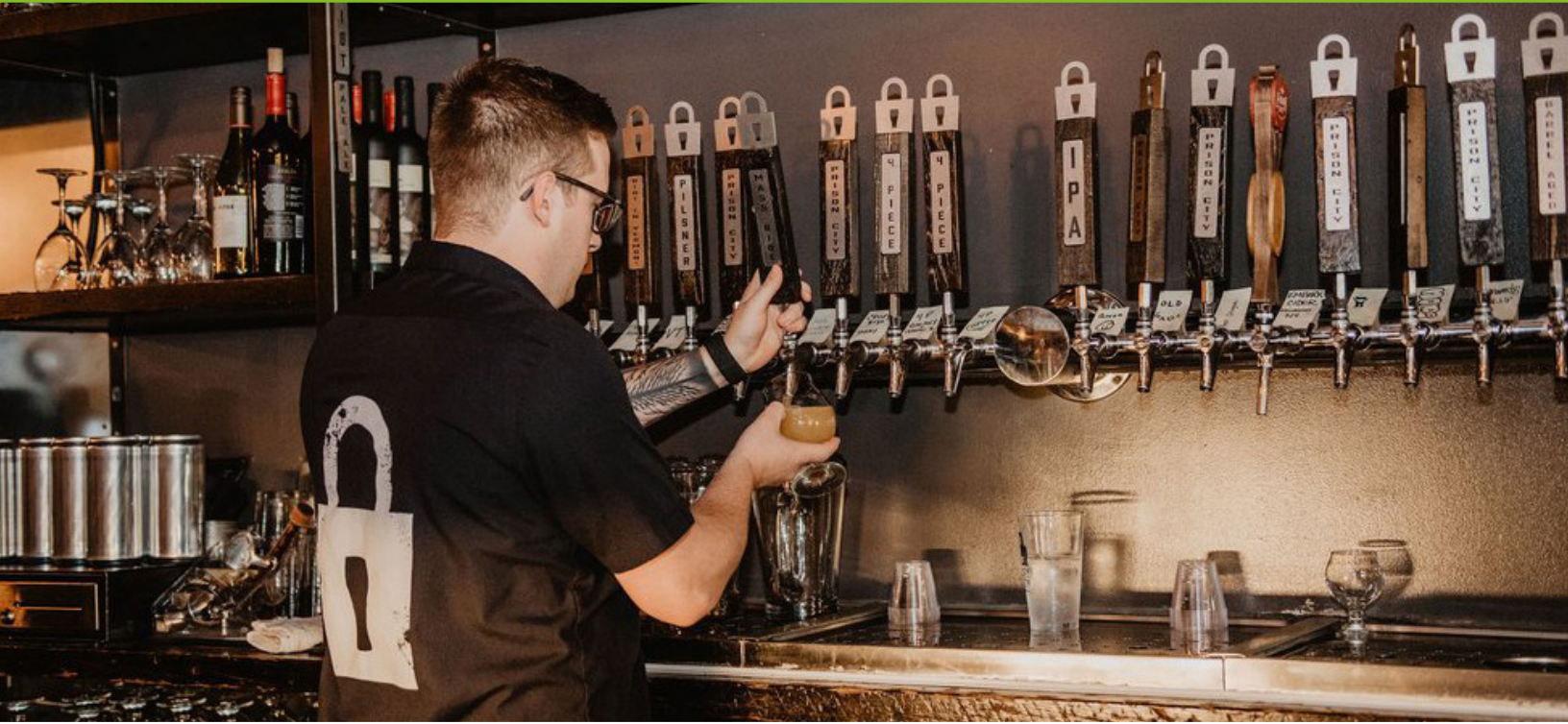


Prison City Brewing Reduces Environmental Footprint



Challenge

Prison City Brewing requested assistance from NYSP21 to assess improvement opportunities within their operation in order to become more economically and environmentally sustainable.

Solution

NYSP21 performed an assessment to improve the environmental footprint at Prison City Brewing's North Street Brewery. The brewing process was evaluated and NYSP21 found practical, cost-effective options to reduce water use, chemical use, wastewater generation, and energy consumption.

Results

NYSP21 identified various opportunities to implement more sustainable practices, such as:

- incorporating side streaming of solids and converting an equalization tank into a settling tank,
- replacing the current bubble diffusers, and
- installing a grease trap.

Cost savings of up to \$40,000 per year can be realized if these methods are implemented.

Prison City Brewing

Established in 2014, Prison City Brewing (PCB) is a brewery located in Auburn, New York and has been committed to brewing exceptional craft beers. The beer is currently served at their North Street Brewery & Taproom, several of their other locations across New York State, and is packaged for distribution to retail sellers. Based on their continued success and growth, PCB wanted to further improve sustainability practices and decrease their overall environmental footprint.

"The whole team at NYSP21 was very thorough and great to work with. We have already implemented some of their suggestions and are starting to see positive results in making our brewery more sustainable and reducing costs associated with waste disposal and energy management."

Sam Sadovnic, Prison City Brewing

Challenge

PCB wanted to better understand opportunities for reducing the environmental impact of their brewery as part of their commitment to environmental stewardship. As a growing brewery, PCB has exemplified a commitment to sustainability and has already incorporated several methodologies and techniques to operate sustainably. PCB requested the assistance of the New York State Pollution Prevention Institute (NYSP2I) to learn more opportunities for improving their sustainable practices.



Solutions

The objective of the project was to identify opportunities for PCB to improve their operations and become more economically and environmentally sustainable. NYSP2I conducted a site visit of PCB's North Street Brewery, collected baseline metrics of the approximately 5,400 barrels of craft beer PCB produces annually, and performed a baseline analysis of current operations to help identify pathways for improving PCB's sustainability practices.

Results

NYSP2I's evaluation identified opportunities to implement new practices for reducing water use, chemical use, wastewater generation, and energy consumption. Some opportunities PCB will consider adopting include:

- phased implementation of side streaming of solids, starting in totes.
 - installing a 5,000-6,000 gallon mixed tank with a pump for loading and side streaming high organic content waste.
 - transitioning one of the equalization tanks into a settling tank, acting as an interceptor where undesired solids can settle and floating organic waste can be retained.
- installing a coarse bubble generator or a small impeller to aid in sampling accuracy and consistency.
- partnering with a local anaerobic digester to increase diversion of their high organic content waste.
- upgrading building management systems to control the refrigeration and HVAC equipment to prevent multiple compressors from turning on at the same time (thereby reducing demand charge).
- ensuring accurate sizing of air conditioning and refrigeration to prevent higher demand charges and short cycling.

The following table summarizes the amount of organics that will be reduced in lbs. to sewer per year if these methods are implemented. Additionally, chemical use reduction is estimated to be 25% of caustic soda, which equates to approximately 110 gallons of a 50% NaOH solution.

Analyte	BOD5	TKN	TP	TSS
Lbs. Reduced	87,847	3,452	5,772	310
Percent Reduction	83%	91%	100%	66%

BOD5: biochemical oxygen demand
TKN: total Kjeldahl nitrogen
TP: total phosphorus
TSS: total suspended solids

Overall, potential cost savings of up to \$40,000 per year can be realized from the above opportunities.

Partners



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