking 30 passenger vehicles off the streets).

**Want to Improve?**

<https://www.brewersassociation.org/best-practices/sustainability/>

### Did you know?

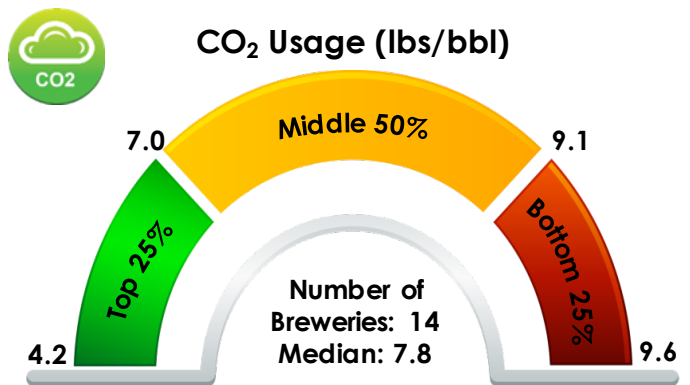
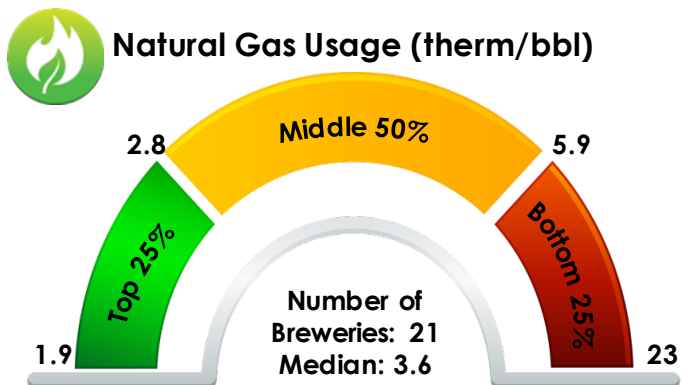
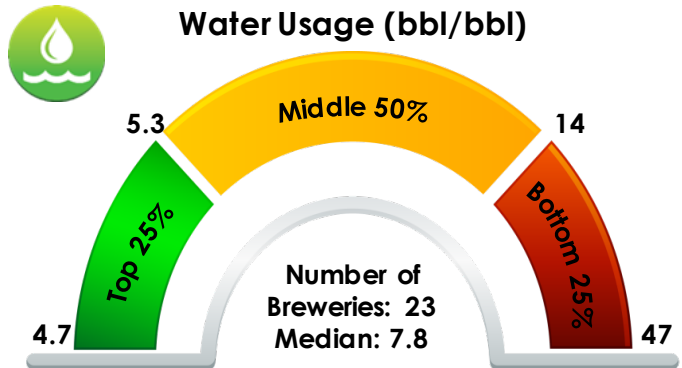
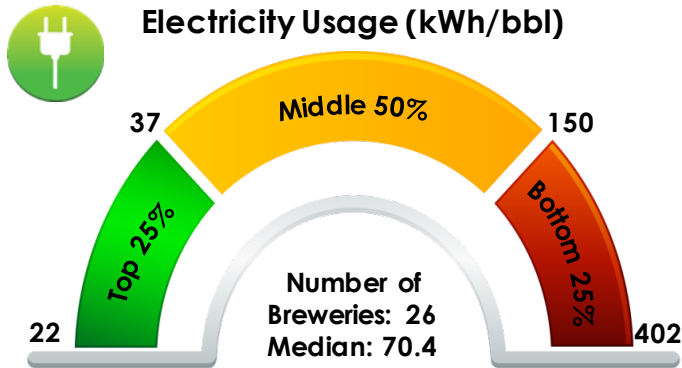
Rockford Brewing Company, in Rockford, Michigan, utilizes a number of efficient technologies and facility designs; including Nest thermostats, energy recovery ventilation, daylighting windows, and ceiling fans in stairways to keep air circulating through the two-story building. Rockford Brewing is committed to local sourcing, ranging from wood for their timberframe bar, tables, and flooring to the ingredients for the food menu and many of their beers. They take great pride in working with nearby businesses owners. They also take extra steps to make sure waste is properly handled. This sometimes includes driving their own cars with loads to the recycling center because curbside recycling is not yet available for commercial service in Rockford. This has driven the brewery to collaborate with other community groups to generate demand for commercial recycling and composting pickup services in their small town.





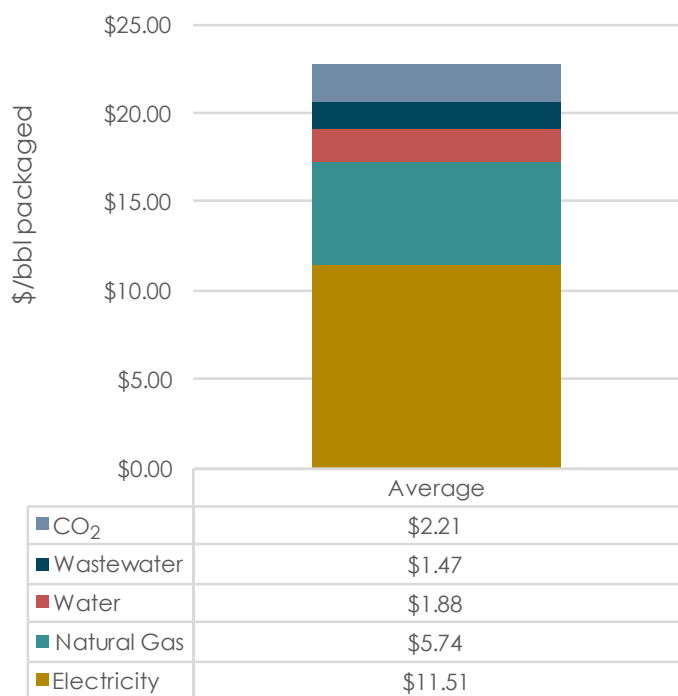
# benchmarking

1,000-10,000 bbl/year



This production category reflects over 25 percent of all BA member breweries and includes brewpubs and microbreweries. The BA defines a microbrewery as producing less than 15,000 barrels of beer per year with 75 percent or more of its beer sold off-site. The introduction of primary and secondary packaging materials for off-site sales increases the usage of key utilities. This cohort includes brewpubs that do not separately meter incoming utilities, so there is not an easy way to apportion restaurant versus brewery contributions. The normalized usage and costs for this category are still relatively high, because small breweries do not benefit from economies of scale and may be impacted by restaurant operations.

