



2019

HSSE REPORT

HEALTH, SAFETY, SECURITY, AND ENVIRONMENT

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Message from the President

For more than 35 years, our corporate vision, **Of the People, By the Technology, For the Customer**, has directed our business practices at Brewer Science. Our integrated quality, environmental, and safety management system has fulfilled this vision by providing programs to provide a world-class, safe, and healthy workplace environment for our employees, sustaining and improving the environment in which our company operates, and provide high-quality, industry-leading materials that enable our customers to succeed. Our mission is to continuously improve our global footprint to the benefit of our employees, community, and customers, adding unexpected value throughout the world.

Brewer Science has been externally reporting environmental, safety, and health performance on a yearly basis since 2006. We provide this report to our stakeholders to better communicate the continued importance we place on safety, employee wellness, environmental and social responsibility, and the value they bring to our employees and our community.

These achievements are testaments that the global safety, wellness, and environmental policies we enact educate our employees, improve their well-being, and continue to make Brewer Science an environmentally friendly leader and socially responsible member of the community. →



Key outcomes of our improvement programs:



the average OSHA® recordable injury rate for our industry



"Zero Waste to Landfill" certification for 4 years



days since the last Lost Time Incident

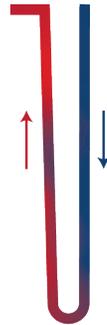
44 tons of cardboard, paper, batteries, plastic, & bulbs recycled, diverting these items from landfills



Wellness Program including fitness programs, wellness seminars, an on-site exercise room, & the promotion of healthy foods available in the workplace

0.67

Beating the industry standard by 33%, our Experience Modification Rate showcases our commitment to increase safety & efficiency



Utilization of **geothermal** technology at the Vichy, MO, manufacturing facility



Over 65% of our generated hazardous waste has been designated for reuse applications



Yearly Incident Command & Emergency Response training & exercises for employees



Utilization of the **Community Service Leave Policy**, enabling employees to serve the community during work hours



Continued effective use of **5S, Gemba Walk, & Scrum** continuous improvement programs throughout our facilities

We continually seek ways to improve and always welcome your feedback. It is our sincere desire that these efforts will have a positive impact on the overall health, safety, security, and environment of the global communities that we influence. Additional information can also be obtained from our website at www.brewerscience.com/about-us/environmental-safety.

Dr. Terry Brewer

President and Founder, Brewer Science, Inc.

Why HSSE?



Brewer Science recognizes its responsibility to conserve natural resources while **providing safe, secure, and environmentally responsible solutions** for customers throughout the world. For this reason, HSSE management systems based on the requirements of the ISO® 14001 and OHSAS 18001 standards are maintained.

Integrated Management System (IMS) Policy

Brewer Science is committed to being a leader in quality, environmental, and safety management systems with a focus on exceeding customer expectations, being conscientious stewards of the environment, and providing a healthy, safe, and secure workplace.

These systems will drive continuous improvement for the benefit of our customers, people, and technology throughout all areas of our company through planning, risk assessment, monitoring, corrective action, and management review.

Each employee is charged with the responsibility to deliver exceptional customer service wherever we operate while complying with all relevant international, federal, state, and local regulations, and other requirements, for the fulfillment of all interested parties.

HSSE Performance Information

A global HSSE Team implements and maintains systems that support the company's HSSE policy and goals. Internal Safety, Security, and Environmental Departments participate with and assist the HSSE Team by educating employees and the local community about improved waste management and HSSE practices.

All environmental, health, and safety aspects of Brewer Science processes and products are identified. Objectives and targets that minimize the company's negative impact on these systems are then developed. Management approves the objectives, while the HSSE Team manages the systems to ensure all goals are reached effectively and on time.

Operational Objectives

The following specific objectives have been chosen to minimize environmental, health, security, and safety impacts:



