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# CASE STUDY

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## The Russian River Brewing Company is doing it their way with a little help from their friends.

With demand for their beers causing traffic jams in downtown Santa Rosa, Russian River knew they needed to expand their operation. Owned and operated by Vinnie and Natalie Cilurzo—who insist on doing it their way—“We’re committed to maintaining our independence and controlling our process,” says co-owner Vinnie Cilurzo. “We knew our new facility needed to accommodate our customers, allow us to produce our beers with traditional methods, and safeguard the environment. This was no easy feat!

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## ISSUE:

Process sustainability

## APPLICABLE TO:

Beverage processing

Waste-water management

Energy savings

Sonoma County is a world-class destination renowned for its beautiful scenery, bucolic weather, spectacular food, and of course, wine. But something happened a few years ago when the craft brewing industry came to town. Sonoma County has since attracted some of the best brewers in the industry and today, hundreds of thousands of tourists travel across the world to taste beer in wine country.

Nowhere is this success more evident than at The Russian River Brewing Company in Santa Rosa. The company boasts 100% capacity in their two breweries and they have almost completed a third brewery in nearby Windsor. Their wildly popular brew pub in downtown Santa Rosa served almost 400,000 visitors in 2017. This destination brewery always has something new on tap, creating even more demand for their special brews. Their most popular beer, Pliny the Younger, a Triple IPA, is released once a year on the first Friday in February for a two-week period. The limited release has become a pilgrimage for beer fans from around the globe with some customers waiting in line for more than 10 hours.

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The new brewery, brewpub and restaurant opened in the fall of 2018. The 85,000 square foot facility doubled Russian River's production to 35,000 barrels per year. Located on 15 acres in Windsor, California, it features a gift shop, guided and self-guided tours, a 200-seat brewpub and outdoor beer garden with 18-20 beers on tap, including rotating seasonal brews such as Pliny the Younger."

Balancing respect for traditional methods with state-of-the-art brewing techniques and technology, combined with their commitment to the environment was a design challenge for the new Russian River brewery. "Sustainable production is really important to us," said Natalie Cilurzo. "We want to ensure we remain conscious of our environmental impact as we grow."

Craft brewers are driving green initiatives in the beverage sector, and Russian River is no exception. "We must adhere to our rigorous quality standards while cutting our carbon footprint," said Vinnie Cilurzo. "We're committed to reducing and reusing water as well as recapturing energy."

"Russian River's proactive approach led them to seek the most efficient and sustainable process solutions," said Barnum Mechanical's Process Engineer, Kyle Harris. "They wanted to raise the bar on water reduction and reuse, and we were happy to help. We installed several leading-edge technologies including the Cambrian Innovation EcoVolt MBR, a modular aerobic digester that removes

99% of contaminants from industrial waste water. This allowed them to recycle the water back into their other processes such as their Clean-in-Place (CIP) systems.

"We also worked with them on installing a custom-designed G&D Chiller. The chiller utilizes an evaporative condenser, making it a hybrid system which uses both air and reclaimed water from the Cambrian MBR for cooling" said Harris. "This technology could reduce Russian River's chiller energy use between 30 – 40 percent, as compared to similarly sized systems." "We are utilizing highly efficient screw compressors with class A refrigerant, which is among the lowest Global Warming Potential (GWP) refrigerants in the industry" said Andy Backer, G&D Chiller's Vice President of Sales.

"Recovering resources and energy which would otherwise be lost and recycling it back into the process is a key focus for Barnum Mechanical," said Harris. "We design and build process systems with an eye toward the big picture."



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### ABOUT THE AUTHOR:

Kyle Harris is a process engineer with Barnum Mechanical Inc. He graduated from the University of the Pacific in 2007 with a B.S. in mechanical engineering. Kyle designs process systems for the food and beverage industry and has special expertise in brewing and process sustainability.

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