

Vital for our Water Future

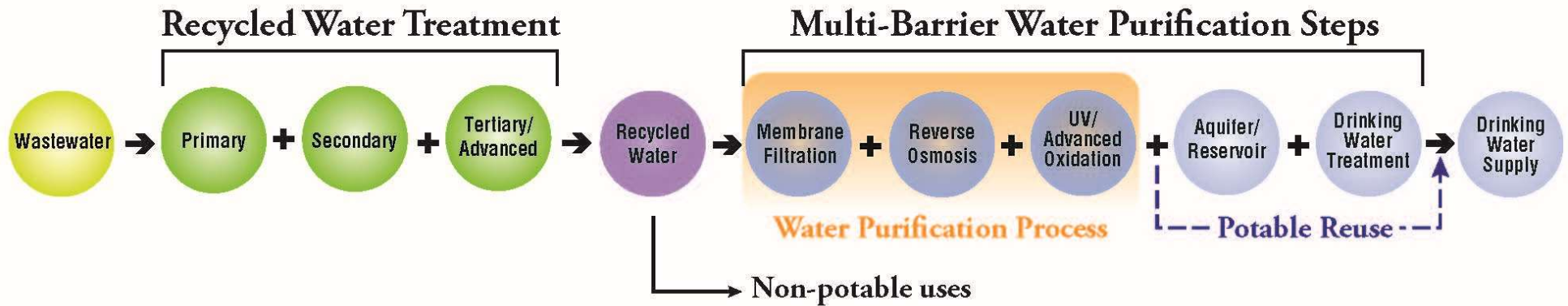
Strategies for Advancing Public Acceptance Of Potable Reuse Projects