Receive the GreenCircle Certified, LLC, "Zero Waste to Landfill" certification

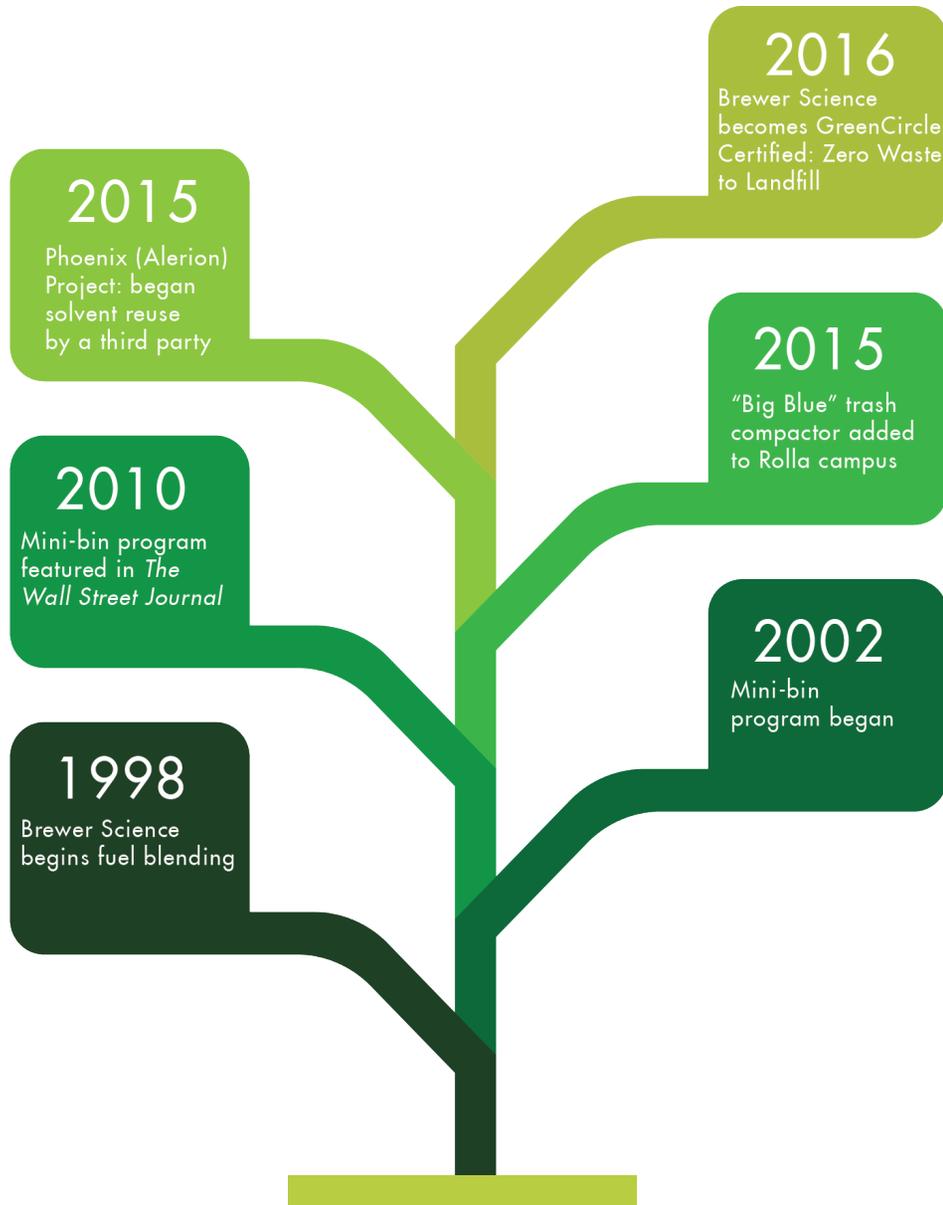


Obtain an overall Severity Rating of 0 for safety and environmental incidents



Reduce hazardous waste generation 60% from 2017

Becoming GreenCircle Certified



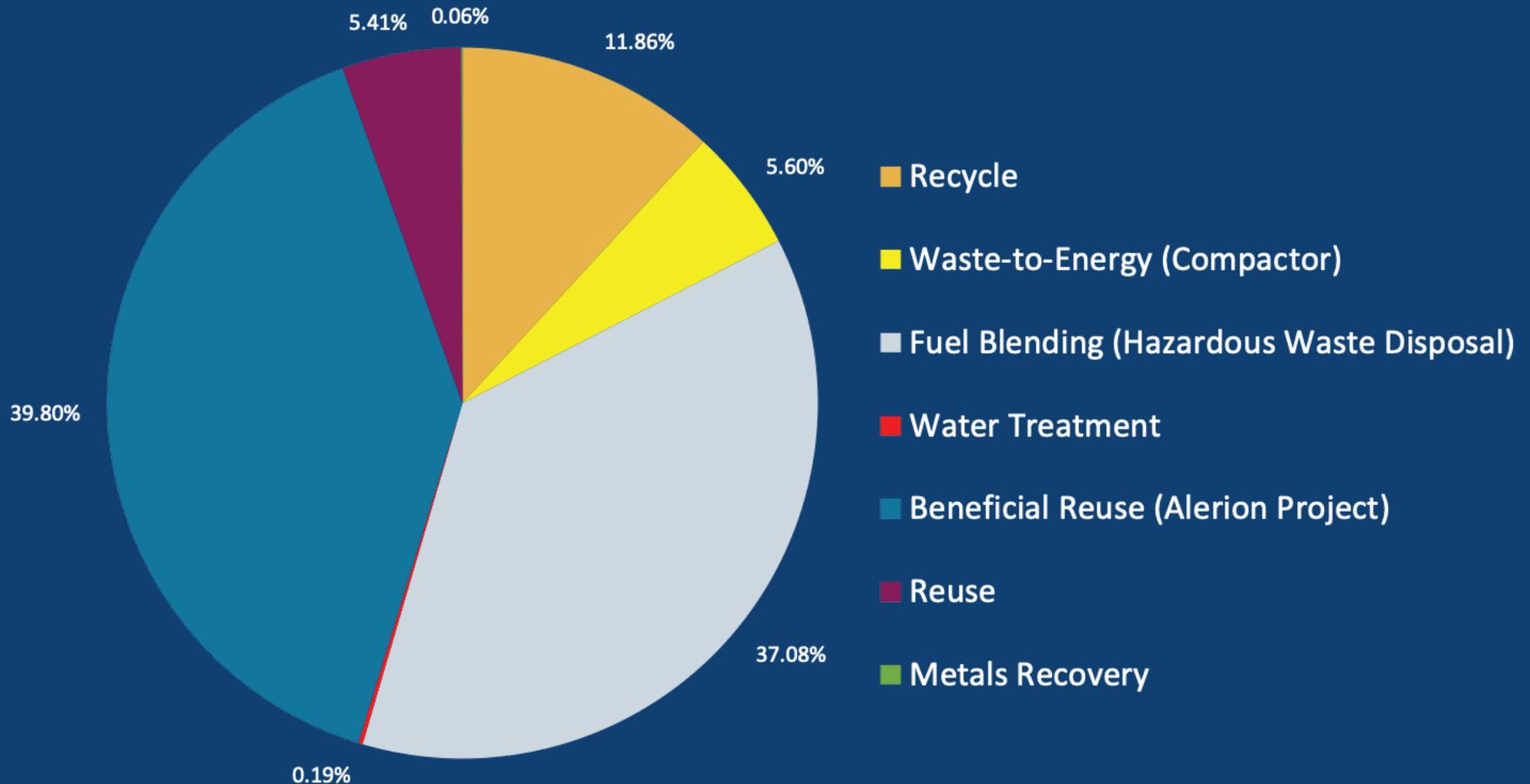
Brewer Science has earned the Zero Waste to Landfill Certification for 3 consecutive years. This certification represents our commitment to the responsible management of end-of-life materials and demonstrates our commitment to waste diversion practices.

