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ARIZONA

COMMUNITY FOUNDATION



WATER
INNOVATION
CHALLENGE

Winner: AZ Pure Water Brew Challenge?

What: Public outreach campaign about water reuse and a state-wide **beer competition**

Why: Challenge **public perceptions** about water reuse and demonstrate protection of **public health**

How: Engage the public in **conversations** and **education** about water reuse

Pure Water Brew Partners



City of Phoenix





The water purification process



RECYCLED
COMMUNITY
WASTEWATER

Using a multi-barrier purification process,
we can transform recycled water into PURE
water – A Proven Technology.

The result is a **Safe, Reliable** and **Sustainable**
water supply.



ULTRAFILTRATION

Removes:
Suspended solids.
Bacteria.
Protozoa.
Cryptosporidium.
Giardia.



REVERSE
OSMOSIS

Removes:
Organics.
Pharmaceuticals.
Personal Care Products.
Inorganics.
Heavy metals.
Viruses.



UV/ ADVANCED
OXIDATION

Destroys:
Pathogens.
Trace organics.



GRANULAR
ACTIVATED CARBON

Removes:
Trace organics.
Disinfection byproducts.
Remaining hydrogen
peroxide.



CHLORINE
DISINFECTION

Destroys:
Pathogens.
Viruses.



PURE Water

↓
Beer!





AZ Pure Water Brew Challenge

26 Craft Breweries



Why is this important?



Nonpotable Reuse

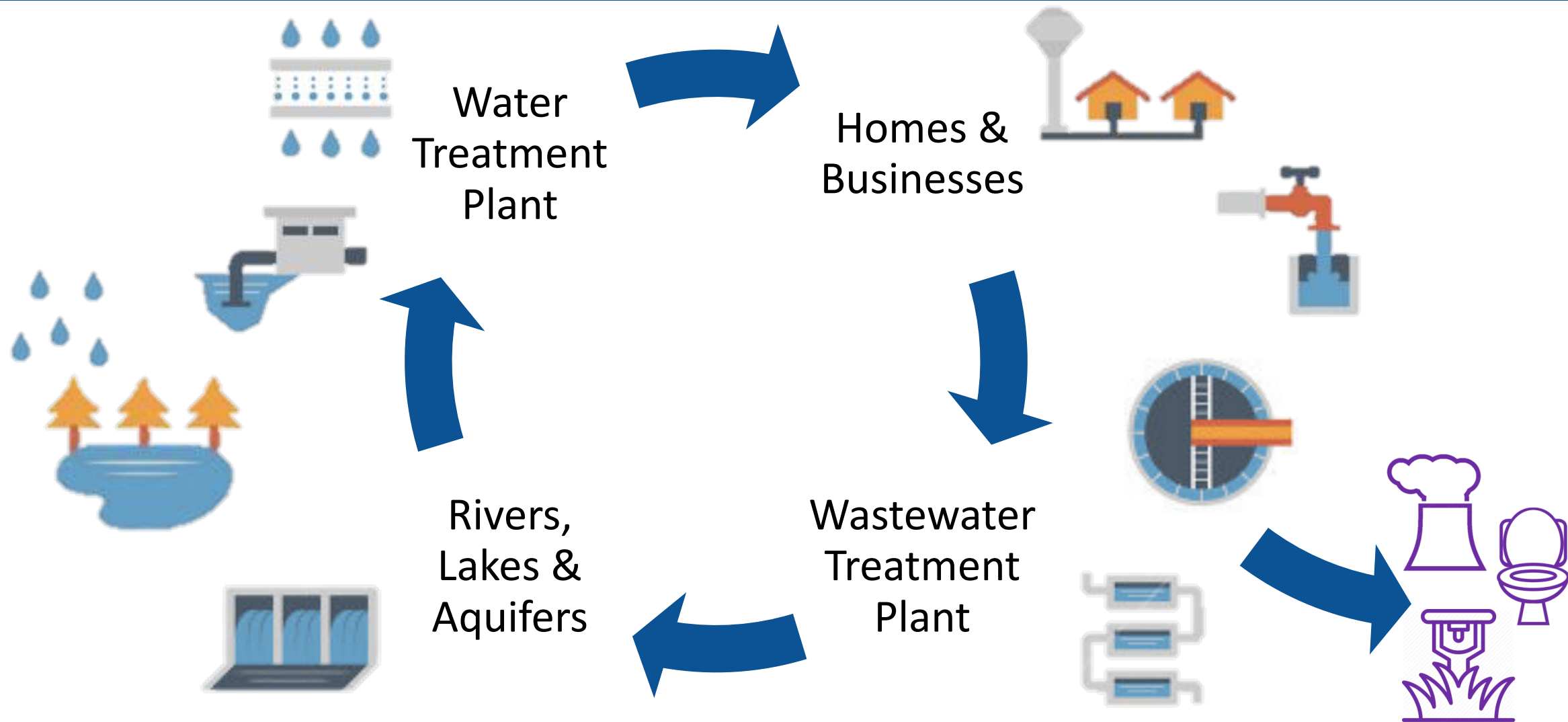
Landscape and agricultural irrigation, cooling towers, toilet flushing, etc.



Potable Reuse

Indirect Potable Reuse
Direct Potable Reuse –
Not currently permitted

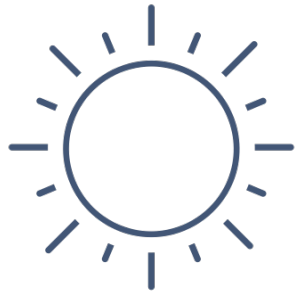
All water is recycled!



Why is this important?

- Continue effective water management planning for the future
- 39% of Arizona's water comes from the Colorado River
- Potable reuse is a reliable, locally controlled source of drinking water

Water recycling in Central Arizona



82%

**of all effluent
generated in Central
AZ is reused**

21%
Recharge



11%
Environment

Just 18% of effluent is
discharged
(uncommitted)

**Palo Verde Nuclear
Plant uses**

100%

**reclaimed water for
cooling**

22%
Agriculture



22%
**Power
Generation**



Water recycling in Flagstaff



Nearly

100%

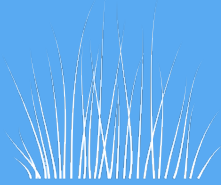
of all waste water
generated is reused
in the summer



6%

Commercial
use

6%



Municipal
turf watering

8%

Institutional
use
(NAU)

16%

Industrial



NORTHERN
ARIZONA
UNIVERSITY

80%

of lawns at NAU are
watered using
reclaimed water



50%

of reclaimed water
is used on golf
courses in Flagstaff

Why is this important?



Nonpotable Reuse

Landscape and agricultural irrigation, cooling towers, toilet flushing, etc.



Potable Reuse

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Department of Environmental Quality is currently rewriting the reuse rules and may include standards for potable reuse by the end of 2017

Why potable reuse?

- Reliable, locally controlled water resource
- Doesn't require a dedicated distribution system
- Cost compared to:
 - Desalination – 50% more expensive, 46% more greenhouse gas emissions
 - Securing new water resources



The Challenge...

The challenge is not whether the technology is capable of making reclaimed water safe for human consumption...

Public perceptions will be the most difficult challenge.

Tackling the “yuck” factor

What's next?

- Replicable & Scalable
 - What's next for purified reclaimed water in Arizona?
 - Will my city start using purified reclaimed waster soon?
- Continuing outreach effort
- Stay tuned for updates!



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[#AZPureWaterBrew](https://www.instagram.com/AZPureWaterBrew/)





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