WRA Nor-Cal 12/13/24



Mark Millan

The Technology Works – It is possible to purify wastewater



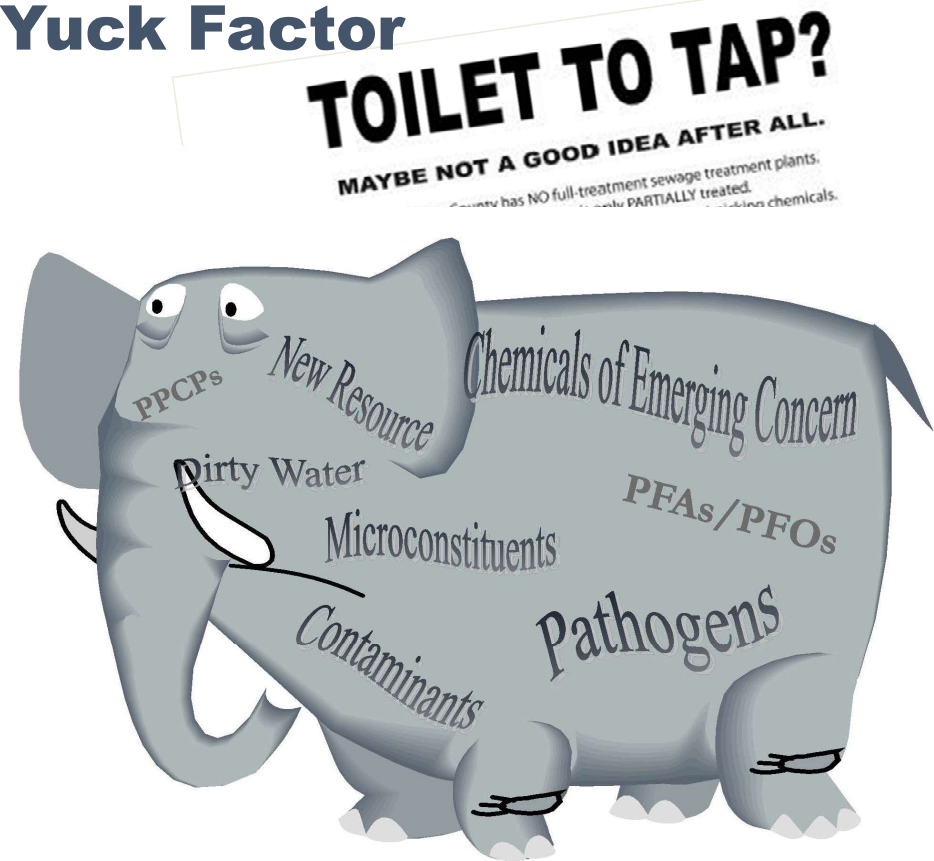
OCWD,
California

Public Perception - Facing the Yuck Factor

FEATURE ARTICLE - [September 17, 2007](#) by Peter Friederici



Facing the yuck factor. PAUL LACHINE



How has the West embraced water recycling? Very (gulp) cautiously

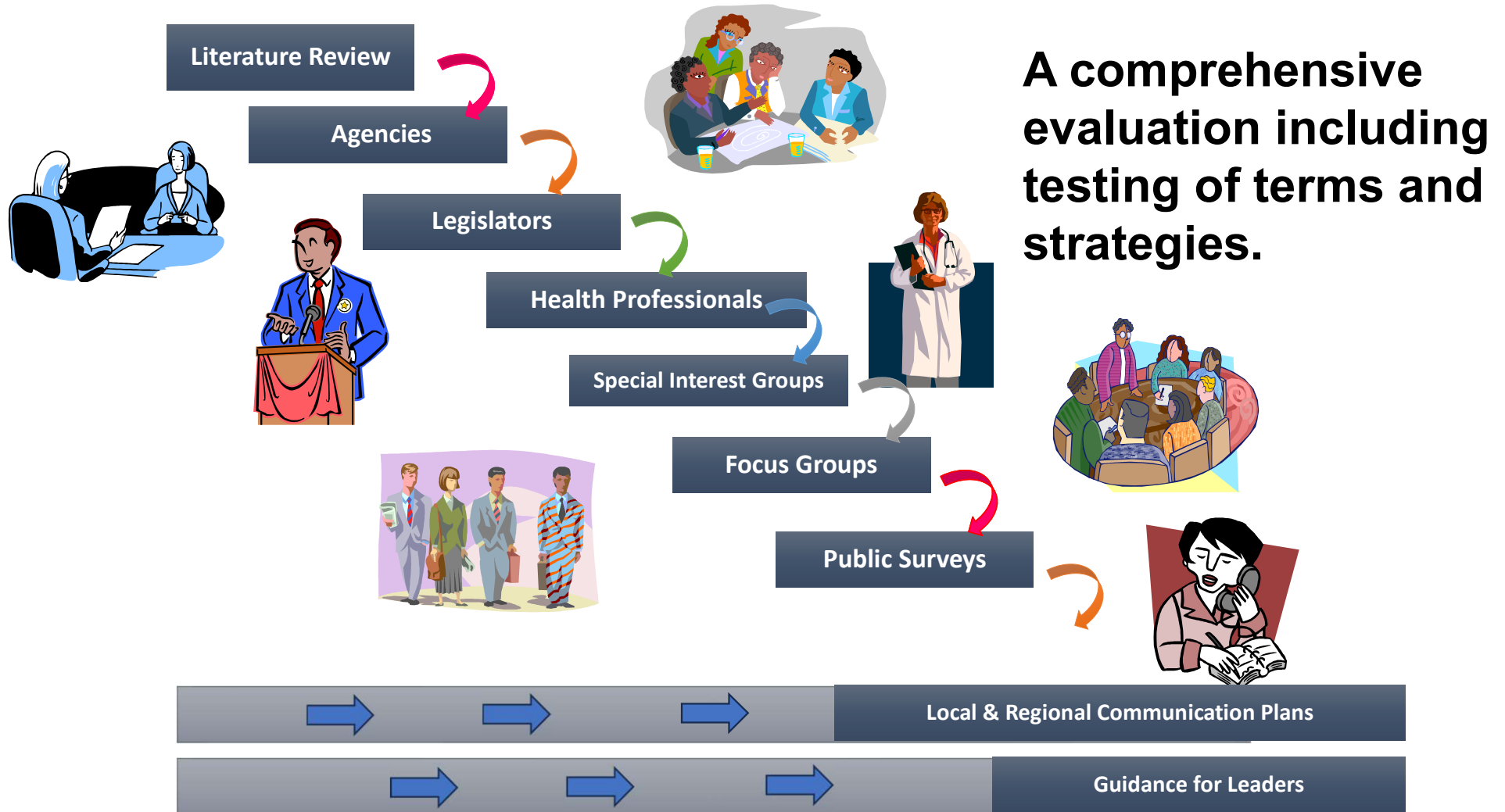
Source: <http://www.hcn.org/issues/354/17227>

Water Research Foundation's Model Communication Plans for Advancing DPR Acceptance (WRF 13-02) (Currently referenced as WRF - 4540)

- 💧 Research conducted in 2014/2015
- 💧 Focus on Potable Reuse – IPR & DPR
- 💧 California-centric Research
- 💧 Communication plans still used today



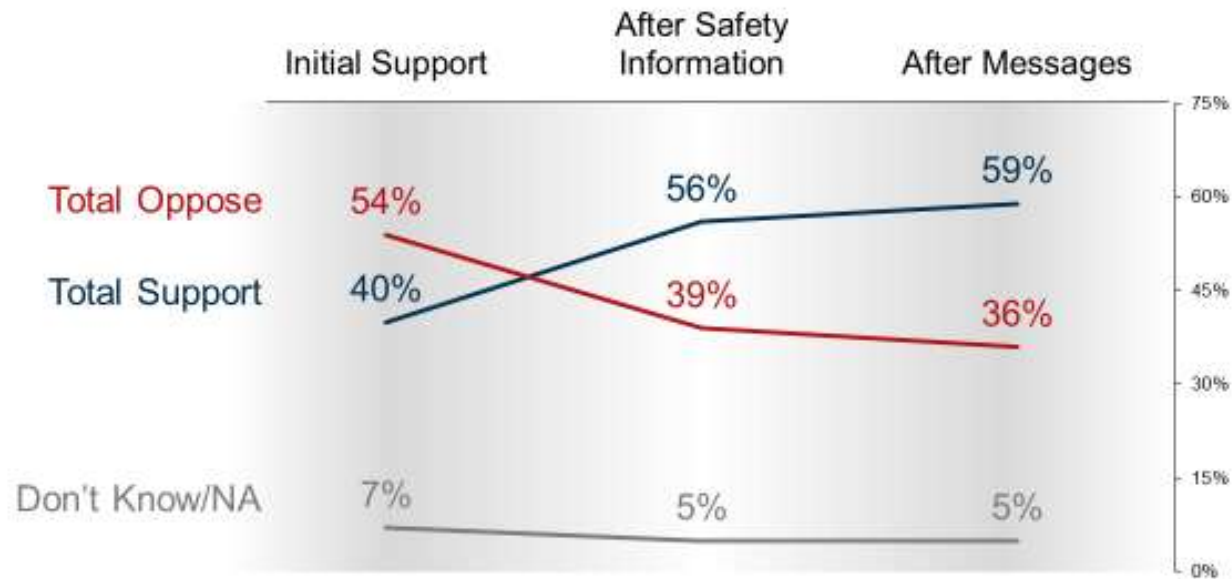
Research that went into the WRF 13-02 Study



Key Survey Finding

Though they are initially opposed, voters quickly become more comfortable with direct potable reuse after information about safety.

Do you support or oppose direct reuse of recycled water in your community for all household purposes, including drinking?



Fairbank,
Maslin,
Maullin,
Metz &
Associates

FM3

Public Opinion Research
& Strategy

Key Focus Group Finding

**Among “purified water” names,
“advanced purified water” was best.**

(Participants Allowed to Select One From List)

“Purified Water” Names	Sunnyvale	San Diego	Total
Advanced Purified Water	8	10	18
Purified Water	7	6	13
Purified Recycled Water	0	3	3
Purified Wastewater	0	1	1

SUNNYVALE FEMALE: “Advanced” means they took that extra step. It’s not just purified water, it’s advanced which sounds better to me.