In 2015, Brewer Science added "Big Blue," a large compactor that is used to collect items normally headed to the landfill. The compactor prevents tons of waste materials from going to the landfill each year. Waste in "Big Blue" is taken to a waste-to-energy facility where the waste is combusted to produce steam and electricity. The implementation of the "Big Blue" compactor in combination with Brewer Science's recycling initiatives enabled the Rolla and Vichy facilities to achieve Zero Waste to Landfill status. Brewer Science has a long history of being committed to responsible waste management. In 2002, Brewer Science began a mini-bin recycling program, which has resulted in recycling more than 538 tons of waste.

Waste Diversion from Landfill

314 TONS

of Waste Diverted from Landfill in 2018



Wellness

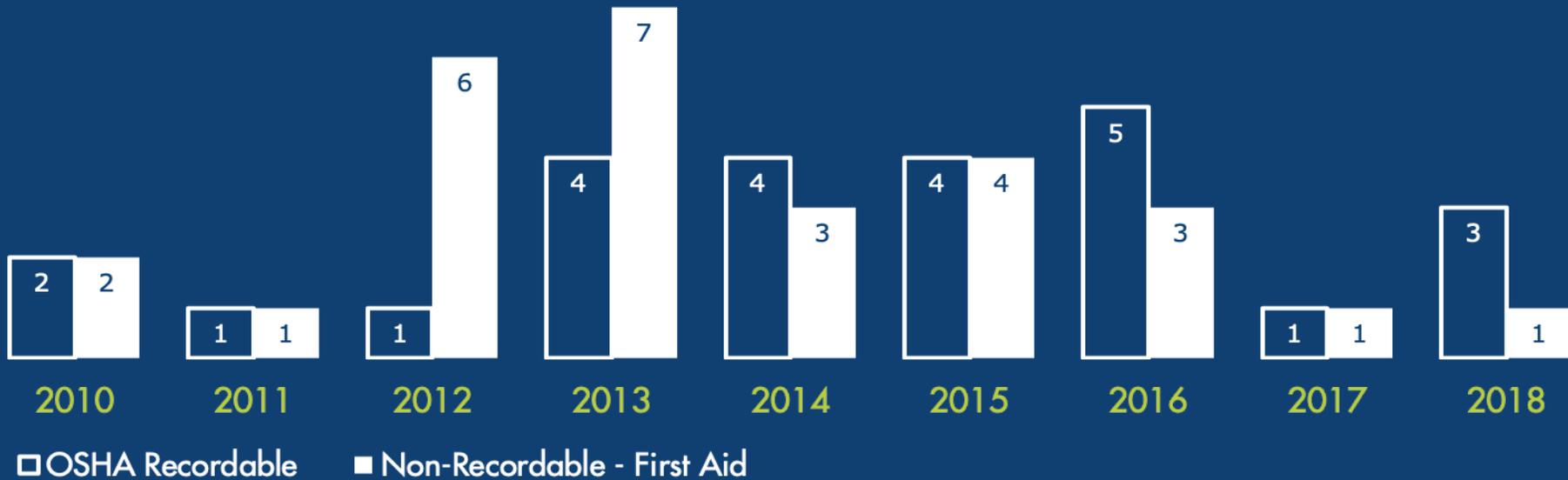
Healthy employees must be at the helm to carry out the Brewer Science company vision: Of the People, By the Technology, For the Customer. We are dedicated to providing a work environment that supports employee and workplace health.

