CASE STUDY

Swiftwater Brewing Company Seeks to Improve the Environmental Footprint of the Brewery

New York State Pollution Prevention Institute

Swiftwater Brewing Company
Swiftwater Brewing Company (Swiftwater) is a craft brewery located in Rochester, NY that produces approximately 1,200 barrels of beer annually. Swiftwater has grown over the previous five years, and has incorporated a full-menu restaurant and bar.

Challenge
Swiftwater wants to understand and potentially lessen the environmental impact of the brewery as part of their commitment to environmental stewardship. Even as a small brewery, Swiftwater has exemplified a commitment to sustainability and has already incorporated methodologies and techniques to be more sustainable. However, Swiftwater wanted a new perspective to learn even more opportunities to further their sustainable practices. As part of the Brewery Sustainability Initiative being pursued by the New York State Pollution Prevention Institute (NYSP2I), Swiftwater completed an initial brewery survey and were selected to receive an onsite opportunity assessment.

Solutions
NYSP2I collaborated with Cornell University to help evaluate and identify any opportunities to reduce Swiftwater's environmental footprint. NYSP2I conducted a site visit to collect baseline metrics and identify pathways for improving Swiftwater's existing sustainability practices.

Results
Swiftwater had already implemented a number of practices to reduce the brewery's environmental footprint when the onsite opportunity assessment was performed by NYSP2I and Cornell University. These include:

- Providing spent yeast, grain, trub, and hops to a local farmer instead of disposing of it via landfill.
- Reusing yeast multiple times for brewing before considering it waste.

Challenge

- Swiftwater Brewing Company wanted to further improve sustainability practices in the brewery and decrease their environmental impact.

Solution

- NYSP2I collaborated with Cornell University and conducted a site visit and a collection of baseline metrics to help evaluate and identify any opportunities to reduce Swiftwater's environmental footprint.

Results

- Swiftwater had already implemented a number of sustainability practices to reduce their utility consumption and waste generation like utilizing a heat exchanger and providing their spent grain to a local farmer.
- NYSP2I and Cornell University identified a number of relatively simple ways to further decrease water, chemistry, and natural gas consumption in the brewery like testing low flow spray nozzles and recycling cleaning cycles and rinses for multiple purposes.

- Reusing dirty caustic solutions and water from the kettle to clean the floors.
- Utilizes a heat exchanger to preheat water entering the brewing process.

The work performed by NYSP2I and Cornell University led to key findings to support Swiftwater in their pursuit of decreased environmental impact. Some considerations for Swiftwater to review include:

- Testing low flow spray nozzles and tank spray balls to ensure cleanliness standards are upheld while reducing cleaning water use..
- Installing conductivity meters to provide better water control and reduce water usage by knowing when the tanks are clean.
- Utilizing the final rinse solution of one cleaning cycle as the first rinse of the next to reduce both chemical and water usage.
- Installing a permanent glycol loop outside of the building to preheat or cool process streams more efficiently than the current heat exchanger to reduce energy usage.
- Evaluating the three and four barrels of beer that are lost every time Swiftwater brews.

Implementation

- Since the assessment report, Swiftwater installed a dry hopping device to their fermenter to significantly reduce beer loss. This change has resulted in recovering an additional 20 barrels/year of beer which equates to annual savings of $4,000.
- Swiftwater now uses final rinse of tank cleanings to act as the pre-rinse for other necessary cleanings. This change has resulted in the reduction of caustic and neutralizer use, in the amount of 110 gallons/year at a cost savings of $2,000 per year.

Swiftwater Brewing Company

378 Mt Hope Avenue
Rochester, NY 14620
(585) 530-3471
www.swiftwaterbrewing.com

Partners

RIT
Rensselaer
Clarkson University
Cornell CALS College of Agriculture and Life Sciences
Binghamton University State University of New York
New York Manufacturing Extension Partnership

For more information please contact us:

585-475-2512
nysp2i.rit.edu
nysp2i@rit.edu

111 Lomb Memorial Drive, Bldg 78
Rochester, NY 14623

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