SUNNYVALE FEMALE: It’s advanced in what way? Like you put ten different chemicals in there and that’s why it’s advanced?

Fairbank,
Maslin,
Maullin,
Metz &
Associates

FM3

Public Opinion Research
& Strategy

Key Findings

- 💧 Develop trust
- 💧 Be prepared
- 💧 Be transparent
- 💧 Instill confidence in the quality of water
- 💧 Be consistent with messaging and terminology
- 💧 Provide Potable Reuse information and where it is in use

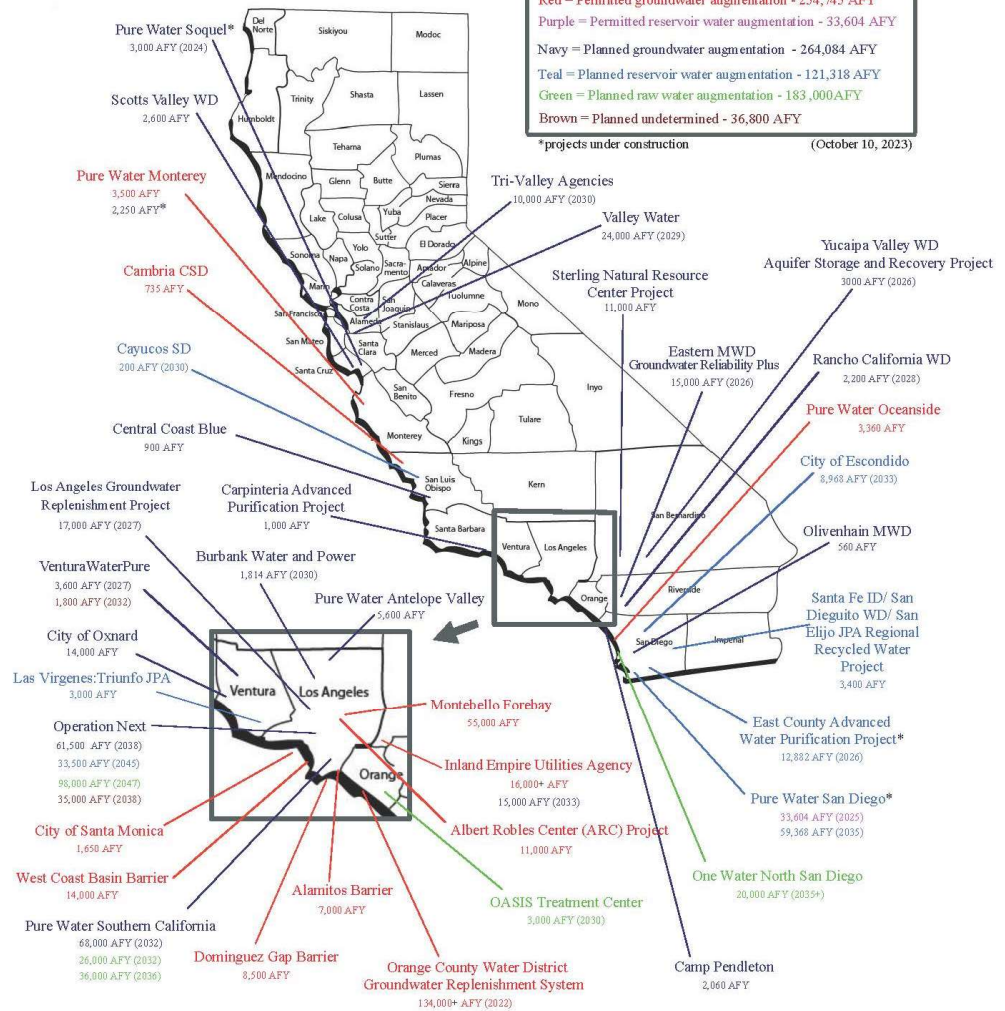
Key Messages – From the WRF 13-02 Study

- Potable reuse provides a safe, reliable and sustainable drinking water supply.
- Using advanced purified water is good for the environment.
- Potable reuse provides a locally controlled, drought-proof water supply.



Potable Reuse Projects

Potable Reuse Projects in California



+ Volume indicated reflects facility online factor and may be less than volume permitted.