### Average 2015 Cost per Barrel (\$)



If a brewery in this size category could adopt best practices to move from the bottom 25% to the top 25%, they could see the following potential benefits:

**Annual Cost Savings - \$190,000**

**Annual Environmental Benefits:**

- 3.9 million gallons of water saved (enough water to supply 119 people in the community with all of their water needs for one year).
- 1.9 million lbs of avoided greenhouse gas emissions (the equivalent of taking 185 passenger vehicles off the street).

**Want to Improve?**

<https://www.brewersassociation.org/best-practices/sustainability/>

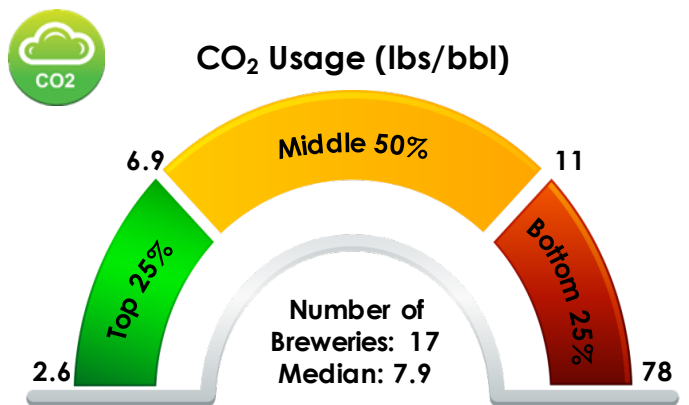
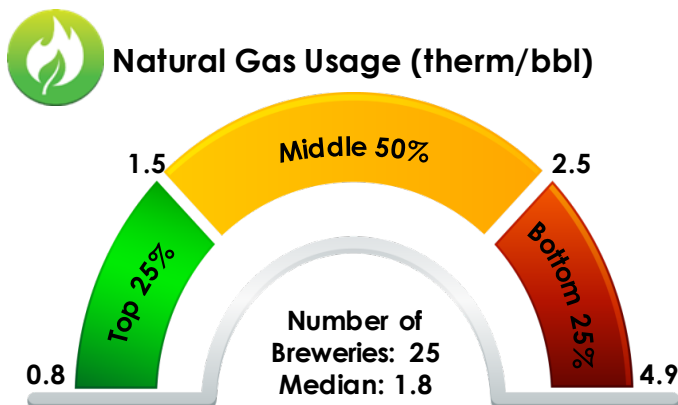
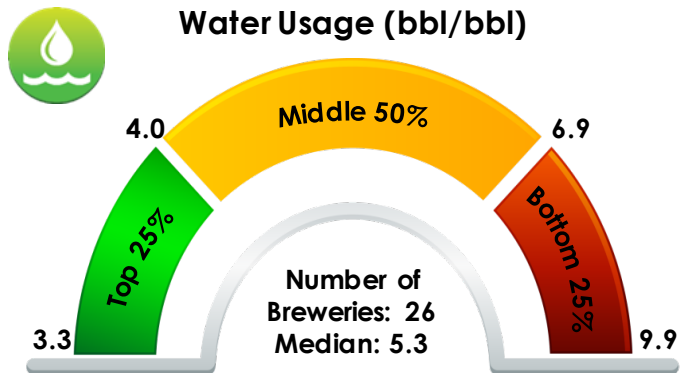
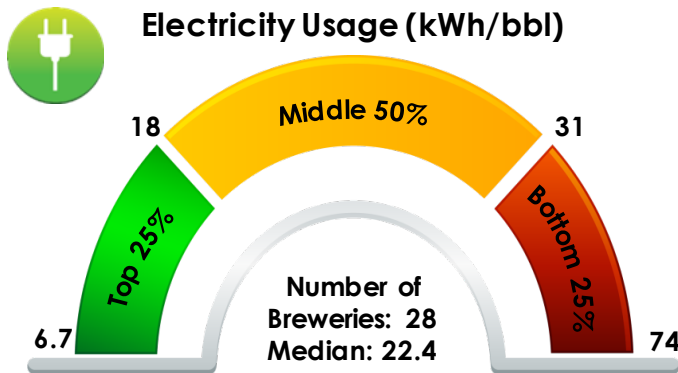
### Did you know?

Maine Beer Co., in Freeport, Maine, uses 100% sustainable electricity at the brewery. They installed solar panels in 2015 by utilizing a US Department of Agriculture grant for small businesses. When they need more power than what their solar panels can produce, certified wind e-credits are purchased to sustainably offset their usage. They are one of three breweries that reported using 100% green electricity in 2015. Maine Beer Co. also has a contract with a local company that collects the brewery's compostable materials from their tasting room. Some of the compost is used in an anaerobic digester for power, and some creates fertilizer which is then sold back to local farmers. A tip from the brewery is to look at Craigslist – some of the best recycling partners are found there!



