Kentucky Distillers Association Drives Improvement in Water and Energy Efficiency

2018 Benchmarking Study
Trends & Observations

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Background
At the annual Kentucky Distillers Association (KDA) meeting in 2017, KDA members agreed to pursue a more comprehensive approach to benchmark industry effectiveness in environmental initiatives and performance metrics. KDA approached the Beverage Industry Environmental Roundtable (BIER) to collaborate on a distillery-specific performance analysis, combining benchmarking data from KDA members and global distilleries to analyze and highlight KDA efficiency when compared to the broader industry.

The 2018 Kentucky Distillers Association Benchmarking Addendum presented a comprehensive overview of water and energy benchmarking trends for global distilleries across 2013, 2015, and 2017. The KDA dataset presented throughout this performance overview is reflective of 11 member distilleries that participated in the 2018 Benchmarking Study. Participating distilleries represented nearly 98% of KDA membership production volume (based on barrels in bonded warehouses, as reported to the Kentucky Department of Revenue as of January 1, 2018).

Methodology
The study adhered to the BIER Benchmarking methodology: at a minimum, participants were requested to provide facility-specific data for total beverage production, total water use, energy use by type (e.g., electricity from grid, natural gas, etc.), facility type, geographic location, and beverage product mix (e.g., a percentage breakdown of the beverage types produced at each facility).

For the purposes of this study, primary focus was placed on the analysis and comparison of trends between global and KDA distilleries (e.g., KDA-member distilleries located in Kentucky, USA). The analysis used two metrics to analyze the efficiency at a distillery: water use ratio and energy use ratio. For detailed information regarding the BIER Benchmarking Study and associated methodology, visit Beverage Industry Environmental Roundtable Benchmarking.

2018 Trends and Observations

- **Kentucky Distillery Efficiency:** Of the seven Kentucky distilleries reporting water and energy data for all three years, 57% reported a continuous decrease in water use ratio and 71% reported a continuous decrease in energy use ratio.

- **Water Use Efficiency:** The average water use ratio for Kentucky distilleries decreased over 41% from 2013 to 2017, equivalent to an overall water use avoidance of more than 6 million kiloliters, enough to fill an Olympic-sized swimming pool nearly 2,400 times.¹

- **Diversified Energy Mix:** Reported energy mix for Kentucky distilleries was consistent with the overall distillery dataset, with purchased fuel comprising over 90% of total energy use in 2017. Natural gas was the predominant

fuel type reported by Kentucky distilleries, followed by coal, biomass, and diesel. Varying biomass sources such as wood chips and pellets accounted for nearly 6% of total energy use in 2017, as these materials are typically utilized for distilling processes such as toasting, smoking, and the preparation of aging barrels.

- **Leading Distillery Efficiency**: As shown in Figure 1, Kentucky distilleries reported lower water and energy use ratios for 2017 compared to the global distillery dataset – a true testament to the proactive approach KDA is taking toward promoting efficiencies and ensuring the sustainability of the Kentucky Bourbon industry.

- **KDA Water and Energy Ranking**: Kentucky distilleries were comparatively ranked against participating global distilleries for their water and energy efficiency. The following conclusions are based on calculated thresholds using water and energy use ratios for 2017:
  - 3 of the 11 participating Kentucky distilleries performed within the top 25% of distilleries with regard to water use ratio.
  - 5 of the 11 participating Kentucky distilleries performed within the top 25% of distilleries with regard to energy use ratio.

- **Emissions Benchmarking**: KDA will continue to refine and promote emissions reporting within the membership to ensure that future benchmarking studies can be as accurate and comprehensive as possible. Further evaluation into emissions trends is recommended for future studies to better understand where there are opportunities for efficiencies.

**Conclusion**

The Kentucky Distillers Association maintains an unwavering commitment to improving business performance, encouraging environmental stewardship, and ensuring the sustainability of the Kentucky Bourbon industry. Our inaugural Benchmarking Addendum serves as a testament to the proactive approach KDA is taking to monitor and collaborate toward efficiency improvements while mitigating our environmental impact. The 2018 Benchmarking Study included a comprehensive dataset of 114 global distilleries, providing a strong baseline to understand efficiencies and compare our progress in future years. We appreciate the efforts of members and partners to provide this data, and look forward to ongoing dialogue within our membership regarding opportunities for improvement in future studies.
About the Beverage Industry Environmental Roundtable (BIER)

The Beverage Industry Environmental Roundtable (BIER) is a technical coalition of leading global beverage companies working together to advance environmental sustainability within the beverage sector. BIER aims to affect sector change through work focused on water stewardship, energy efficiency and climate change, beverage container recycling, sustainable agriculture and eco-system services. For more information, visit www.bieroundtable.com.

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