Several wellness programs were provided for employees during 2018:

- Winter/Spring fitness program
- Smoking cessation program
- Discounts provided to employees at various fitness centers
- Employees allotted 30 minutes a day of paid time to participate in wellness breaks to engage in exercise and physical activity
- On-site fitness room - treadmills, elliptical, weight machine, stationary bikes
- Healthy food options in the vending machines
- On-site yoga classes
- Sponsorship of teams for 5K and Mud Run

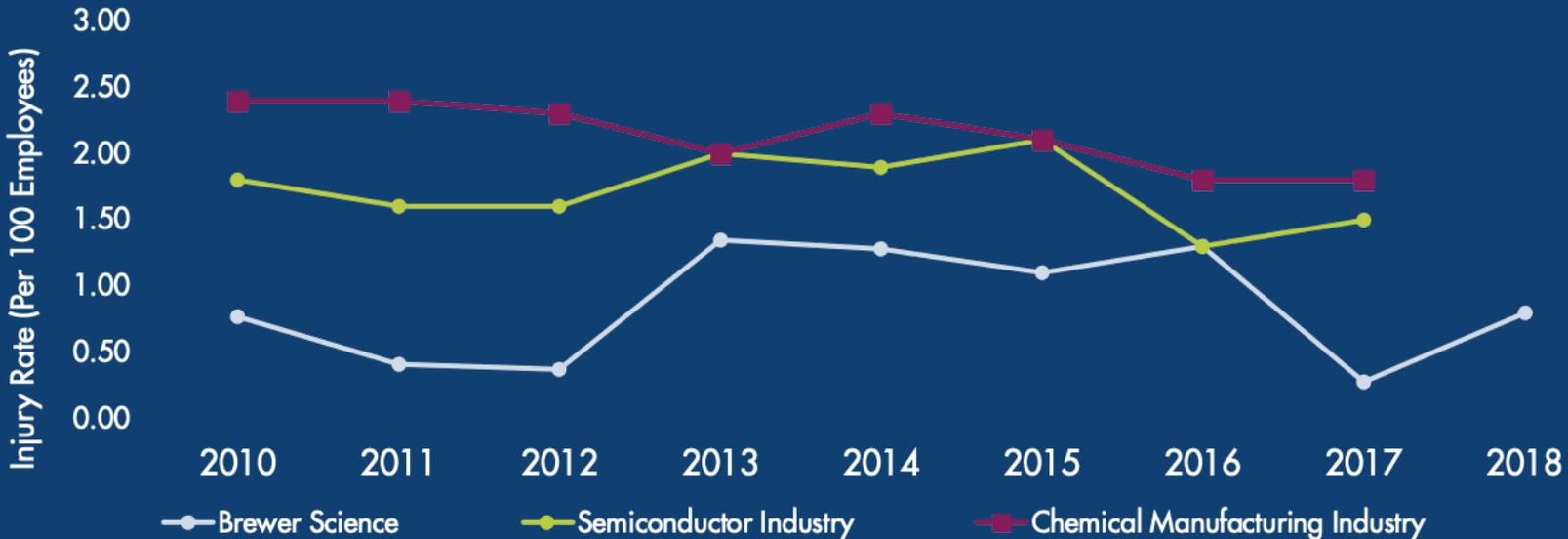


Summary of Recordable and Non-Recordable Injuries



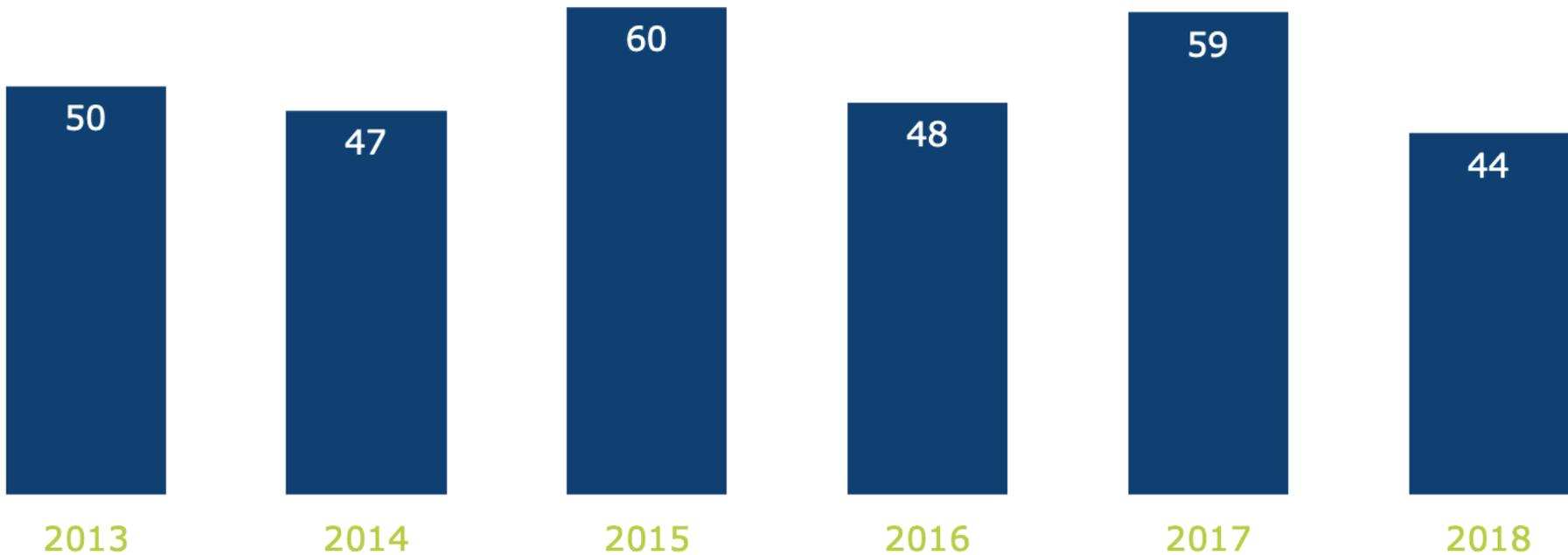
Brewer Science experienced three recordable injuries in 2018.