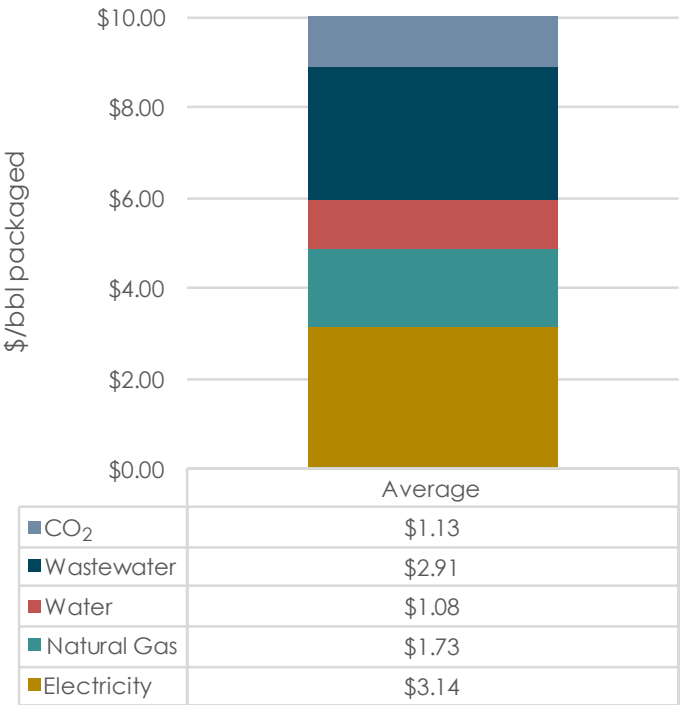
# benchmarking

10,000-100,000 bbl/year



This production category reflects about 5 percent of all BA member breweries, and includes a mix of microbreweries and regional breweries. The BA defines regional breweries as those with annual beer production between 15,000 and 6,000,000 barrels. The normalized usage and costs for this category begin to reflect some economies of scale. A more consistent brewery focus on sustainability and the presence of dedicated sustainability personnel are more common. Many breweries in this size category are leveraging sustainability for product differentiation. Others see sustainability as a must-do to remain competitive. Breweries in this size category often implement innovative best practices to increase efficiencies and drive down costs.

### Average 2015 Cost per Barrel (\$)



If a brewery in this size category could adopt best practices to move from the bottom 25% to the top 25%, they could see the following potential benefits:

**Annual Cost Savings - \$333,000**

#### Annual Environmental Benefits:

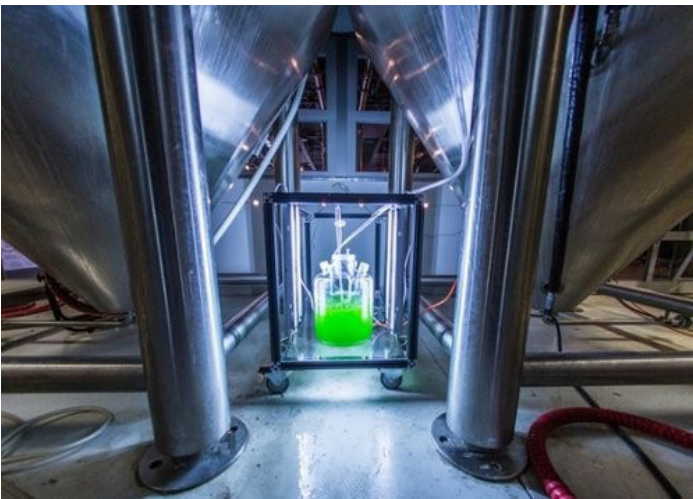
- 7.4 million gallons of water saved (enough to supply 224 people in the community with all of their water needs for one year).
- 3.3 million lbs of avoided greenhouse gas emissions (the equivalent of taking 318 passenger vehicles off the street).

#### Want to Improve?

<https://www.brewersassociation.org/best-practices/sustainability/>

### Did you know?

Upslope Brewing Company, in Boulder, Colorado, works with the University of Colorado, and Boom Algae, to grow algae in jugs that reside between the brewery's 120-barrel fermenters using excess rinse water from the canning line. CO<sub>2</sub> and other fermentation waste byproducts are fed to the algae. Currently, Upslope is working on a 10-liter system for growing the algae, but a 30-liter system is ultimately desired. The algae is harvested and sold to Living Ink Technologies, which uses it to make 100 percent biodegradable green ink for screen printing. More colors are in development, and Upslope Brewing Company is exploring ways to incorporate the ink in its brewery menus and other promotional materials!

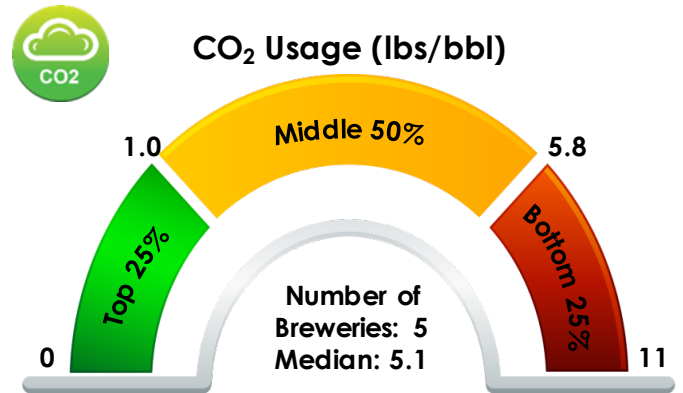
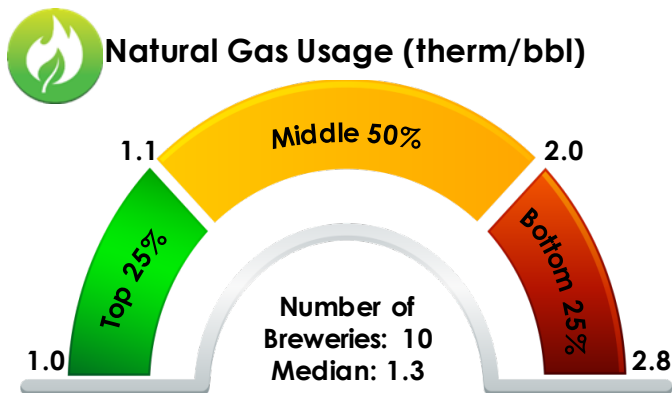
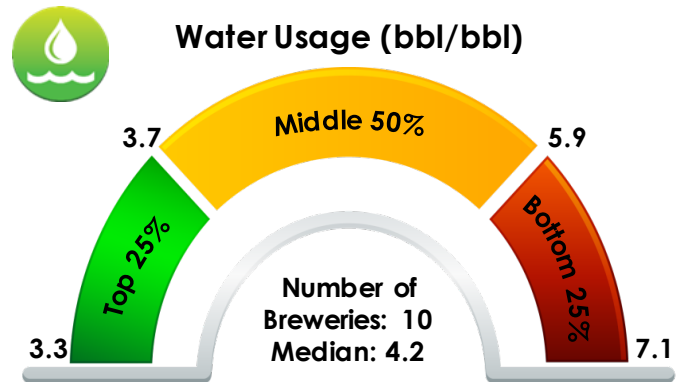
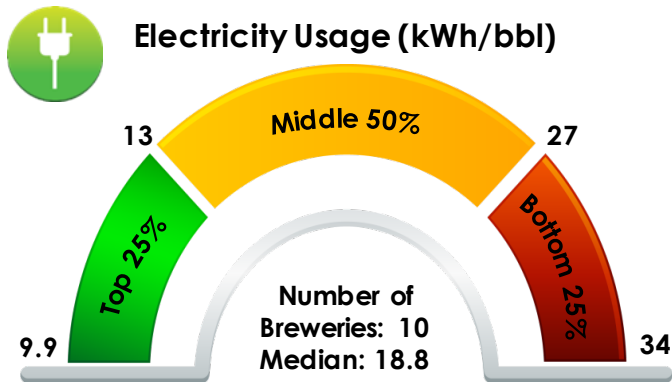


