

Upslope Brewing Co.

Annual production: 30,000 barrels a year



Environmental Practices in Place



ENERGY

Upslope tracks energy usage with the Brewers Association's Benchmarking tools.

Upslope uses about 3,300 kWh of electricity on average monthly. Upslope used 11.9 kWh/barrel in 2016.

Energy reduction efforts in place at Upslope include:

- Upgraded LED lighting with motion sensors (except in tap room)
- High-efficiency Murina boiler with a low NO_x burner
- Steam from brew house is condensed through a heat exchanger and routed to a holding tank to be used as pre-heated water for the boiler
- Run Brewery 24-hours a day Monday through Friday afternoon to minimize start-ups and shut-downs
- New zip door with an automatic closing timer on their walk-in cooler to minimize the time the door is open to coolers.
- Insulated glycol lines
- Purchased Renewable Energy Certificates from Arcadia Power to offset their power usage with wind-generated power



AIR

Upslope has the following annual air emissions:

- Volatile Organic Compounds: 720 lbs.
- Nitrogen oxides: 240 lbs.
- Carbon Dioxide: 170.12 tons

Upslope has a new high-efficiency hot water boiler (1.6 MMBtu/hr) with low NO_x burners to reduce air pollution at the brewery. In 2016, the fuel usage was about 4.66 MMscf. This boiler is exempt from air pollution emissions reporting according to Regulation 3 II.D.1.k.

WATER

Upslope brewing tracks their water usage. Upslope has an impressive water-use ratio of 4:1.

Approximately 75% of the water used at the brewery is discharged as wastewater. Water conservation efforts in place at Upslope include:

- Clean-in-place systems for cleaning
- Water meters to track water efficiency at each brewing stage (grain, kettle, bottling etc.) for future efficiency projects. Currently in the data collection phase.



Upslope diverts 98% of its waste from landfill. Waste-reduction efforts in place at Upslope include:

- Reuse spent grains and yeast as animal feed supplement
- Route the waste CO₂ from the lager fermentation tanks to a small water tank to grow algae. The algae is picked up by a company that uses it for the development of sustainable printer ink
- Low-fill/reject cans are placed in a cooler for employees to take home rather than dumping down the drain
- Use Hi-Cone photodegradable six-pack rings that reduce the risk of wildlife entanglement and use 30% less material than traditional rings. (Rings are not recyclable locally, but can be recycled wherever #4 LDPE is recycled.)
- The boxes used for beer packaging that are certified by the Sustainable Forest Initiative come from responsibly managed and legal forests
- Undamaged pallets are reused
- Recycle all plastic wrap

Recommendations for Future Pollution Prevention

Upslope brewing has already taken great measures to reduce their environmental impact. Some possible future pollution prevention projects could include:

- Revert back to reusing water from internal can rinse for external rinse
- Implement a leak detection program for both air and water leaks
- Insulating hot water lines
- Purchase high-efficiency spray nozzles for can washer
- Conduct a waste audit to plan for increased diversion from landfill
- Implementing an internal recycling/compost program focused on employee education and greater recycling awareness
- Develop materials for employee education and awareness

Resource Recommendations

- Breweries Association's Benchmarking Report provides additional tools. For questions about benchmarking contact Cheri Chastain, Sustainability Manager with Sierra Nevada, 530-893-3520, cheri@sierranevada.com
- Boulder Partners for a Clean Environment (PACE) provides free water conservation and efficiency assessments. PACE can also provide energy and waste consultation services. Contact info@PACEpartners.com, 303-786-7223
- Xcel Energy provides low-cost onsite energy audits that identify conservation opportunities, costs and payback periods, and potential rebates. Xcel Energy Efficiency Team, 1-888-839-8862, energyefficiency@xcelenergy.com
- Kaitlin Urso provides additional assistance with air pollution and emissions compliance.
- Derek Boer provides additional assistance with solid and hazardous waste compliance, and recycling and composting questions.
- The Colorado Environmental Leadership Program recognizes businesses for reducing their environmental impact. Contact Lynette Myers, lynette.myers@state.co.us, 303-692-3477
- Colorado Neighborhood Connects recognizes businesses for benefiting their communities. Contact Liz Sapio, elizabeth.sapio@state.co.us, 303-692-2135



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