OSHA® Recordable Injury Rate Comparisons (U.S. Bureau of Labor Statistics)



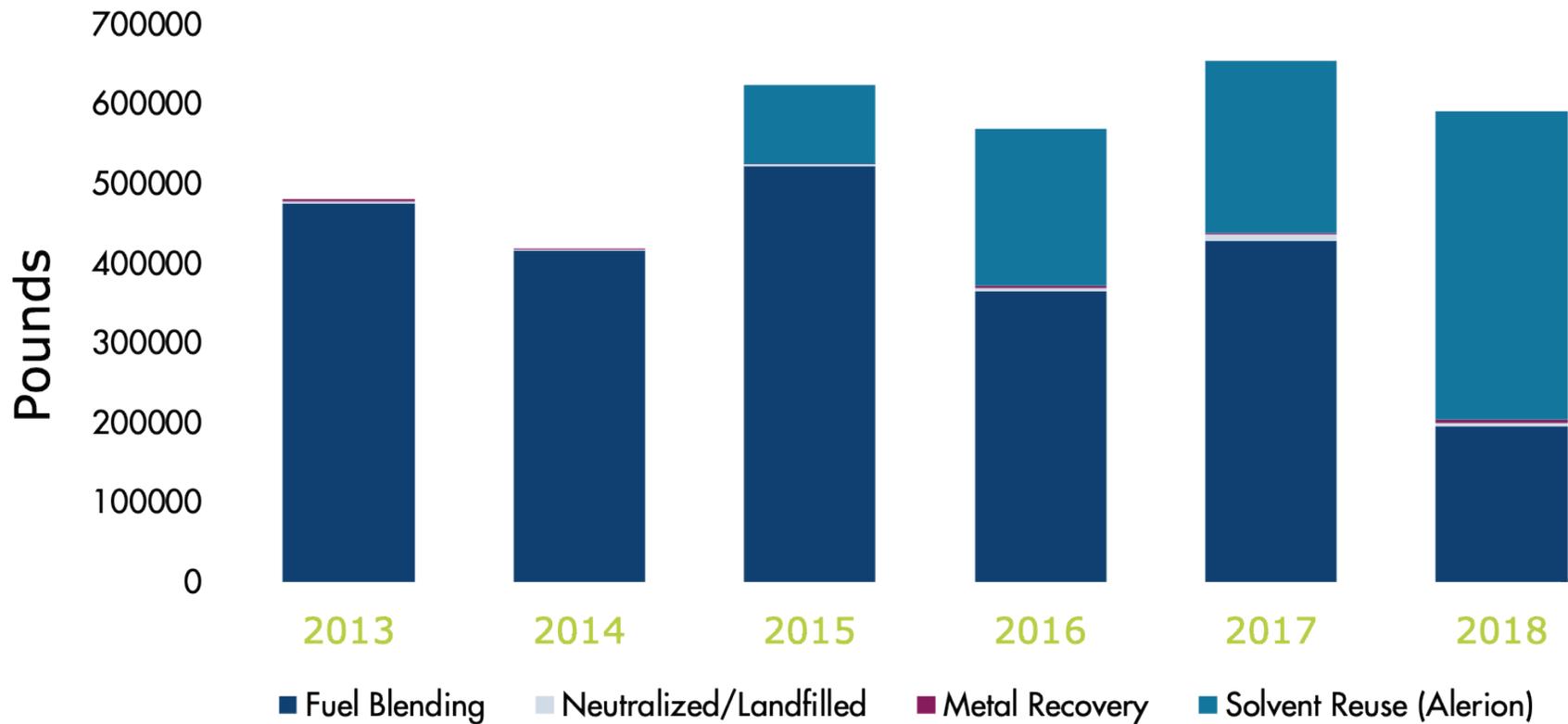
*The Brewer Science safety record continues to **exceed** the semiconductor industry average.*

Tons Recycled



Brewer Science has recycled nearly **750 tons** since its formal recycling program was initiated in 2002. Materials included in these numbers are all types of paper, plastic bags, shrink-wrap, bottles, and containers. The proceeds from recycling aluminum cans, cell phones, and ink-jet cartridges are donated to local non-profit organizations. Batteries, steel drums, and other metals are also recycled. Brewer Science continually looks for ways to utilize recyclable materials.

