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*Founded by Southern Nevada Water Authority*



American  
Water Works  
Association

# Advancing Water Efficiency for Low-Income Housing in Southern California

Cora Kammeyer & Dr. Christine DeMyers, Pacific Institute

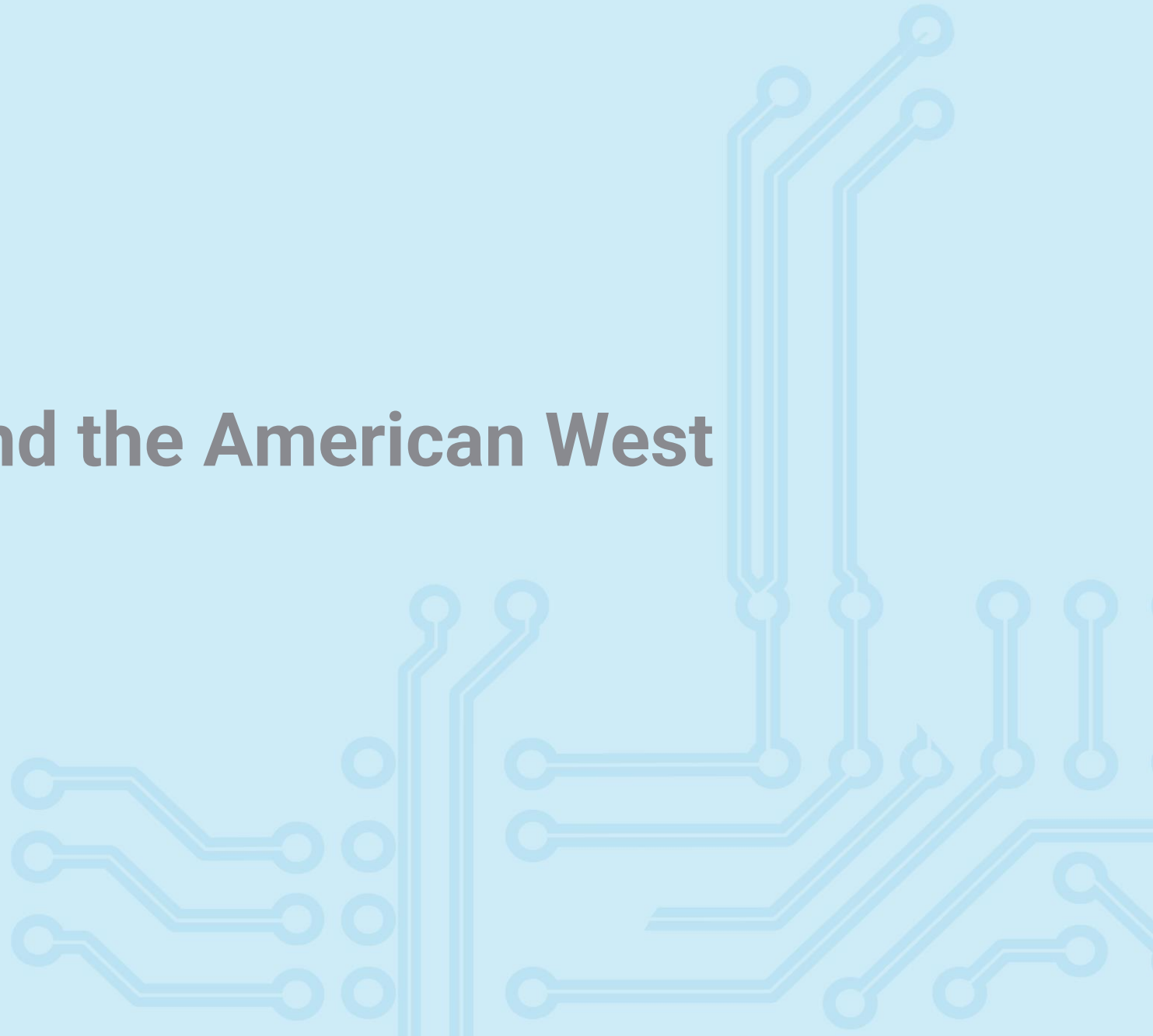
# About the Pacific Institute

- Global nonprofit organization established 1987
- Headquartered in Oakland, CA
- Mission: Create and advance solutions to the world's most pressing water challenges
- Focus areas: Water efficiency and reuse; nature-based solutions; water and climate equity
- Secretariat of the CEO Water Mandate, a United Nations corporate water stewardship platform