The algae between the fermenters at Upslope Brewing Co.



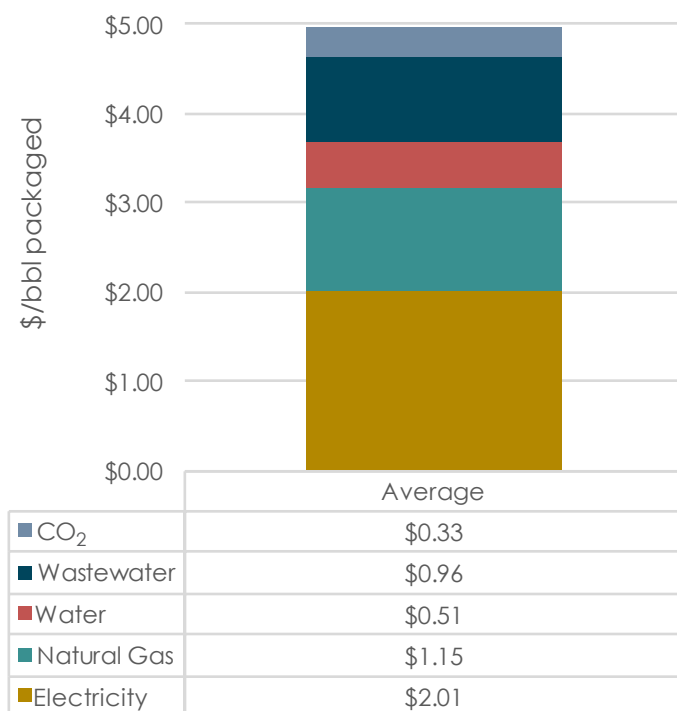
# benchmarking

100,000+ bbl/year



This production category reflects about 1 percent of all BA member breweries. The normalized usage and costs for this category reflect the greatest economies of scale. A consistent brewery focus on sustainability and the presence of dedicated sustainability personnel are relatively common. Breweries in this size category are often competing with large breweries and have adopted similar best practices. The greatest participation in the BA Sustainability Benchmarking Tools is from breweries in this size category (measured as a percentage of participating breweries to the total number of breweries in the size category).

### Average 2015 Cost per Barrel (\$)



If a brewery in this size category could adopt best practices to move from the bottom 25% to the top 25%, they could see the following potential benefits:

**Annual Cost Savings - \$1.7 million**

**Annual Environmental Benefits:**

- 46 million gallons of water saved (enough to supply 1,388 people in the community with all of their water needs for one year).
- 16 million lbs of avoided greenhouse gas emissions (the equivalent of taking 1,559 passenger vehicles off the street).

**Want to Improve?**

<https://www.brewersassociation.org/best-practices/sustainability/>

### Did you know?

In 1998, Alaskan Brewing Co., in Juneau, Alaska, invested in a closed-loop CO<sub>2</sub> recovery system due to high shipping costs, even at their small size of 40k-50k bbl/year. Their investment had a short payback period of three years, and it has been sustainably supplying production for almost 20 years!

Alaskan Brewing Co. also utilizes a unique practice to dry spent grain in a mash filter press (instead of using a lauter tun) and turns it into fuel. Engineers developed a process to take the spent, ground-up grain and burn it efficiently in a first-of-its-kind steam boiler, which powers the brewdeck; or in other words, they create "Beer Powered Beer."

Furthermore, Alaskan Brewing Co. reported using 100% green electricity in 2015. They are one of three benchmarking participant breweries to do so!