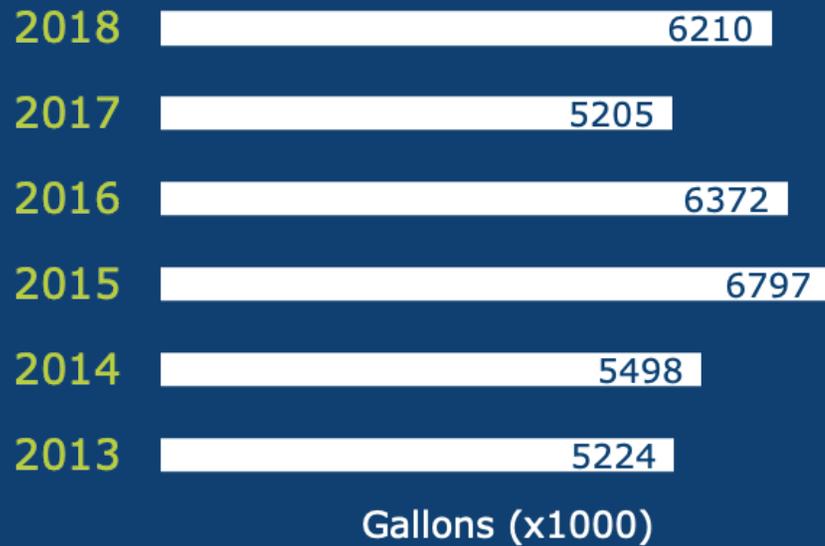
Hazardous Waste Disposal



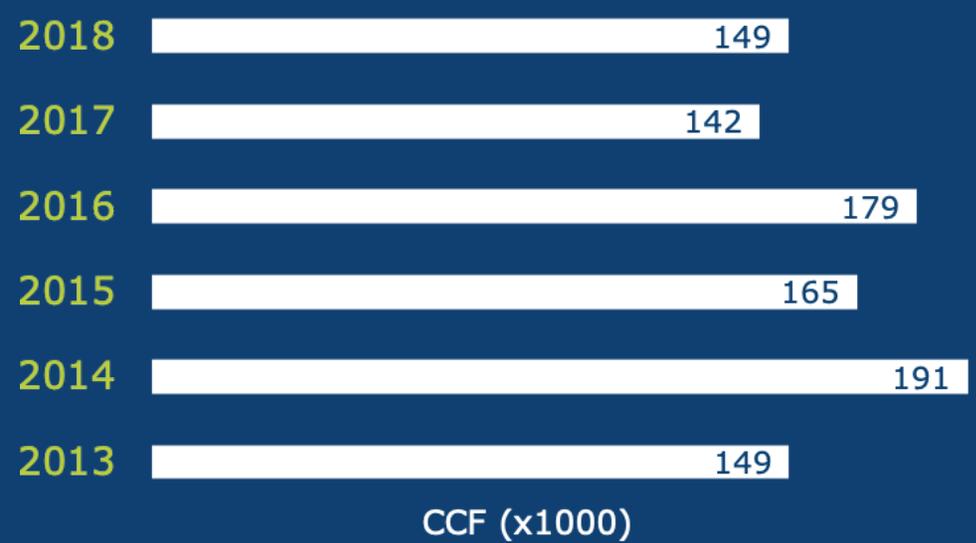
Fuel blending involves processing hazardous waste into fuel derived from liquid and solid waste, which is used as a secondary fuel source to replace coal and natural gas in cement kilns. This method is **safe and effective** for recovering the energy value of the waste and helps conserve our planet's finite natural resources.

Metal drums are processed as they pass through the Container Decontamination Unit, an oven fueled by natural gas with temperatures above 1500°F. The high temperatures destroy the chemical residues, and produce ash. This ash is tested and blended on site into an alternative fuel source for cement kilns. Decontaminated drums are then crushed and sent to steel mills for recycling. 65% of hazardous waste is designated for reuse applications through the Alerion Project.

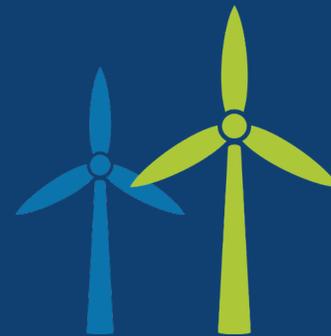
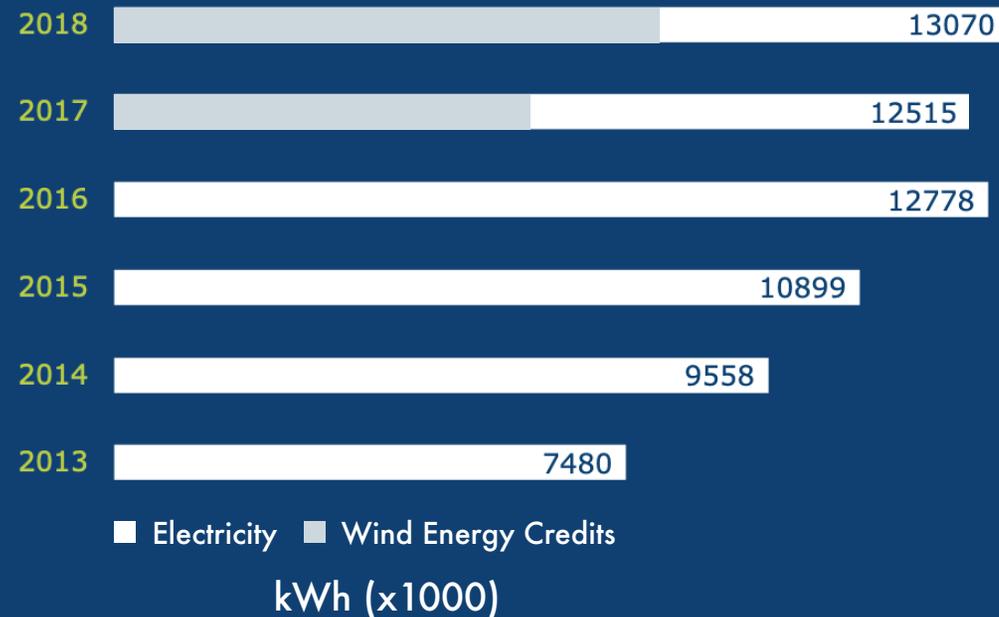
Water Usage