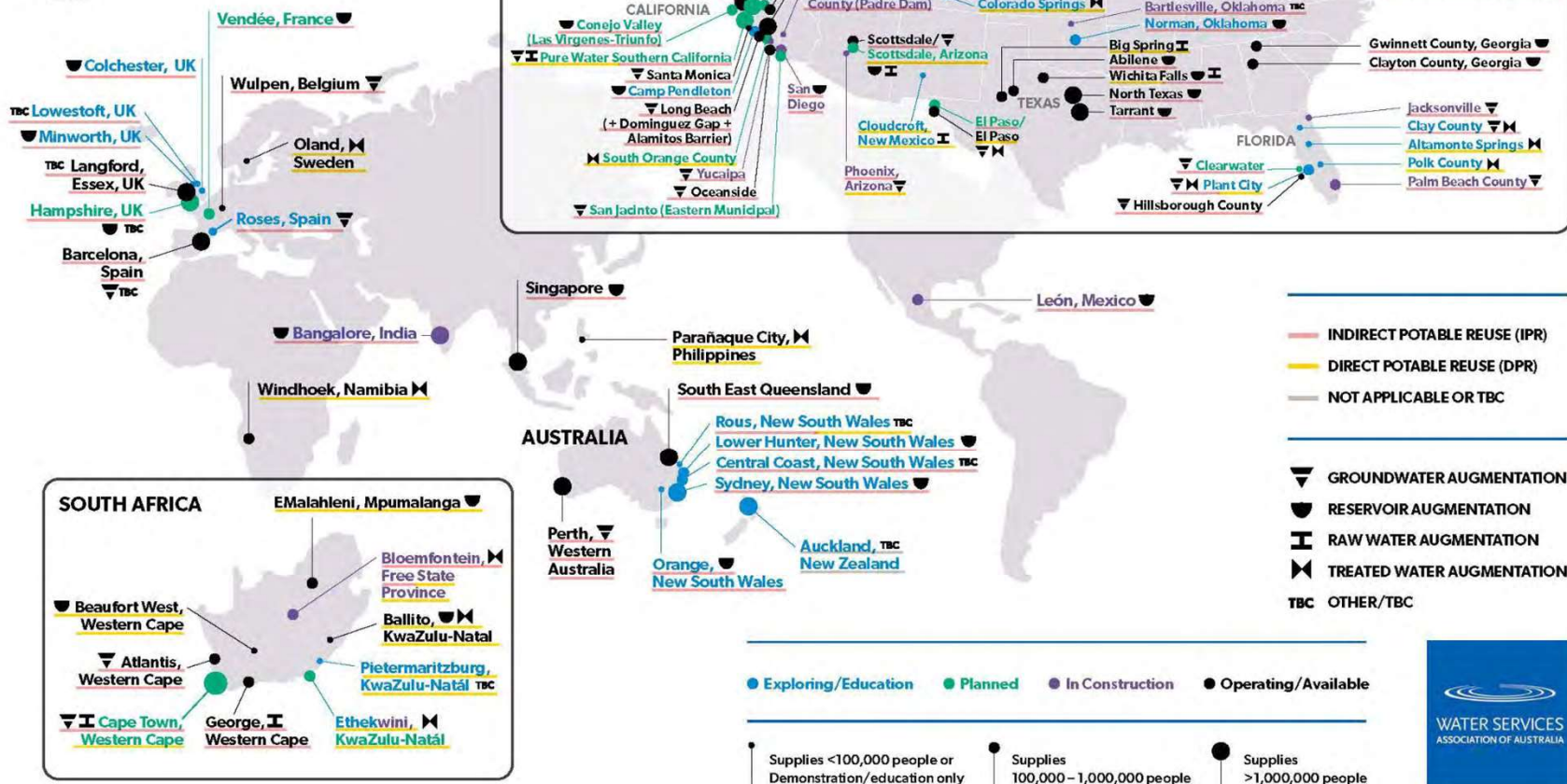
Potable Reuse Projects in United States



Global purified recycled water locations

Master

241202



Example Utilities where Potable Reuse is underway

- 💧 Pure Water Monterey (5 - 7.6 MGD)
- 💧 OneWater Nevada (2 MGD)
- 💧 Pure Water Soquel (1.5 - 3 MGD)
- 💧 Albert Robles Center (14.8 MGD)
- 💧 OCWD (100 - 130 MGD)



Leverage Branding

PureWater SF

Innovative Research Exploring the Possibilities for Purified Water



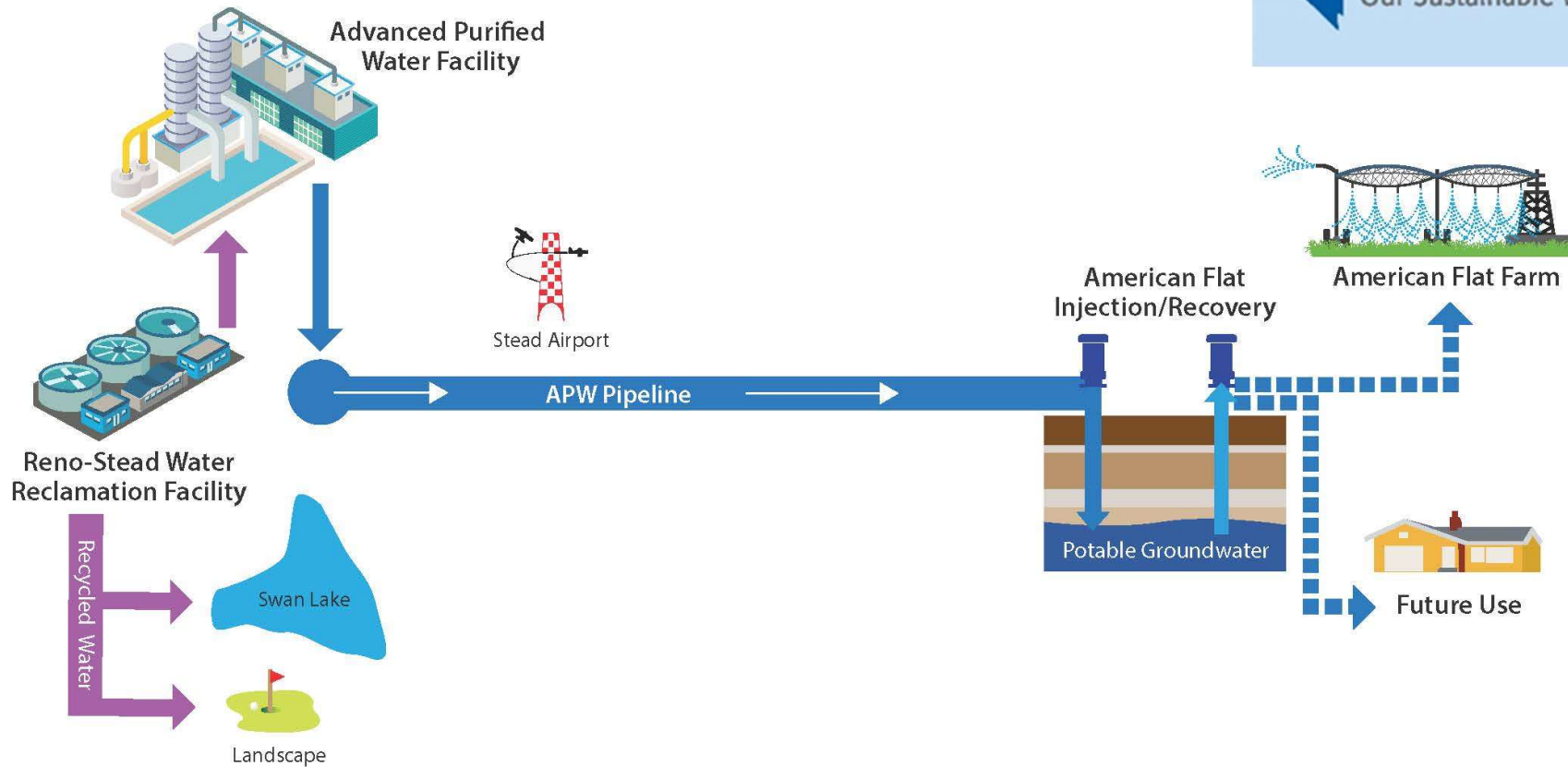
PURIFIED WATER REPLENISHMENT
Groundwater Reliability Plus