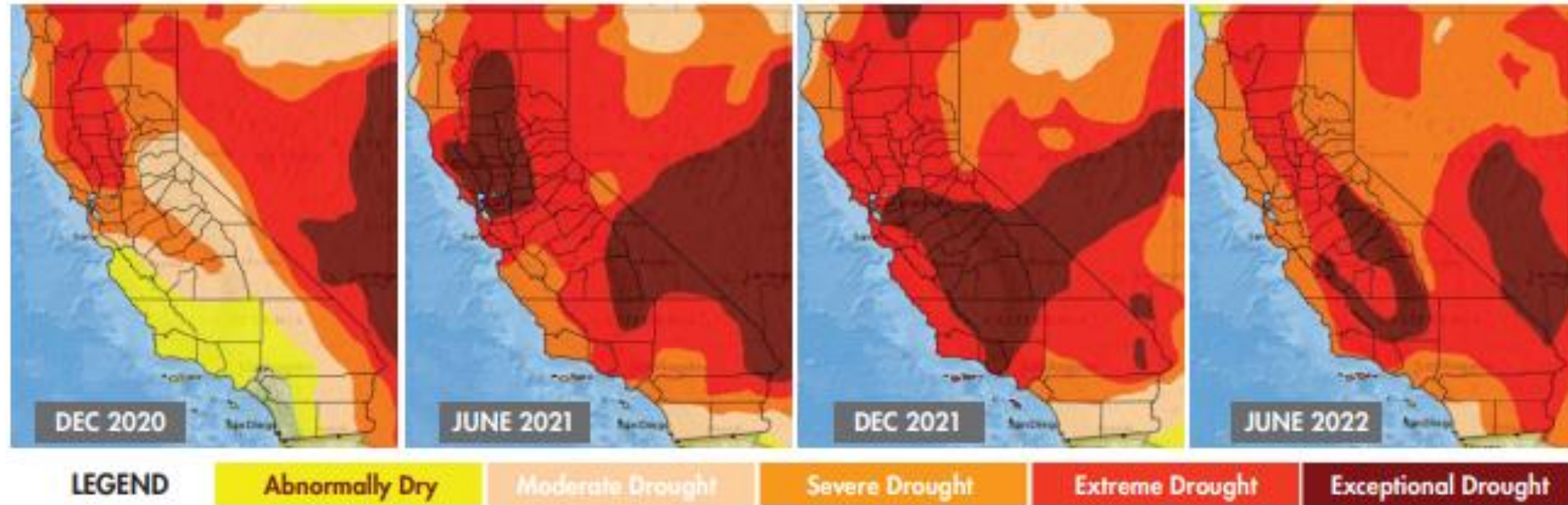
# Presentation Overview

- Drought in California and the American West
- Role of Innovative Partnerships in Addressing Water Scarcity
- Southern California Pilot Projects
- Scaling this Approach

# Drought in California and the American West



# California is experiencing more frequent, more severe, and longer droughts



NOAA Drought Classifications for California, December 2020 to June 2022  
Data Source: National Oceanic and Atmospheric Administration n.d.

# Southern California is facing shortages across its water supply portfolio



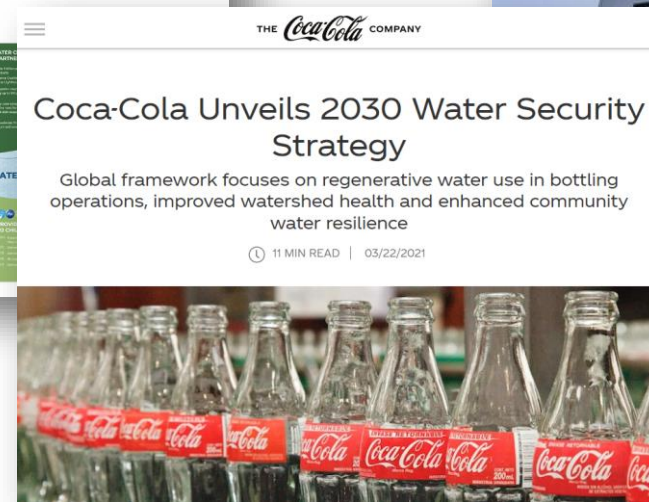
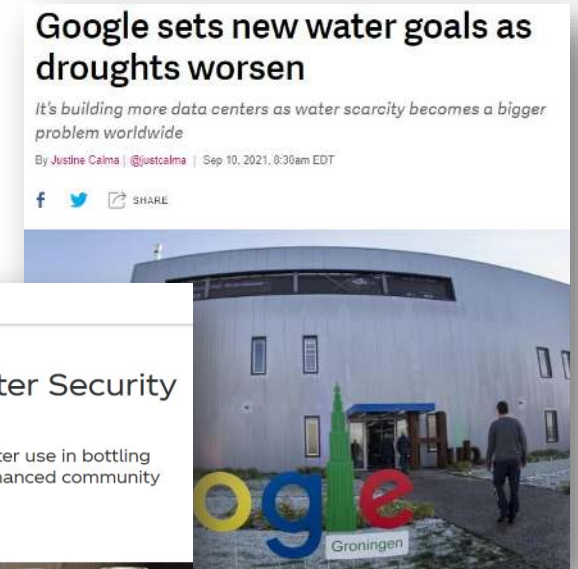
Source: MWD