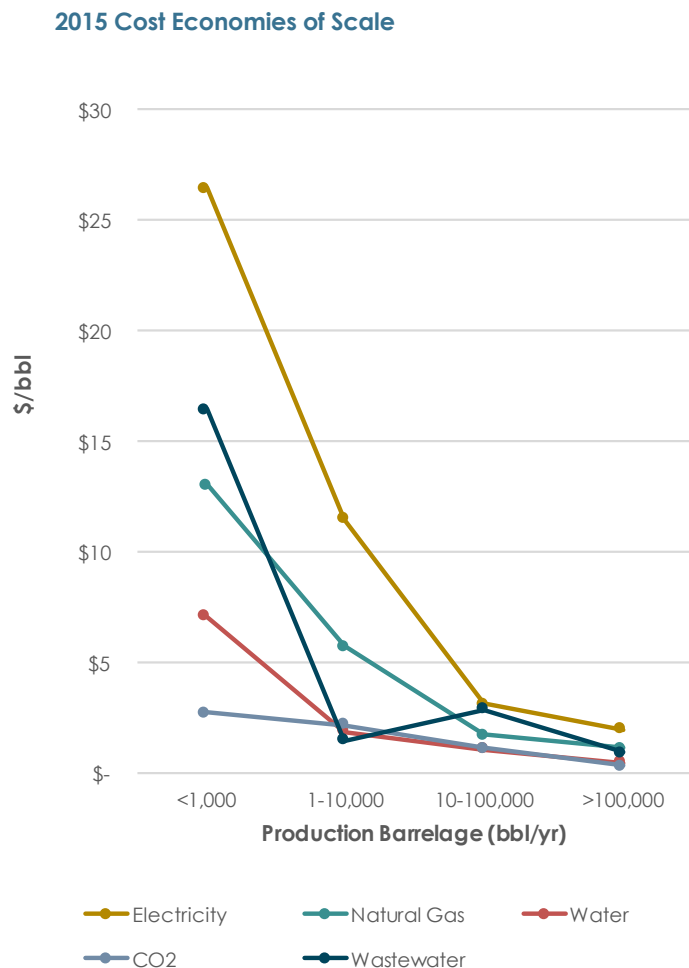


**Brewer Tyler Lindquist cleans the mash filter press at Alaskan Brewing Co.**

# additional insights

## Economies of Scale

Economies of scale are present, as evidenced in the cost per barrel figures and illustrated in the graphic below. The real economies come into play for breweries greater than 10,000 barrels produced annually. The most significant impact is to utility costs. Both electricity and natural gas costs per barrel are dramatically impacted by production size. It is likely that municipal wastewater treatment costs show a similar economy of scale. The limited data available for the 1,000 – 10,000 bbl/year size category may explain the shape of the line graph.



## Industry Market Segments

The data in the prior pages was presented and compared on a production barrelage scale. This section highlights market segment comparisons as another way to evaluate and benchmark brewery data, which may be more insightful for some breweries. As defined by the BA, the data has been classified into three distinct market segments for purposes of this comparison: brewpubs, microbreweries, and regional breweries. The median electricity, natural gas, water, and carbon dioxide usages and average 2015 cost per barrel figures are outlined below.

**Participants:** 14  
**Electricity:** 192 kWh/bbl  
**Natural Gas:** 18 therm/bbl  
**Water:** 34 bbl/bbl  
**Purchased CO<sub>2</sub>:** 6.6 lb/bbl  
**Average 2015 Cost:** \$65.21/bbl

Brewpubs

**Participants:** 35  
**Electricity:** 46 kWh/bbl  
**Natural Gas:** 3.3 therm/bbl  
**Water:** 7.4 bbl/bbl  
**Purchased CO<sub>2</sub>:** 7.9 lb/bbl  
**Average 2015 Cost:** \$18.68/bbl

Microbreweries

**Participants:** 29  
**Electricity:** 21 kWh/bbl  
**Natural Gas:** 1.8 therm/bbl  
**Water:** 5.0 bbl/bbl  
**Purchased CO<sub>2</sub>:** 7.0 lb/bbl  
**Average 2015 Cost:** \$9.31/bbl

Regional Breweries

## Geographic

In addition to comparing usage rates and cost on a production barrelage and by industry market segments, the BA also characterizes breweries by region. There are six regions as defined by the BA. The regional median electricity, natural gas, water, and carbon dioxide usages, as well as average 2015 cost per barrel, are outlined below.

### North Central

Participants: 28  
 Electricity: 68 kWh/bbl  
 Natural Gas: 3.5 therm/bbl  
 Water: 7.8 bbl/bbl  
 Purchased CO<sub>2</sub>: 7.6 lb/bbl  
 Average 2015 Cost: \$26.03/bbl



### Northeast

Participants: 9  
 Electricity: 26 kWh/bbl  
 Natural Gas: 2.2 therm/bbl  
 Water: 4.9 bbl/bbl  
 Purchased CO<sub>2</sub>: 8.6 lb/bbl  
 Average 2015 Cost: \$10.52/bbl



### Mountain West

Participants: 16  
 Electricity: 25 kWh/bbl  
 Natural Gas: 2.1 therm/bbl  
 Water: 5.3 bbl/bbl  
 Purchased CO<sub>2</sub>: 6.4 lb/bbl  
 Average 2015 Cost: \$11.75/bbl



### Pacific

Participants: 8  
 Electricity: 29 kWh/bbl  
 Natural Gas: 1.6 therm/bbl  
 Water: 5.2 bbl/bbl  
 Purchased CO<sub>2</sub>: 5.7 lb/bbl  
 Average 2015 Cost: \$16.88/bbl



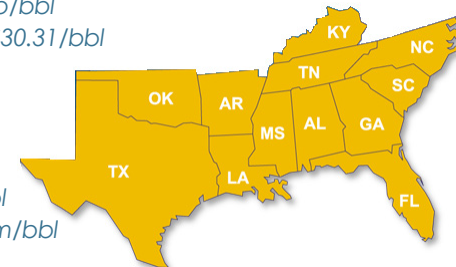
### Pacific Northwest

Participants: 12  
 Electricity: 34 kWh/bbl  
 Natural Gas: 2.6 therm/bbl  
 Water: 6.9 bbl/bbl  
 Purchased CO<sub>2</sub>: 5.9 lb/bbl  
 Average 2015 Cost: \$30.31/bbl



### South

Participants: 5  
 Electricity: 69 kWh/bbl  
 Natural Gas: 2.5 therm/bbl  
 Water: 8.6 bbl/bbl  
 Purchased CO<sub>2</sub>: 13 lb/bbl  
 Average 2015 Cost: \$30.06/bbl