Example: Reno, Nevada Regional Water Challenges



How their Advanced Purified Water System Works



Website with lots of information



[Home](#)

[A+ Water Study](#)

[APWF at American Flat](#)

[Palomino Farms Study](#)

[Contact Us](#)

[News](#)

Reports & Documents

- **Fact Sheet: On the Path to Our Water Future – Spring 2022**
- **Reno-Stead Water Reclamation Facility Advanced Purified Water Demonstration Study Final Report – April 2021**
- **Brief Project Overview – Winter 2020** (1 page Handout)
- **Project Overview – Fall 2019** (4-page Backgrounder)
- **American Flat Road Hydrogeologic Investigation Report – August 2019**
- **Researching Advanced Purified Water Treatment Technologies – Winter 2019** (3-fold brochure)
- **Water Research Foundation/Independent Advisory Panel – Final Report – May 2018**

A+ Water Study

[Home](#)

[Project Technology](#)

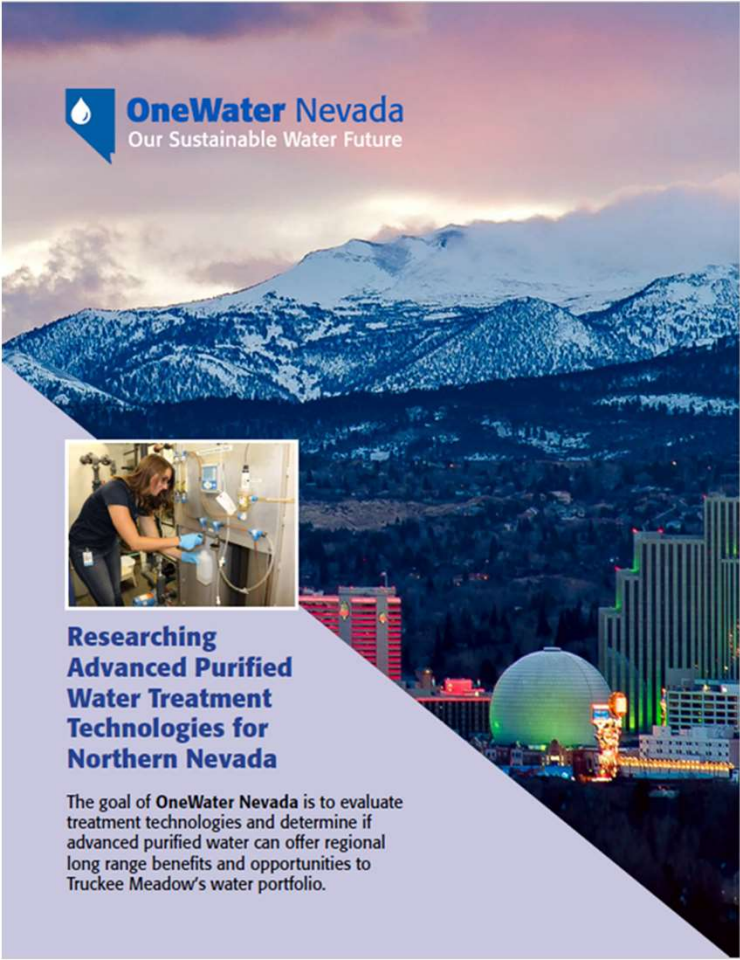
[Project Benefits](#)


[Reports & Documents](#)

[Project Maps](#)


[FAQs](#)

Detailed project information





OneWater Nevada
Our Sustainable Water Future



Researching Advanced Purified Water Treatment Technologies for Northern Nevada

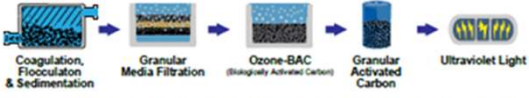
The goal of **OneWater Nevada** is to evaluate treatment technologies and determine if advanced purified water can offer regional long range benefits and opportunities to Truckee Meadow's water portfolio.



Demonstration Trailers Will Help to Educate and Inform the Public

The University of Nevada, Reno will lead the treatment technology evaluations and water quality testing and compliance programs. Each demonstration project is envisioned to operate 9-12 months. Multiple trailers will be equipped with advanced water purification technology as illustrated below.

After the advanced treatment process, the purified water will be introduced to local groundwater at a small scale for an extended period of time. This natural filtration of the purified water adds an additional cleaning step.



Coagulation, Flocculation & Sedimentation: Chemical coagulant is added causing particles to stick together and form larger "floc" particles. These larger particles then settle to the bottom of the tank as water flows upwards through tubes.
Granular Media Filtration: Small solids are filtered out in this mixed media sand filtration step.
Ozone-BAC: Ozonation with biological treatment removes organic matter and chemicals. Ozone is a powerful oxidant that breaks down organic constituents into smaller, more readily biodegradable molecules. The organic constituents are biodegraded by microbiologic organisms in the BAC filter.
Granular Activated Carbon: GAC is a polishing step to further remove trace amounts of dissolved organic constituents such as bulk organics and disinfection byproducts.
Ultraviolet Light: Ultraviolet light inactivates (kills) viruses and pathogens.