# Role of Innovative Partnerships in Addressing Water Scarcity



# Business leaders are committing to action on water-related challenges

- Commitments focus on reducing, reusing, or replenishing quantifiable amounts of water back into the basin
- Actions take place in their own operations and by funding external projects





# The business sector finds external projects to fund through innovative partnerships

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WATER ACTION  
COLLABORATIVE

ag  
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collaboration with impact

Agriculture Capital

Arbor Day  
Foundation

American Farmland Trust

bef  
BONNEVILLE  
ENVIRONMENTAL  
FOUNDATION

CALIFORNIA TROUT  
FISH · WATER · PEOPLE

UN GLOBAL COMPACT  
CEO  
WATER  
MANDATE

Coca-Cola

DANONE  
ONE PLANET. ONE HEALTH

Hilton

DUCKS  
UNLIMITED

ECOLAB

EDF  
ENVIRONMENTAL  
DEFENSE FUND  
Finding the ways that work

The  
Freshwater  
Trust

General  
Mills

Google

intel

Jackson  
FAMILY WINES

Keurig  
DrPepper

LAND  
LAKES

MillerCoors  
A MOLSON COORS COMPANY

Microsoft

NATIONAL  
FOREST  
FOUNDATION

The Nature  
Conservancy  
Protecting nature. Preserving life.

NETAFIM  
GROW MORE WITH LESS

Nestlé

Olam

Nestlé  
Waters  
NORTH AMERICA

WWF

PACIFIC  
INSTITUTE

P&G

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Sustainable Conservation



# This project was made possible by a partnership between multiple stakeholders

## Project Incubators

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WATER ACTION  
COLLABORATIVE



## Corporate Funders



## Project Implementers



SENSOR  
INDUSTRIES



BLUS  
Bottom Line Utility Solutions, Inc.



Retirement  
Housing Foundation



AMERICAN  
CAMPUS  
COMMUNITIES

Where students love living.