Gas Usage

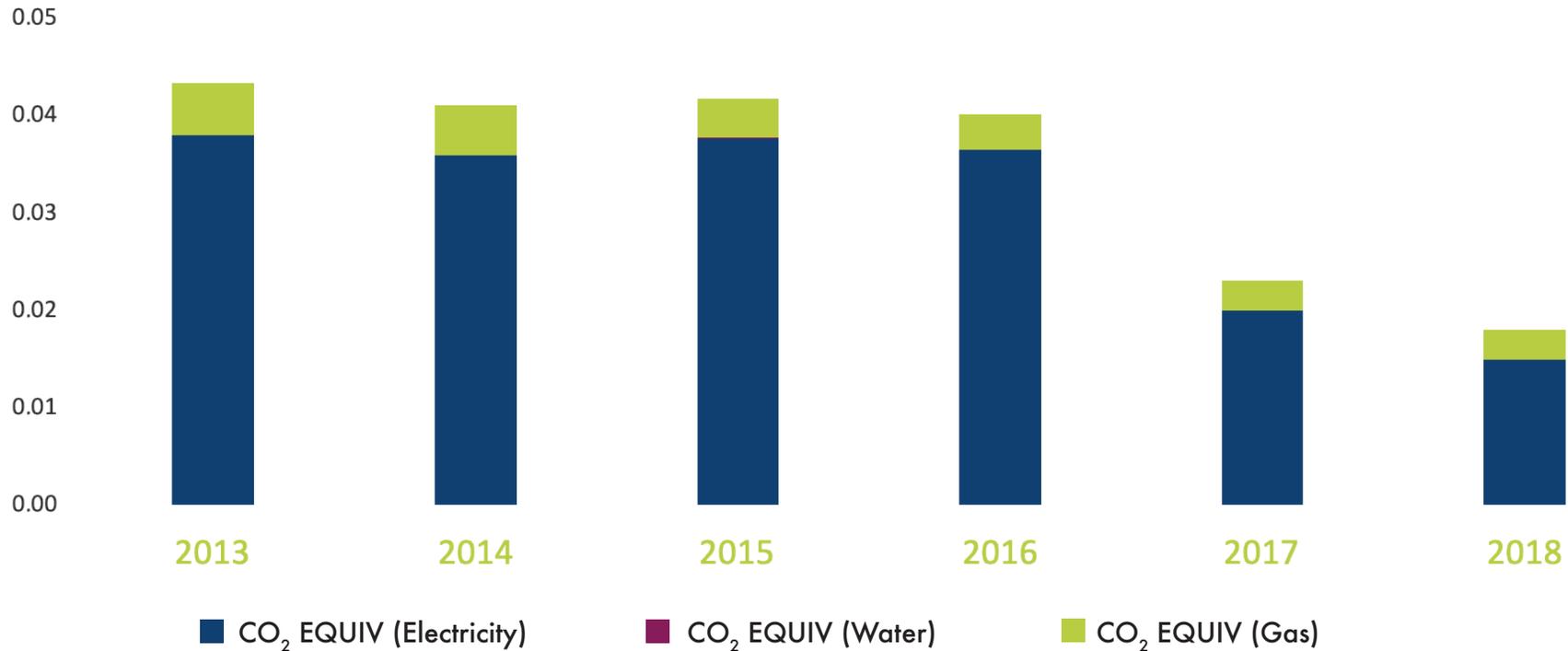


Electricity Usage



61%
of electricity used at
Brewer Science in 2018
comes from Wind Energy.

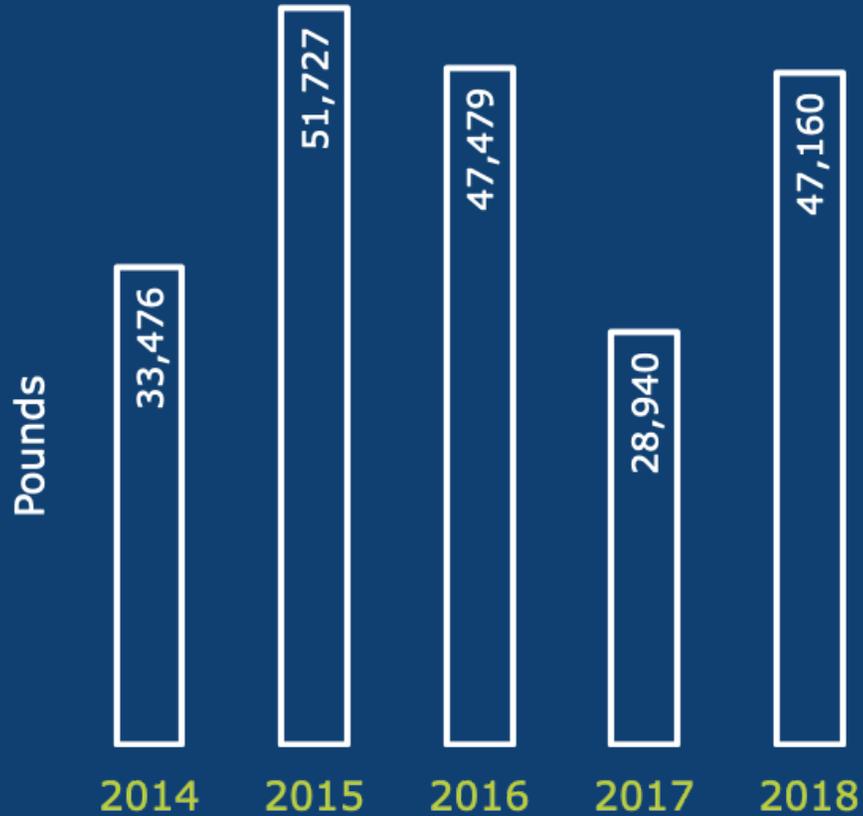
CO₂ Equivalent (Normalized to Production Volume)