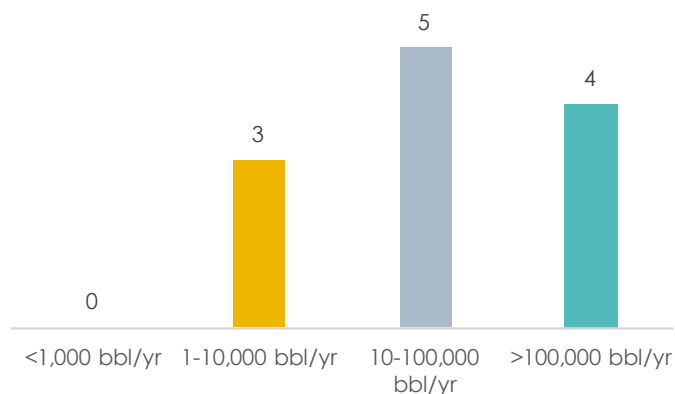


## Renewable Energy

Of the 78 breweries that input 2015 data, 12 reported the use of on-site photovoltaic (PV) solar energy generation. These 12 breweries generated over 4,250 MWh in total and avoided the generation of more than 2,200 tons of greenhouse gas emissions.

The chart below shows the number of breweries in each production category utilizing PV solar.

### Breweries Utilizing PV Solar



Three breweries reported sourcing 100 percent of their electricity through on-site PV solar generation, purchase of green energy credits, or a combination of the two.

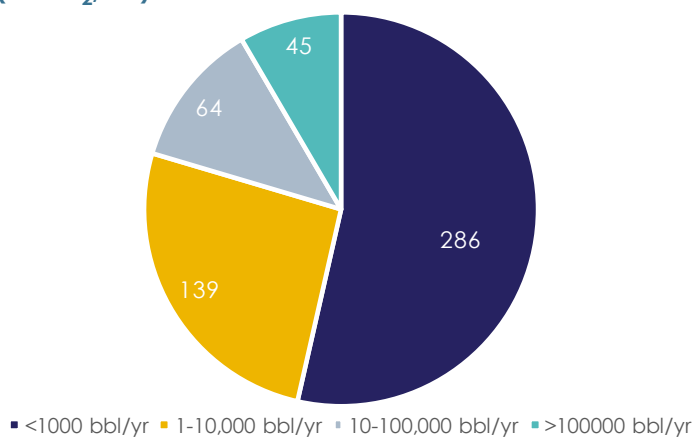


## Greenhouse Gas Emissions

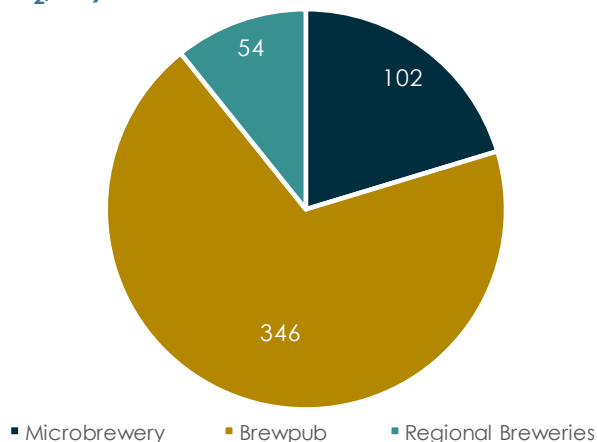
Greenhouse gas (GHG) emissions were estimated with natural gas usage and purchased carbon dioxide (Scope 1 - Direct Emissions) and electricity usage (Scope 2 - Indirect Emissions). Standard USEPA emission factors were used for natural gas combustion, USEPA E-grid factors were used for electricity usage based on zip code locations, and all purchased carbon dioxide was assumed to be from fossil fuel sources and lost to atmosphere. These emissions were then normalized as pounds of CO<sub>2</sub> per barrel.

Economies of scale are readily apparent for increasing production sizes.

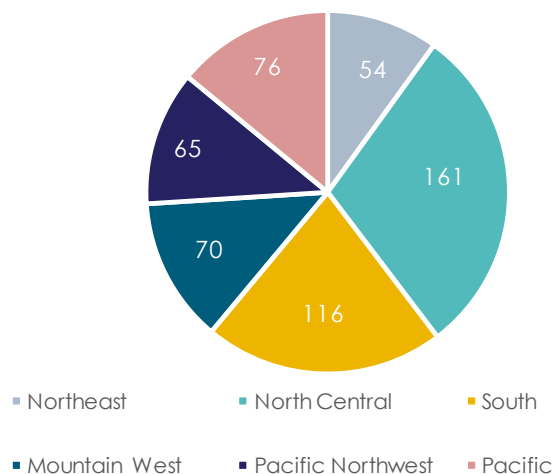
### GHG Comparison by Production Sizes (lbs CO<sub>2</sub>/bbl)



### GHG Comparison by Industry Market Segments (lbs CO<sub>2</sub>/bbl)



### GHG Comparison by Region (lbs CO<sub>2</sub>/bbl)



## Carbon Dioxide Collection and Reuse

In an effort to reduce greenhouse gas emissions and utilize a valuable by-product of fermentation, some breweries have implemented a CO<sub>2</sub> collection, purification, and reuse system. Two breweries in the 2015 data set, Alaskan Brewing Co. and Sierra Nevada Brewing Co., have established best-in-class practices. Read more about Alaskan Brewing Co.'s ability to be 100% self-sufficient in the "Case Studies" section of this update.

## Wastewater Treatment

Several municipalities across the country have started characterizing craft breweries as large industrial users, bringing the responsibilities of permitting, monitoring, and paying for high strength surcharges. Thirty-five breweries submitted municipal wastewater treatment costs for 2015. These costs do not reflect the capital and operating costs associated with on-site pretreatment. The municipal treatment costs ranged from \$0.18 to \$22.29 per barrel with an average of \$3.39 per barrel. These costs are consistent with the data presented in the [BA Wastewater Management Guidance Manual](#).