How the Project Benefits the Area

- Advanced purified water is a local, reliable, drought-proof water source** which provides vital benefits:
- Safe, reliable water supply**
Advanced purified water uses proven technology that cleans water to a level that meets all federal and state drinking water standards.
- Sustainable water supply option**
Advanced purified water could help diversify the region's water portfolio by adding an option that is both sustainable and energy-efficient.
- Environmental benefits**
Advanced purified water could reduce reliance on the Truckee River, leaving more water in the river for aquatic life and recreation.
- Drought-proof water supply**
Having a safe, sustainable water supply ensures water is available even during periods of drought.
- Independent of weather variability**
Advanced purified water may enhance the region's water supply resiliency to help address future uncertainties of climate change, such as longer growing seasons, snowpack changes and runoff timing.

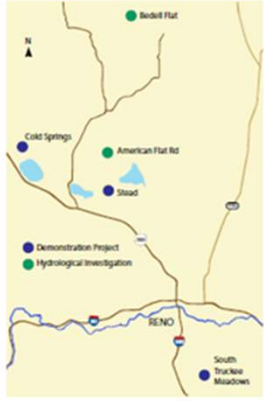
Project Timeline

The project schedule will be updated as the project evolves.



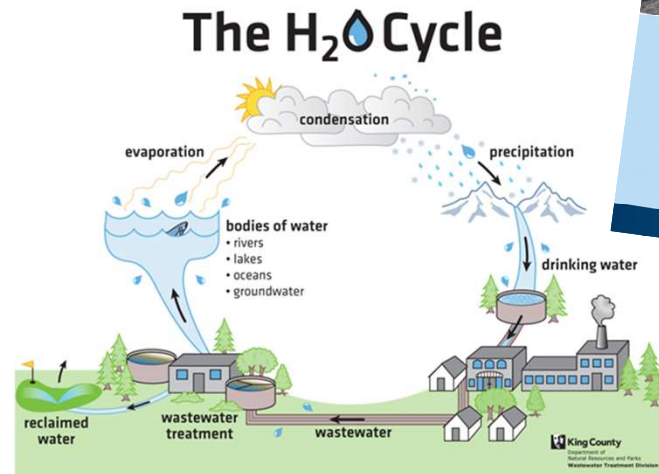
Potential Project Sites

The sites shown here are demonstration project and hydrogeologic investigation areas.



Be transparent – Share knowledge

- Links to Similar Projects
- Water Quality Info
- Fact Sheets and FAQs
- Project Schedule
- How You Can Participate





Opinion Leader Outreach

Goals of Opinion Leader Outreach

- establish or enhance the relationship between the opinion leader and the agency;
- build awareness, trust, and confidence in purified water treatment technology processes;
- inform leaders of water supply demands and shortages and how purified water can meet demands;
- listen to these stakeholders and be responsive to concerns related to purified water project implementation;
- secure written support of purified water projects from strategic community and opinion leaders.

Opinion leaders influence attitudes, beliefs, motivations, and behaviors of others. They influence opinions by raising awareness, persuading others, establishing or reinforcing norms, and leveraging resources. They usually have high visibility and a defined constituency. Opinion leader outreach builds strong relationships and garners third-party involvement in disseminating information to a broader network.

Identifying Opinion Leaders

Each community will have its own unique set of influencers, which will likely change and grow as the project progresses. Keeping an accurate database of opinion leaders, contact information, preferred communication methods, and other pertinent notes is imperative to a successful outreach program.

It's important to identify the leaders and their staff. Characteristics include: t appointed or elected position, values and traits, competence or expertise, and social position. Opinion leaders can include, but are not limited to, the following (in alphabetical order):

- academic/education leaders
- business organizations
- civic groups
- environmental entities
- media

- medical, public health, and water quality experts
- multicultural and faith-based leaders and groups these leaders/groups may be found within the other audiences listed)
- state and local elected officials and their staff

Relationship of opinion leaders to other target audiences

The graphic below illustrates the opinion leaders in relation to other community members. As a core group, from which information spreads to other community members, opinion leaders must be made aware of the need to increase water supply sources and should be knowledgeable about purified water as an option.



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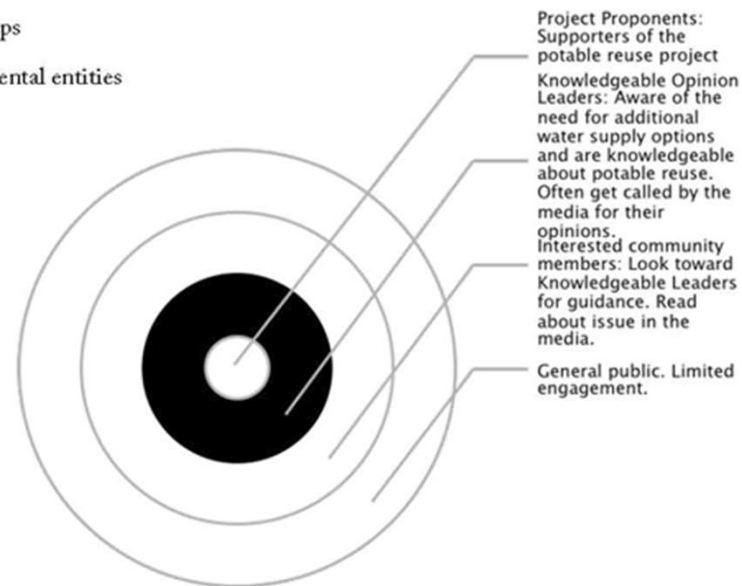
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Educating Key Stakeholders and Leaders

