

Water Innovation Challenge



Final Report



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Introduction

The Arizona Community Foundation (ACF) announced the \$250,000 Water Innovation Challenge at the WaterNow Alliance March 2016 Sustainable Water Summit in Tempe, Arizona. The purpose of the Challenge was to catalyze innovative market-based, technological or entrepreneurial solutions to “advance the sustainability of Arizona’s water future and engage all Arizonans in safeguarding water as a precious resource.” Twenty-three teams submitted project proposals; evaluated by a panel of 20 judges. The winning proposal was the Arizona Pure Water Brew Challenge (AZ PWBC), a project designed to engage the public in conversations and education about water reuse, and ultimately build acceptance by Arizonans for recycled water as a safe, pure drinking water source. To achieve this, the Pure Brew team proposed to demonstrate the viability and safety of advanced water purification technology by building a mobile treatment facility to travel the state, giving public demonstrations and providing purified recycled water to local breweries as part of a high-visibility beer tasting competition.

Cynthia Koehler, Executive Director of the WaterNow Alliance (WaterNow), participated on the judging panel and the winning proposal received technical support from the WaterNow team, valued at \$50,000. This report provides a detailed summary of the project accomplishments.

Project Description

The Arizona Pure Water Brew team set out to shift public perceptions about water reuse through a statewide public relations campaign that captured the public’s attention and appealed to their taste buds. The campaign began with the construction of an eye-catching mobile, advanced water purification facility that toured the state, appearing at large events and fairs to stimulate public engagement and conversations about water quality and the safety of potable reuse. At each event, the truck was opened up to invite the public in to tour the water treatment process, engage with the on-site project team to learn more, and sample the bottled “PURE” branded water produced by the truck.



The critical, imaginative “brew” stage of the PR campaign required engaging and convincing local craft brewers to take delivery of high quality PURE water from the mobile purification truck and brew batches of beer for a statewide competition - held in September 2017. Twenty-six breweries from 12 cities across the state took part in the competition.

To measure the project’s success at improving public perceptions about potable reuse, the team utilized two survey methods. The first was a longitudinal media survey (LMS) that provides an analysis of any measurable shift in the tone and scope of media coverage regarding recycled water in general and the Pure Water Brew Challenge in particular over the course of the project. The second method was a thirteen-question survey completed by individual participants who toured the truck and sampled bottled PURE water or beer at public relations events.

WaterNow Alliance Project Support

WaterNow was instrumental in developing and executing the outreach strategy that engaged thousands of individuals at high-profile events, and hundreds of thousands more through news articles, TV segments, and social media platforms. After the Prize winner was announced in November 2016, WaterNow’s primary objective was to establish methods for tracking and demonstrating the project’s success. The purpose of the AZ PWBC was to build

public support and acceptance for potable reuse. WaterNow recognized that it was critical to establish methods before the project kicked off to demonstrate that the AZ PWBC was able to achieve this goal.

Working in collaboration, the Pure Brew team and WaterNow first developed a short survey intended to measure public perceptions about the general topic of water reuse and specifically about potable reuse. The survey was administered through iPad devices at public outreach events. WaterNow also prioritized capturing how the project was covered in the news and on social media, including any measurable change in media sentiments over the life of the project. A longitudinal media survey (LMS), including “sentiment analysis,” was selected as the right tool to capture these metrics. WaterNow connected the Pure Brew team with a professor from the Arizona State University’s Decision Center for a Desert City to conduct the LMS.

With the methods to track success in place, WaterNow researched and developed out a calendar of events for the mobile treatment facility truck and supporting staff to participate in and engage with the public. WaterNow selected 12 high profile events across Arizona from an initial list of 100. Criteria for selecting events included: 1) location, with an effort to reach as many communities in Arizona as possible; 2) attendance, with priority given to those having a greater audience; and 3) event type, to ensure that a variety of demographic groups were engaged. WaterNow coordinated event logistics for the Pure Brew team, ensuring that everything ran smoothly once the truck arrived.