# sustainability dashboard

Environmental stewardship is a top priority for both craft brewers and craft beer enthusiasts. Maintaining a healthy balance between stewardship, social enrichment, and economic vitality is important to the long-term success of craft brewing.

As a benefit of BA membership, member breweries are encouraged to access the online sustainability benchmarking tools, free of charge. Benchmarking participants have access to the online dashboard (shown below) to see their data in graphical format. Using these tools, a brewery can enter data for each monthly utility bill as soon as it is received, thereby illustrating monthly trends and taking action if necessary. Analyzing these trends enables participants to monitor and validate the impact of operational changes on efficiencies and costs.

The small commitment from member breweries includes the initial request for access, initial data entry (24 months previous recommended to gather a baseline understanding), and then less than 30 minutes a month to update key performance indicator information from utility bills and production records.

## What can you do?

More brewery participation in the benchmarking project will increase the value of the data, and encourage responsible and sustainable growth! Data from the first three years of benchmarking will be included in a first-of-its-kind benchmarking report, that will showcase a year-over-year comparison.

BA members can go to the [BA Sustainability Benchmarking Tools](#) website to request access to the online sustainability tools by completing the request access form.

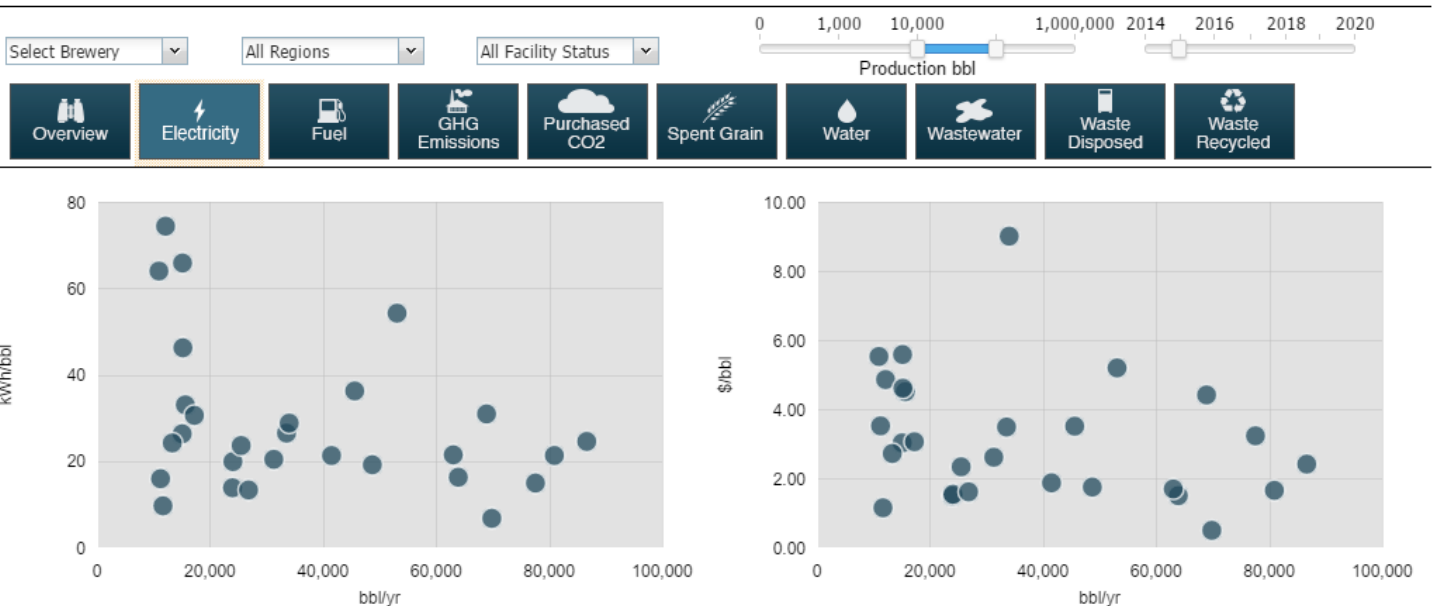
All submitted data is confidential. Only data aggregates are displayed to other users and individual breweries are not identified.



