DIRECT ASSISTANCE PROGRAM

CASE STUDY

NYSP2I Supports Brooklyn Brewery with Sustainability Commitment

Brooklyn Brewery is a regional craft brewery with a facility in Williamsburg that produces over 50k barrels annually. The brewery produces its wide variety of beers in a repurposed building with all LED lighting demonstrating a commitment to sustainability.

Challenge

In continuation of their commitment to sustainability, Brooklyn Brewery (Brooklyn) would like to reduce the amount of water and energy used in the beer production process. While their current water to beer ratio is slightly lower than the industry average of 7, Brooklyn would like to more closely align with leaders in the industry who have ratios less than 3.[1] As a result, Brooklyn requested assistance from the New York State Pollution Prevention Institute (NYSP2I) in identifying water and energy reduction opportunities.

Solution

The work performed by NYSP2I included: 1) quantification of water use in the different production areas, 2) researching potential methods and technologies to achieve reductions in water use and wastewater generation, 3) performing a process energy assessment to identify potential energy savings opportunities, and, 4) performing an economic analyses for the identified pollution prevention strategies identified in (2) and (3).

Results

The results of the work included a characterization of water flows throughout the brew production process. Using the characterization data, NYSP2I identified water reduction opportunities including alternative Clean In Place (CIP) chemistries, water filtration and reuse methods, and an alternative wort separation technology. These opportunities could potentially result in annual savings of >$56k and allow Brooklyn to reduce their water to beer ratio by over 30%. Developing controlled manual CIP processes offer further reduction opportunities.

Finally, NYSP2I performed an energy review. NYSP2I suggested that Brooklyn consider requesting interval data from their electric utility provider. Interval data can highlight processes and equipment driving the demand charge. This knowledge can help Brooklyn reschedule processes to minimize their demand charge without reducing electricity consumption.

Brooklyn is well equipped to significantly reduce water use and advance their knowledge on energy consuming processes using the strategies outlined by NYSP2I.

Testimonial

"NYSP2I provided a comprehensive mapping of our water usage as well as a variety of options for us to reduce, reuse or repurpose our water in order to both conserve and provide cost savings. Their methods and final suggestions for the water and energy audits were practical and intuitive, employing ideas and financial opportunities that we would not have considered on our own. Thanks to their help, we're looking forward to reducing waste and saving money all at once."

- Joe Thompson, Assistant Operations Manager; Brooklyn Brewery

[1]https://www.brewersassociation.org/educational-publications/water-wastewater-sustainability-manual/

CHALLENGE

- Brooklyn Brewery would like to reduce the amount of water and energy used in the beer production process

SOLUTION

- NYSP2I characterized water flows, identified water reduction opportunities, and completed an energy assessment

RESULTS

- Opportunities identified could result in annual savings of >$56k and >30% reduction of their water to beer ratio
- NYSP2I suggested that Brooklyn consider requesting interval data from their electric utility provider

NYSP2I PARTNERS

New York Manufacturing Extension Partnership

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