Reduction of overall CO₂ emissions since 2016

Brewer Science expansions and increased production have increased the overall utility usage year over year; however, our Green Program efforts continue to retrofit existing systems and ensure energy-saving options are implemented with new construction projects. We have reduced our CO₂ emissions by vast amounts. Continued improvements through retrofitting and renewable energy consumption will help **reduce our carbon emissions even further**. Weather patterns in the summer and winter months also have a large effect on utility usage for gas, water, and electricity.

Community Waste Collections



Brewer Science continues helping stakeholders by properly disposing of waste and adopting the surrounding streets in our industrial park. Partnering with the City of Rolla, the Ozark Rivers Solid Waste Management District, the Missouri Department of Natural Resources, Meramec Regional Planning Commission, and the Phelps County Commission, Brewer Science provides area residents with community collections that have enabled Phelps County to properly dispose of **over 910,000 pounds** of waste over the past 16 years. This partnership contracted disposal companies and provided volunteers who collected appliances, electronics, and tires from area residents which would have otherwise been disposed of in a landfill.



Training

All personnel are required to be competent when they perform tasks that may impact HSSE issues in the workplace. Competence is defined in terms of **appropriate education, training, and/or experience**. Training requirements are based upon the specific task requirements of individual job descriptions and/or homogeneous exposure groups as defined in our Hazard Assessment Procedure. Training plans are updated and documented at least annually as part of the HSSE objectives planning process and are summarized in the Corporate Training Matrix. Human Resources maintains these records according to the Training Process.

Required HSSE Training Courses

- Hazard Communication Annual Refresher
- Hazard Waste Annual Refresher
- Lockout/Tagout Authorization
- Chemical Hygiene Plan
- Workplace Violence Prevention
- Fire Extinguisher
- Flammable & Combustible Liquids
- Influencing Security-Compliant Behaviors
- Emergency Response
- Safety Review & Lab Chemical Hygiene Plan
- Hot Work Permits
- Respirator
- Electrical Safety
- Gas Cylinder Handling
- Compressed Gas
- Ergonomics
- Manual Handling
- Elevated Work
- Global Harmonized Systems
- HF Acid/Piranha/Strong Acids

Awards and Recognition

Brewer Science has received numerous awards in recognition of its voluntary efforts and genuine concern for the environment.

Local

2012 — Ozark Rivers Solid Waste Management District: Dedication to the environment in the Ozark Rivers Region

2012 — Award of Congratulations from SAFE Rolla for recognizing the importance of protecting the health of workers and our community. Awarded by the physicians and volunteers who make up the Smoke-Free Air for Everyone coalition.

2014 — Safety Council of the Ozarks, Les Reynolds Million Hour Award

State

2015, 2017, 2018 — Brewer Science named “Top Workplace” by the *St. Louis Post-Dispatch*

2014 — Safety Excellence Award from the Missouri Association of Manufacturers

2016 — Brewer Science honorable mention for “Top Workplace” by the *St. Louis Post-Dispatch*

2016 — Made in Missouri “Sustainability Leadership Award” from the Missouri Association of Manufacturers

2018 — Outstanding Exporter for the State of Missouri

2018 — Breastfeeding Friendly Workplace Award from the State of Missouri

Awards and Recognition

National

2011, 2012, 2013, 2014, 2015, 2016 — American Heart Association: Gold Fit Friendly Award

2012 — Ozark Rivers Solid Waste Management District: Award in the business category for outstanding multiyear environmental support to the community

2014, 2015, 2016 — *Minority Engineer* magazine's list of Top 50 Employers in the United States

2016-2018 — Zero Waste to Landfill Certification

2018 — Front End Perfect Quality Platinum Award from ON Semiconductor

2018 — Preferred Quality Supplier Award by Intel



GreenCircle Certification System

GreenCircle Certified, LLC certifies that an independent, third-party evaluation has been conducted for:

Brewer Science, Inc.

Zero Waste to Landfill

Rolla, MO and Vichy, MO

This operation meets all the necessary qualifications to be certified for the following claims:

GreenCircle Certified, LLC has conducted a third-party audit of the hazardous and non-hazardous waste streams and has verified that the Rolla, MO and Vichy, MO facilities are Zero Waste to Landfill facilities.

Certification Period: January 1, 2018 - December 31, 2018

Certification Number: 17-0493

Referenced Standards: GreenCircle's Waste Diversion from Landfill Guidelines



Tad Radzinski
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