

NATIONAL WATER REUSE ACTION PLAN

COMPLETED ACTION



Action 5.7 Identify Water Reuse Opportunities in the Beverage Industry

Background

Beverage production is energy and water intensive, creating considerable volumes of liquid and solid wastes requiring disposal. For example, breweries can use 4 to 12 gallons of water per gallon of beer produced. Water supply and disposal options are often constrained due to regulations governing discharge quality, environmental factors such as droughts, and other issues. Water reuse can maximize both energy efficiency and water recovery, helping beverage companies not only meet their sustainability goals but also their business targets.

By recovering wastewater for non-potable uses onsite, beverage companies can minimize source water needs. The industry can also work toward a future goal of recycling wastewater for potable use by evaluating current impediments and creating tools that address those impediments.

Accomplishments/Impact

- Created a framework to advance water reuse in the beverage industry, as outlined in the published white paper: [Advancing Water Reuse Within the Beverage Industry](#).
- Identified motivators for beverage companies to invest in water reuse (i.e., to meet sustainability and social responsibility goals, increase production capacity).
- Categorized current impediments to water reuse in the beverage industry, including regulatory factors hindering implementation.
- Identified where in the manufacturing process more efficient water use can be achieved and identified commonalities to be replicated in broader applications.
- Conducted considerable industry engagement and socialization through speaking engagements, media interviews, newsletters and articles including a presentation at the Food and Beverage Environmental Conference and an interview with Global Water Intelligence.

Action Team

Action Leaders

- GHD**
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Action Partners

- Beverage Industry Environmental Roundtable (BIER)**
- Cambrian Innovation**
- PepsiCo, Inc.**
- San Francisco Public Utilities Commission**
- Trussell Technologies**
- U.S. Environmental Protection Agency (EPA)**
- U.S. Food and Drug Administration (FDA)**
- Water Environmental Federation (WEF) Industrial Reuse Committee**
- WaterReuse Association (WateReuse)**

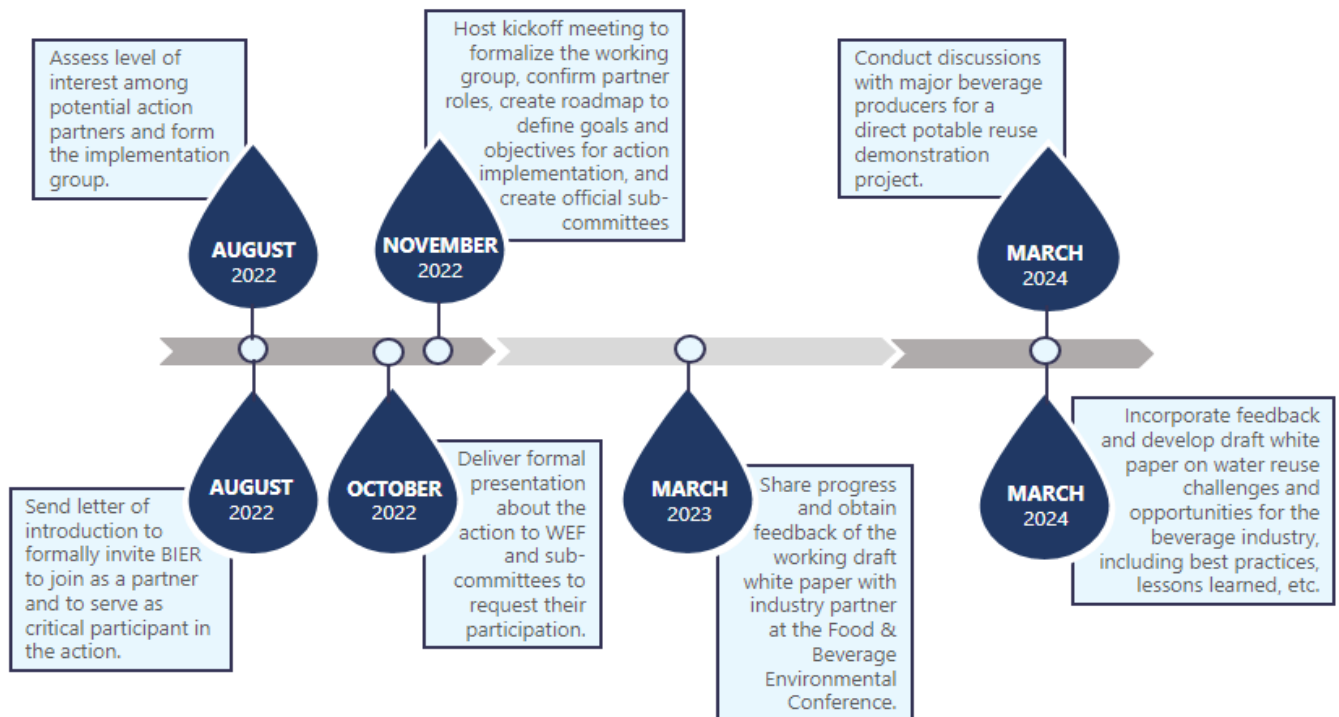
Lessons Learned

Action leaders developed a white paper, [Advancing Water Reuse Within the Beverage Industry](#), following engagement with federal and local regulators, major international beverage manufacturers, non-profit organizations, consulting engineers and water professionals. The white paper's purpose is twofold:

- Increase understanding of stakeholder engagement, regulatory and treatment technology issues related to water reuse; and
- Identify key hurdles and near, medium, and long-term solutions to advance water reuse practices at beverage manufacturing plants.

Water reuse offers a compelling opportunity for the beverage industry to address important water sustainability issues at beverage manufacturing plants. These issues are often complex, and include stakeholder engagement, regulatory, and treatment technology components. In the white paper, these three components are addressed with actionable next steps and solutions to advance water reuse practices at beverage manufacturing facilities.

Action Implementation Process



Potential Future Activity

- Develop a glossary of terms pertaining to water reuse in the food and beverage industry.
- Consult with key internal stakeholders (e.g., operations, sustainability, quality, compliance) and external partners (e.g., technology providers, regulators) to assess regulatory requirements, source identification, water quality, treatment processes and application challenges associated with water reuse in food and beverage production.

- Compile, assess and understand lessons learned from food and beverage producers who have implemented water reuse in their facilities.
- Create a guidance framework (decision tree) to lead food and beverage producers through key decision-making criteria, including how Hazard Analysis Critical Control Point (HACCP) framework is used to inform regulatory decisions, for each stakeholder group to ease water reuse in food and beverage manufacturing.
- Organize industry-specific campaigns to help normalize water reuse at food and beverage manufacturing plants.
- Prepare a set of resources (e.g., engineering, equipment, regulatory approval, branding, etc.) to facilitate accelerated resolution to key stakeholder objections and encourage reuse.
- Develop water reuse technical guidance (i.e., examples of low-risk water sources, water reuse applications in beverage manufacturing plants and technologies to address chemical and biological hazards) for stakeholders.
- Gather and assess demonstration project case studies based on real-world producer experiences to offer critical guidance for companies looking to implement effective water reuse strategies within their facilities.

Additional Resources

- [“Advancing Water Reuse within the Beverage Industry” white paper](#)
- [Brewers Association Water and Wastewater: Treatment/Volume Reduction Manual](#)
- [Beverage Industry Environmental Roundtable: Context-Based Decision Guide for Water Reuse and Recycling](#)