Seeing treatment trains up close and tasting the water



Educating customers and your community



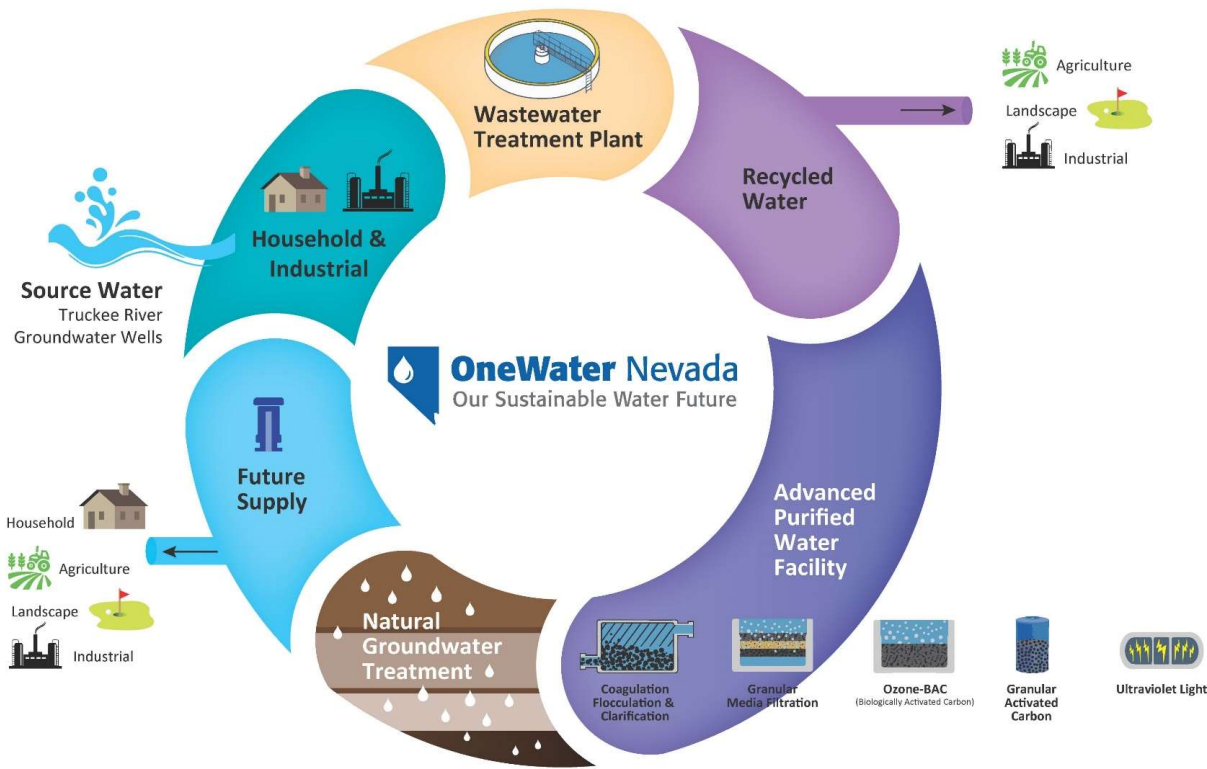
Provide short videos addressing key concerns

Topics:

- 💧 Benefits of potable reuse
- 💧 Advanced water purification
- 💧 Groundwater recharge
- 💧 PFAs
- 💧 CECs
- 💧 Is it safe?
- 💧 Regulations



Conveying your story and messaging using infographics



- Regional solution
- Effluent management
- Aquifer storage / banking
- Future potable resource
- Drought resistant local supply
- Resilient to climate variability

Educational Mobile Vehicle – Go out to the community



Participate at Community Events

- Seeing is believing
- Displays with modeled systems to demonstration facilities
- Let people taste the water



PUREWater Soquel's educational vehicle has won awards



Shows how water can be purified in the simplest of terms



Pure Water Monterey – Pilot and Demonstration Site



Media visits and demonstrating the future: A kitchen faucet brings purified water into your home