To change public perceptions and build support for potable reuse, WaterNow and the Pure Brew team worked together to develop a messaging strategy that conveyed the benefits and overall safety of potable reuse. Using past research, WaterNow developed a list of terms and phrases to use and avoid when talking with the public and the press. Messages such as, “All water is recycled” and, “Judge water by its quality, not its history” were important to remind the public that water recycling isn’t new and that it’s the quality of the water that matters, while terms like “recycled wastewater” and “effluent” were avoided because they tend to evoke negative reactions. To activate this messaging strategy, WaterNow managed the AZ PWBC social media accounts (Facebook, Twitter and Instagram)

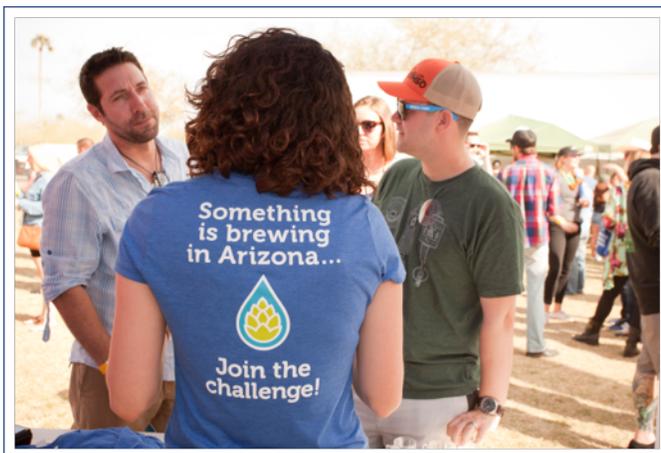
and worked with the media to schedule interviews, photo shoots and taste tests. More information about the success of the outreach strategy is provided in the Results section below.

Each public event in the 2017 Pure Water Brew truck tour required the support of a dozen or more individuals to give tours, collect surveys, hand out swag, engage the public in conversations, and get out in the crowd to drive foot traffic to the truck. The Pure Brew team relied on colleagues, friends and water industry professionals to volunteer at events. To ensure that all volunteers conveyed a message consistent with the Pure Brew team’s strategy, WaterNow developed

Volunteer Guides that provided top line messages, tips and pitfalls, definitions and terms to use or avoid.



“We were excited to help improve public perceptions by reaching individuals that might have negative opinions toward using reclaimed water.” - **Chase Saraiva**, Head Brewer, AZ Wilderness Brewing



Itemized Budget

The table below provides an itemized budget implementation indicating where grant funding for the project was allocated.

Expense	Cost
Personnel Expenses	
Project Management	\$30,600
Strategy, Oversight, Top Management	\$6,800
Research Assistance	\$2,100
Total Personnel Expenses	\$39,500
Travel	
Transportation	\$2,926
Accommodations	\$2,402
Meals	\$672
Total Travel Expenses	\$6,000
Total Project Administration (fiscal sponsor, TCI)	\$4,500
Total:	\$50,000

The Results

Over a 6-month period in 2017, the Pure Brew team and “beer truck” participated in 16 events in 7 Arizona cities, one in Long Beach, California, and another in Denver, Colorado. Team members engaged thousands of attendees in conversation about water reuse and collected more than 2,000 completed surveys (an analysis and summary of the survey results will be published in a peer-reviewed article in 2018).

Event Popularity: As public awareness about the Pure Water Brew Challenge began to grow the team received two dozen requests to have the “beer truck” appear at additional events throughout Arizona, California, Nevada and other states. In early October, the truck was commissioned to appear at an event in Denver, CO, where three additional brewers received PURE water to make beer.



13
Events in 7
Arizona Cities

2,000+
Completed
Surveys

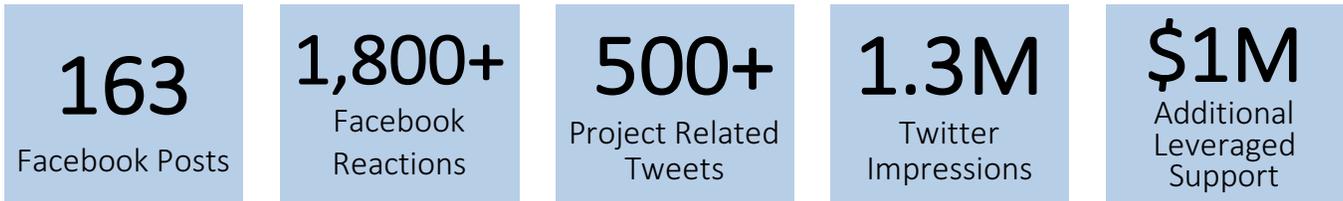
26
Brewers from
14 AZ Cities

80,000
Gallons of
PURE Water

Traditional Media Exposure: To date, news outlets in Arizona, and as far as San Francisco, CA, and Ft Collins, CO, have covered the AZ Pure Water Brew Challenge in 58 stories: 17 print articles, 12 television segments, and two radio pieces. Thirteen of the print articles were in newspapers that reach 1.6 million Arizona readers. The AZ PWBC was featured in the December issue of Phoenix Magazine, which is circulated to 80,000 homes monthly and reaches more than 350,000 readers. Many of the 11 television stories were broadcast in Phoenix (a top-15 media market) on network-affiliate stations, offering exposure to hundreds of thousands of viewers. Early results from the LMS sentiment analysis indicate that the articles and TV and radio segments were generally positive and therefore a substantial number of readers likely received a positive impression of the project, and by association, of potable water reuse. The AZ PWBC stories were higher

in media sentiment than other stories about the same general topic of water reuse. A list of articles is provided in Attachment A.