## Sustainability Dashboard

## BENCHMARKING

## PROGRESS TO TARGETS

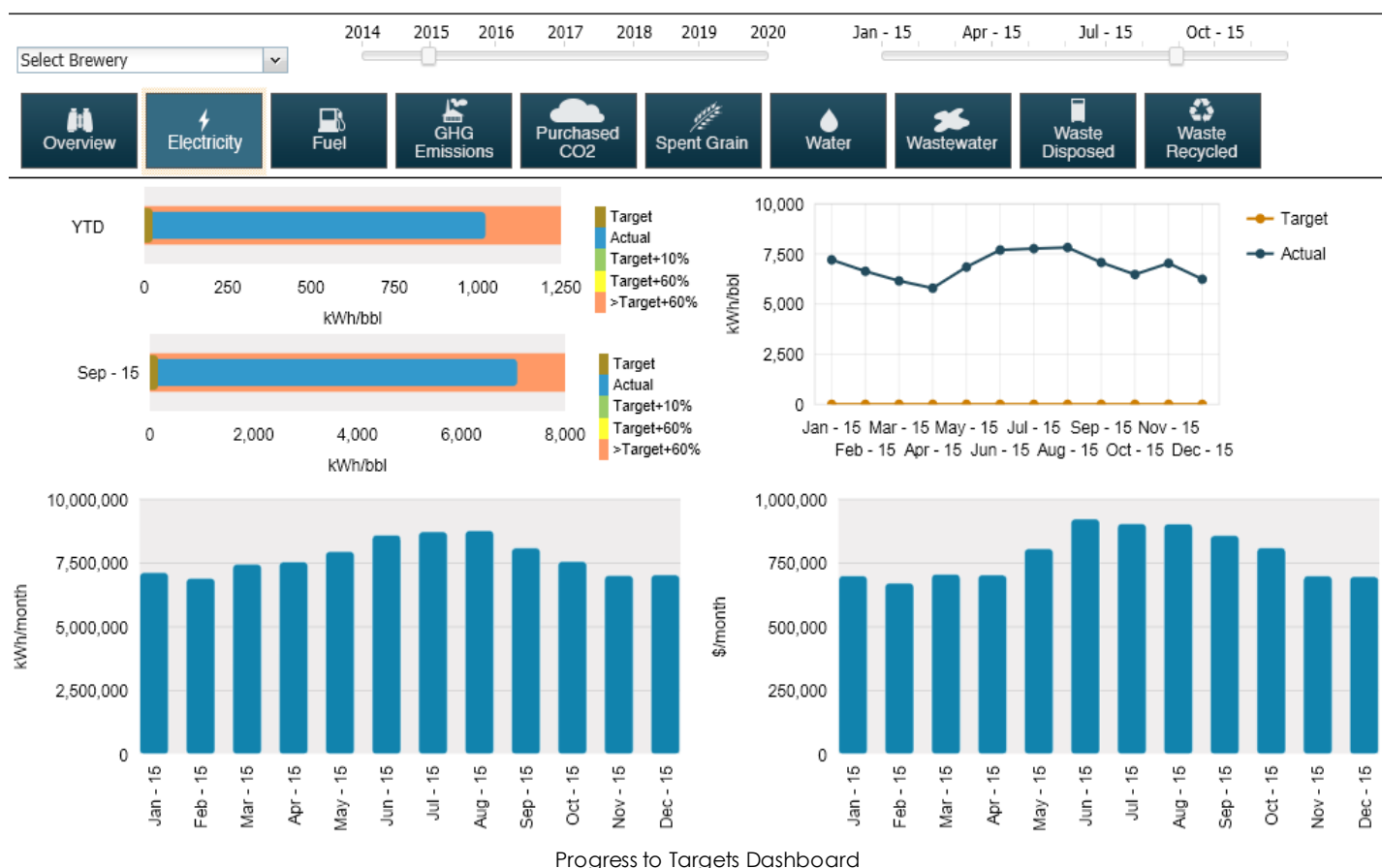




## Sustainability Dashboard

### BENCHMARKING

### PROGRESS TO TARGETS



Progress to Targets Dashboard

While there are limitations to the data set, including the number of participants, several breweries provided feedback indicating that the dashboard and utility tracking have identified areas and practices where they realized cost savings and reduced business risk. Due to valuable peer comparisons, the benchmarking report will continue to help identify improvement opportunities. As areas for improvement are identified, setting and monitoring progress toward those targets becomes crucial. An additional feature of the online platform is a Progress to Targets tracking dashboard (shown above). This feature showcases progress in trends. As shown in the data presented in this report, the

process of tracking and monitoring data to boost efficiency and implement lean practices reduces environmental footprint and ultimately reduces operating costs.

Through the benchmarking project and sustainability manuals, the BA and the Sustainability Subcommittee encourage conscientious brewing practices that will ensure the long-term success of the craft beer industry. In fact, in terms of environmental efficiencies, reduction of usage is the most economical approach with immediate benefit. There are many efficiency improvements mentioned in the [BA Sustainability Manuals](#) that cost zero dollars to implement.

# key contacts

Individual breweries have not been identified in this report in order to maintain confidentiality of efficiency and cost data. However, we have contacted the breweries that are in the top 25% performers for their permission to identify them in the list below. They have encouraged others to contact them directly to share improvement ideas.

Key Contacts				
0-1,000 bbl/yr				
Mount Hood Brewing Co.	Electricity			
Rockford Brewing Company	Electricity	Natural Gas		
Town in City Brewing Co.		Natural Gas		
Upslope Brewing Company – Lee Hill			Water	
1,000-10,000 bbl/yr				
Beltway Brewing Company	Electricity		Water	
Blue Point Brewing Co.	Electricity	Natural Gas		
Discretion Brewing				CO <sub>2</sub>
Dry Dock Brewing Co. – North			Water	
Epic Brewing Co.	Electricity			
Jackie O's Brewery – Campbell St.	Electricity	Natural Gas		
Land-Grant Brewing Company				CO <sub>2</sub>
Maine Beer Co.	Electricity	Natural Gas	Water	
Rising Tide Brewing Co.	Electricity	Natural Gas	Water	
Stillmank Brewing Company			Water	
Zipline Brewing Co.		Natural Gas	Water	
10,000-100,000 bbl/yr				
Allagash Brewing Co.			Water	
Bear Republic Brewing Co.	Electricity	Natural Gas	Water	
Breckenridge Brewery		Natural Gas		
Dry Dock Brewing Co. – South	Electricity	Natural Gas		
Elysian Brewing Co.	Electricity	Natural Gas	Water	CO <sub>2</sub>
Four Peaks Brewing Co.				CO <sub>2</sub>
Fulton Beer	Electricity			
Iron Horse Brewery		Natural Gas	Water	
Left Hand Brewing Company		Natural Gas		
North Coast Brewing Co. Inc.	Electricity			
SKA Brewing				CO <sub>2</sub>
Upslope Brewing Company – Flatiron Park	Electricity			
Yards Brewing Co.				CO <sub>2</sub>
100,000+ bbl/yr				
Alaskan Brewing Co.				CO <sub>2</sub>
Bell's Brewery, Inc. – Comstock	Electricity		Water	
Craft Brew Alliance – Portland	Electricity			
New Belgium Brewing Co. – Fort Collins		Natural Gas		
Odell Brewing Co.			Water	
Sierra Nevada Brewing Co. – Chico		Natural Gas		