Demonstration sites change minds

The public learns about and tastes the water for themselves

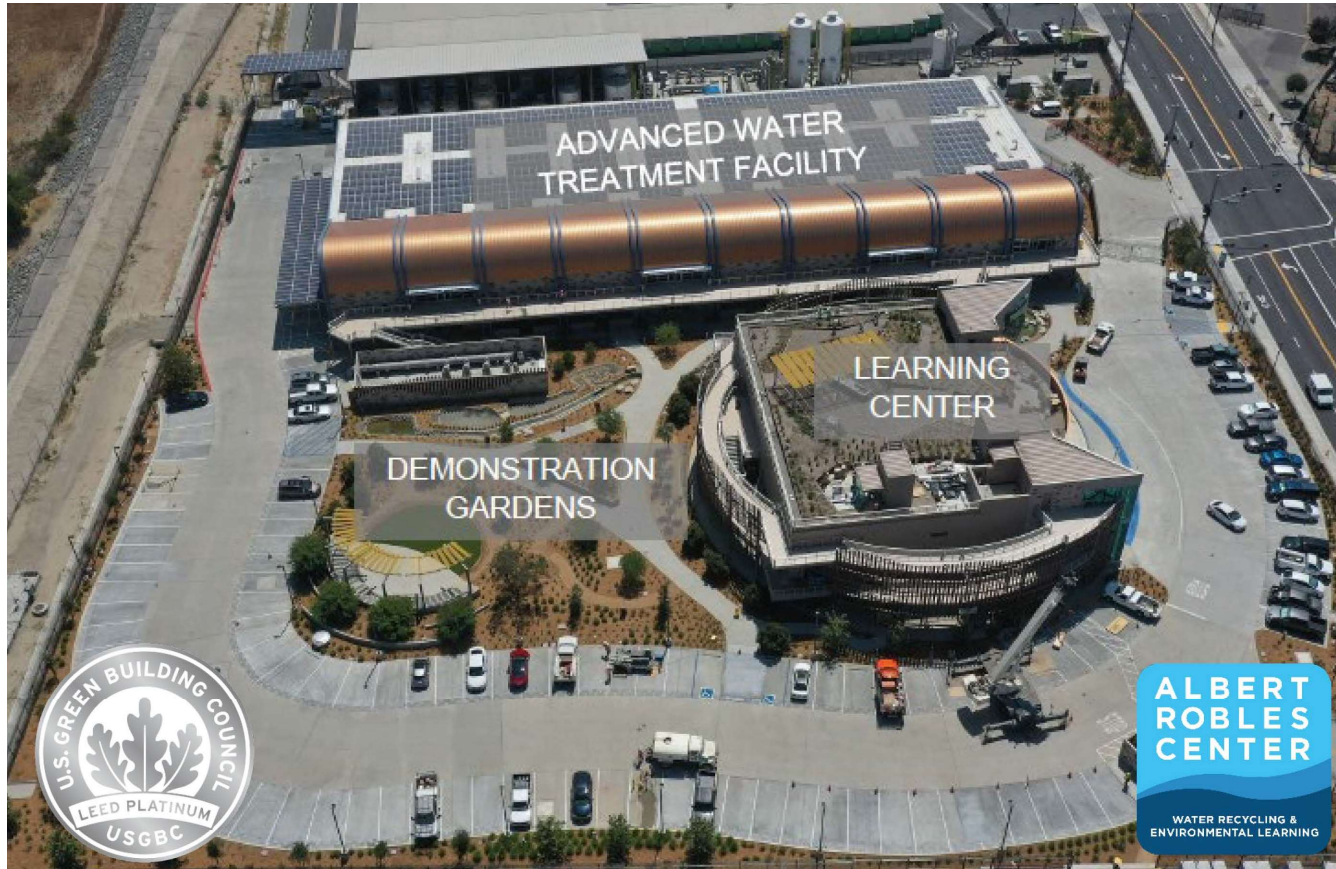


Albert Robles Center (ARC): The latest & most advanced

A fully digital and bilingual water museum with over 30 exhibits.



The ARC Facility includes three components



Learning Center and Demonstration Gardens

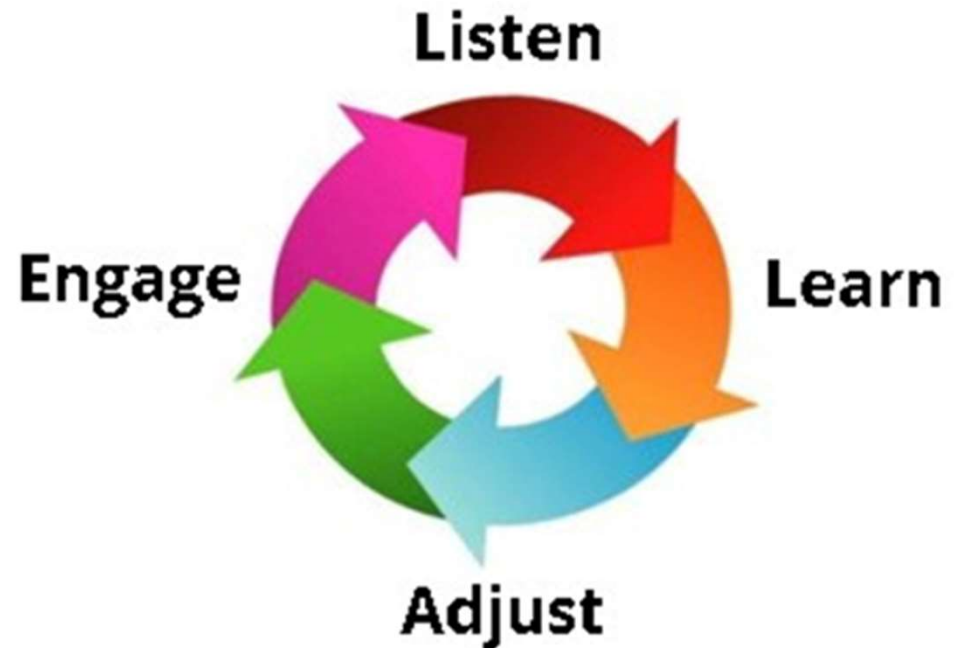


Summary of Strategies that have been successful

- 💧 Conduct community research
- 💧 Develop an outreach and awareness plan
- 💧 Develop the project story – Need for the project
- 💧 Talk early and often to stakeholders and community groups
- 💧 Keep elected officials & regulators in the loop
- 💧 Be transparent: **Transparency Builds Trust**

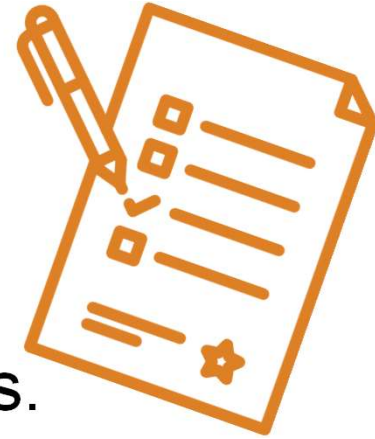
Key Strategy

To achieve
**PUBLIC
ACCEPTANCE**
you must develop
TRUST



Perceptions can change

- 💧 Outreach tactics need to be calibrated and in sync with actual project schedules and planned activities.



“Perceptions will change, politics will have an impact, situations will arise that may cause you to pivot.”

- 💧 Being flexible and operating dynamically is a key to success.

It's possible to purify water and gain acceptance for its use

- The tools and methods described are applicable for any agency, or water purveyor seeking to plan and execute an outreach program.
- These tools will support the challenges in gaining public awareness and acceptance, and successfully implement potable reuse projects.

Acknowledgments

A special thanks to the co-authors of
**Model Communication Plans for Increasing Awareness
and Fostering Acceptance of Direct Potable Reuse;**

Patricia A. Tennyson, Katz & Associates, Vice-President
U.S.A.

Dr. Shane Snyder, José Domingo Pérez Foundation Chair
and Professor @ Georgia Institute of Technology

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