Social Media Impact: While managing the AZ PWBC social media accounts, WaterNow attracted 464 Facebook followers and 223 Twitter followers, a sizable number considering the short duration of the project and the specific niche that it fills. For comparison, WaterReuse Association – a 27-year old nonprofit focused on water reuse, with membership in 200 U.S. communities – has roughly twice as many social media followers. Our AZ PWBC Facebook posts demonstrated good engagement, with 163 total posts garnering 1,869 post reactions, 92 shares, and 33 comments between May and November. The Pure Brew team posted 355 tweets; an additional 663 tweets related to the project were posted by people not directly associated with the project. Many of those users have a large number of followers, providing additional content “reach” of approximately 1.3 million additional Twitter “impressions” (i.e. the number of times AZ PWBC-related tweets appeared in other users’ feeds). AZ PWBC tweets were 10%-20% higher in sentiment than tweets that were about similar topics (e.g. water reuse, potable reuse, etc.) but not related specifically to the project. Additionally, the sentiment of AZ PWBC-related tweets improved over the course of the project, increasing from 10% more positive than related topics at the beginning to 20% more positive after six months.



Leveraging Community Foundation Support

Seeded with the \$250K Water Innovation Challenge Prize funding, as well as \$50K in WaterNow technical assistance funded by ACF, the AZ Pure Water Brew team attracted an additional \$1M of in-kind donations. These donations



provided much of the equipment, and engineering & design consulting services necessary to construct and operate the advanced water purification system, transport it throughout the state to purify water and attend events, build a website, conduct participant surveys and the longitudinal media survey, and design and print outreach materials and swag for events, including informational materials, shirts, beer mugs, coasters, stickers and more. This significant level of in-kind donations is one example of the kind of ripple effect that a community foundation prize competition can create, extending the foundation’s philanthropic impact in Arizona and beyond.

Attachment A: AZ Pure Water Brew Challenge Media Coverage - May through December 2017

Date	Source	Type	Location	Title/Link
11/4/16	Tucson Daily Star	print	Tucson	Drink up: Arizona wastewater-into-beer proposal wins \$250K grant
5/22/17	KPHO-cbs5	TV	Phoenix	First look: The mobile plant that will purify wastewater for beer
7/2/17	Arizona Daily Sun	print	Flagstaff	Flagstaff testing use of treated wastewater in brewing beer
7/9/17	KTVK-3	TV	Phoenix	Arizona breweries to make beer with treated wastewater
7/24/17	Environmental Leader	web	web	Water Reuse Innovation Leads to Top-Selling Pickle Product
7/24/17	Tucson News Now	TV	Tucson	Reclaimed Pima County wastewater will be used to make beer
7/24/17	Arizona Public Media	TV	Tucson	Mobile Unit Looks to Fight Treated Wastewater's 'Yuck' Reputation
7/25/17	KNXV-abc15	TV	Phoenix	Beer to be created with recycled sewage water
7/31/17	Phoenix New Times	print	Phoenix	Phoenix Brewers Are Going to Use Reclaimed Wastewater to Make Beer. Really.
7/31/17	AMWUA	web	web	Pure Brew: Campaign Promotes Future Source Of Drinking Water
8/1/17	KPNX-12	TV	Phoenix	Challenge to Arizona brewers: Make beer from reclaimed water
8/1/17	KSAZ-fox10	TV	Phoenix	Local breweries compete to make best beer from wastewater
8/2/17	CBS 5/AZ Family	web	Phoenix	Phoenix breweries begin to use reclaimed wastewater to make beer
8/4/17	The Wather Channel	web	web	Phoenix Breweries to Make Beer with Recycled Wastewater
8/4/17	Water Deeply	web	web	How Water Became the New Focus of Corporate Sustainability
8/7/17	Capitol Weekly	web	Sacramento	From toilet water to drinking water
8/7/17	University of Arizona	web	Tucson	Pure Water Brew Challenge Brings Reclamation to the Forefront
8/11/17	Pima County	web	Tucson	Brewers competing in AZ Pure Water Brew Challenge announced
8/14/17	AZ Business Daily	web	web	AZ Pure Water Brew Challenge slated for Sept. 9 in Tucson
8/14/17	Audobon Arizona Newsletter	print	Phoenix	Turning Audubon's Water & Birds Report Into Action
8/31/17	Local First Arizona	web	Phoenix	Water Conservation Is Brewing In Arizona
9/5/17	KJZZ	radio	Phoenix	Now On Tap: Arizona Beers Made From Purified Wastewater
9/10/17	Yuma Sun	web	Yuma	Yuma brewmaster accepts wastewater beer challenge
9/11/17	Arizona Republic	print	Phoenix	Allhands: Yes, you should drink beer made from recycled water

Date	Source	Type	Location	Title/Link
9/11/17	Tucson News Now	web	Tucson	Dragoon Brewing Company wins AZ Pure Water Brew Challenge
9/11/17	Pima County	web	Tucson	AZ Pure Water Brew Challenge winners announced
9/13/17	CBS 5/AZ Family	TV/web	Phoenix	This truck is taking recycled wastewater and making it pure
9/13/17	Business Insider	web	New York	3 Denver breweries on tap to brew Colorado's first beer from recycled water
9/14/17	9News Colorado	web	Denver	Beer made with reclaimed water?
9/14/17	KGUN	TV	Tucson	Local brewery wins statewide competition to make best tasting beer with recycled wastewater
9/14/17	Environmental Leader	web	Ft. Collins	Brewers Stamp Out the Stigma of Recycled Water with Craft Beer
9/15/17	KNAU	radio	Flagstaff	Eats and Beats: Flagstaff Brewery Competes in Challenge to Turn Wastewater into Beer
9/15/17	Pima County	web	Tucson	County-led effort finds new ways to brew up reclaimed water
9/16/17	The Daily Wildcat	print	Tucson	Water purification truck works to show safety of purified waste water
9/19/17	AZ Business Daily	web	Tucson	Dragoon's pilsner wins Arizona Pure Water Brew Challenge
9/19/17	Fox 31	TV	Denver	3 Denver breweries making beer with recycled waste water
9/22/17	Cronkite News	TV	Phoenix	Would you drink beer made from wastewater?
9/27/17	Lake Powell Life	web	web	Waste Water Brews!
9/27/17	Cronkite News	web	web	Would You Drink Beer Made From Sewer Water?
9/27/17	Arizona Daily Sun	print	Flagstaff	Toilet to beer tap no problem for Flagstaff craft brew lovers
9/28/17	Tucson Weekly	web	Tucson	From Wastewater to Cold Beer - Arizona brewers are making suds from what now?
9/28/17	Tucson Weekly	print	Tucson	From Wastewater to Cold Beer
9/28/17	Sensorex News	web	Garden Grove	Sensorex Donates Monitoring Instruments to AZ Pure Water Brew Challenge
9/29/17	KFYI Phoenix	Radio	Phoenix	Chat About The Chris Merrill Show Hour 3-9.29.17
9/30/17	Ahwatukee Foothills News	print	Phoenix	Breweries see business in beer made from wastewater
10/4/17	AZ Capitol Times	print	Phoenix	From toilet to tap, brew challenge shows safe reuse of water
10/4/17	Food & Wine	print	New York	Wastewater Beer's Sobering Moral: Many Still Don't Understand Recycled Water
10/6/17	Pima County	web	Tucson	We used beer to prove recycled water is safe to drink

Date	Source	Type	Location	Title/Link
10/6/17	Industrial Water World	web	web	Sensorex Donates Monitoring Instruments To Arizona Pure Water Brew Challenge
10/7/17	Tucson Daily Star	print	Tucson	UA team builds desalination plants for water-scarce Navajo Reservation
10/9/17	AMWUA	web	web	On The Job: Organizer Keeps Wastewater Treatment Reliable
10/10/17	Herald Review	print	Sierra Vista	A new way to brew: Using reclaimed water in craft beer
10/22/17	East Valley Tribune	print	Phoenix	On tap: Treated wastewater could be coming to EV faucets
10/24/17	AZ Food & Wine	web	web	Arizona Pure Water Brew Challenge
10/28/17	Ahwatukee Foothills News	print	Phoenix	On tap: Treated wastewater could be coming to area faucets
11/15/17	CTGN America	TV	Washington	Colorado company turning wastewater into beer
December Issue	Phoenix Magazine	print	Phoenix	Waste Not
December Issue	Civil Engineering News	print		Brewers Make Beer Using Recycled Water to Promote Potable Reuse in Arizona, Colorado