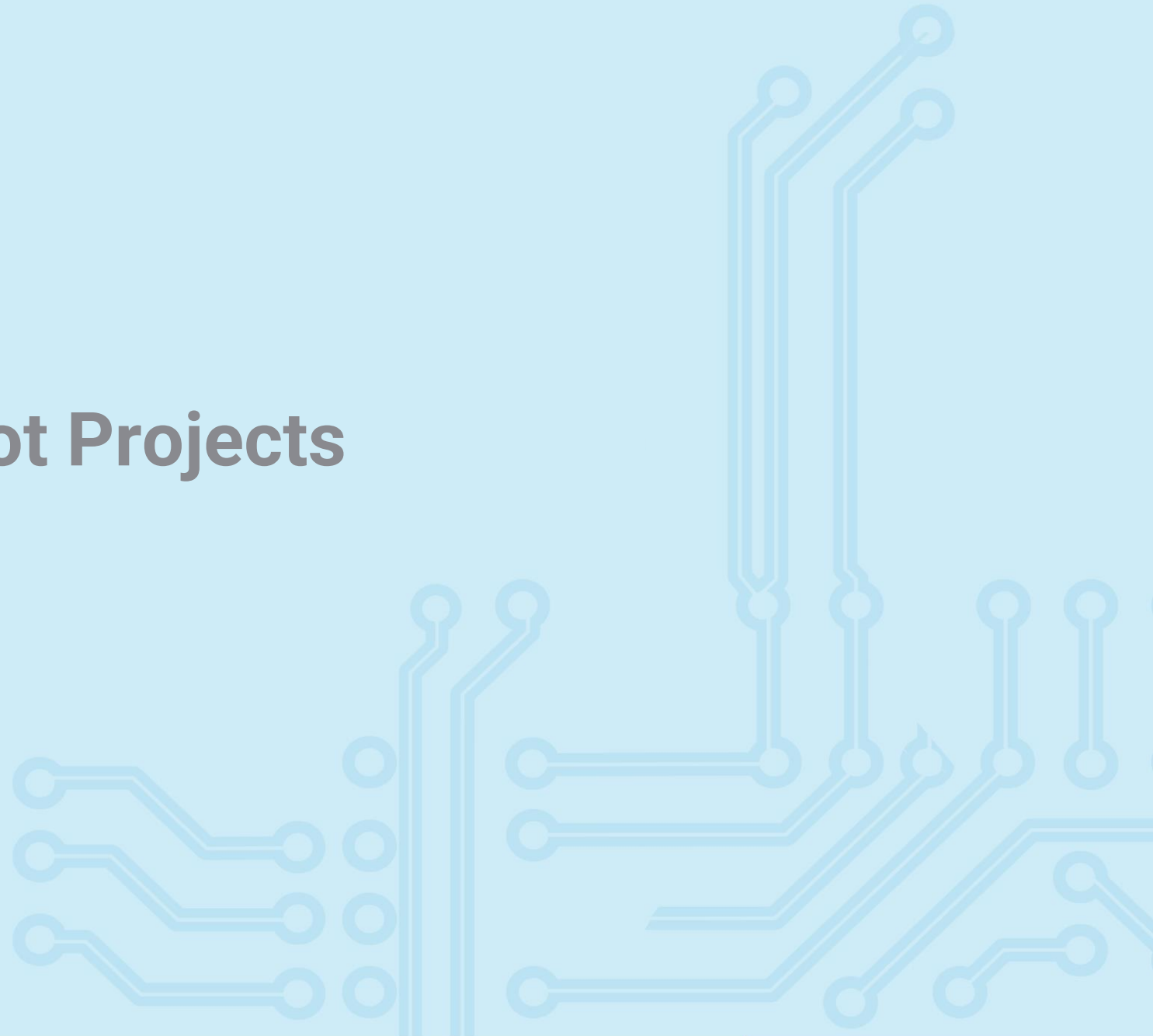


mercyHOUSING

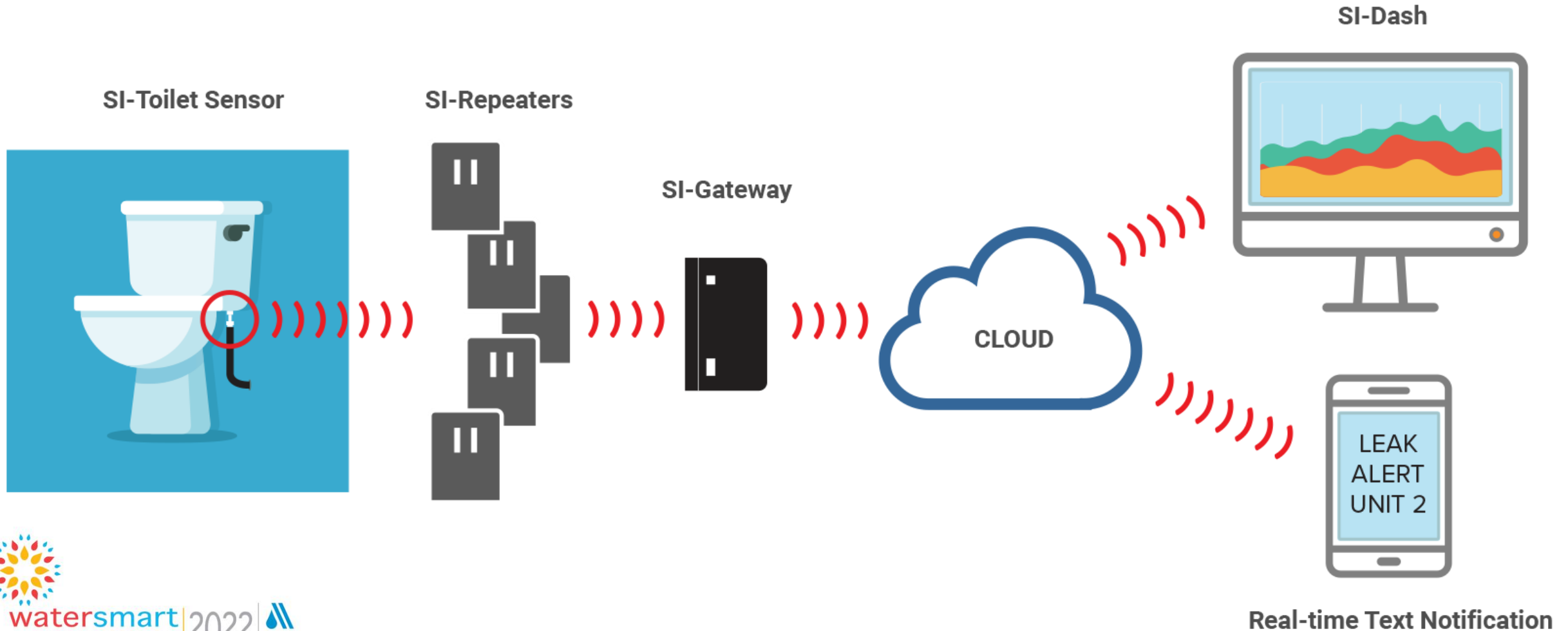
## Utility Funders



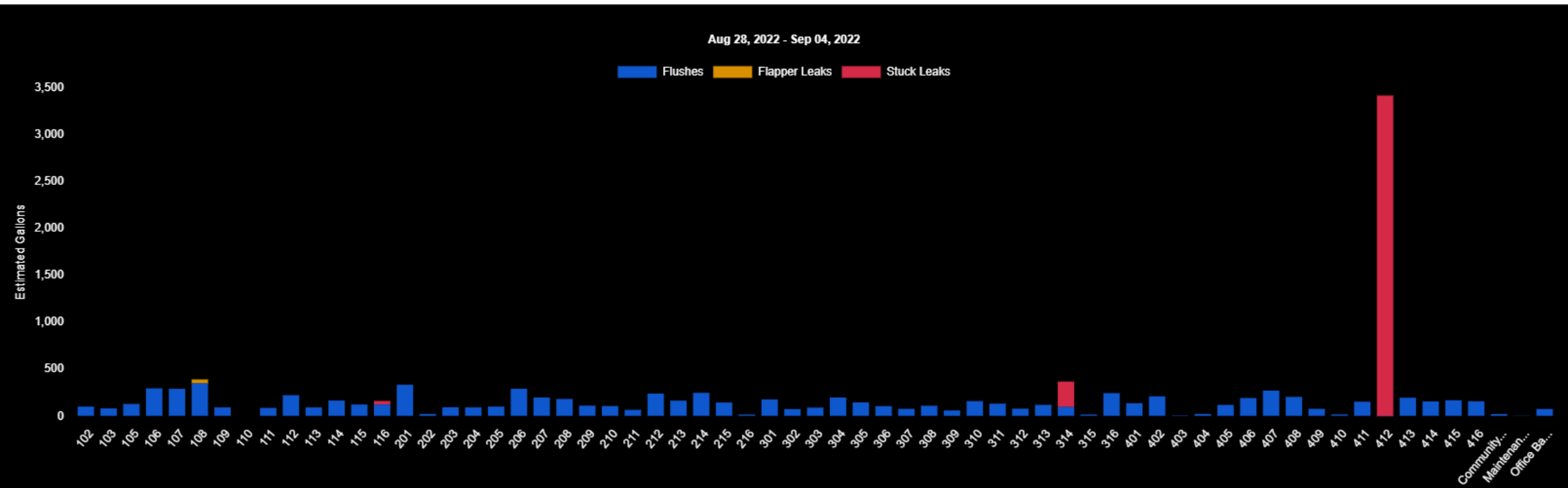
# Southern California Pilot Projects



# This project is pilot testing a toilet leak sensor technology in multi-family housing



# A snapshot from the dashboard



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# A snapshot from the dashboard

Unit: 412 (bathroom 1) / SI-Toilet Sensor - 28473 / Work Order #539



**Aug 31, 2022, 07:48 PM**

Work Order Opened



**Sep 07, 2022, 06:15 PM**

Work Order Closed



**763**

Initial Loss (gallons)



**3,415**

Total Loss (gallons)



## Stuck Leak (bathroom 1)

The toilet flapper is stuck open and the tank is emptying into the bowl.



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# This technology helps multifamily buildings save water and money



# We deployed three pilot projects in Southern California

Over their 10-year lifetimes, these installations will save an estimated **64 million gallons** (196 AF) of water.



## **MacArthur Park Tower, Los Angeles**

Housing for low-income seniors

183 toilet leak sensors installed

Estimated annual water savings: 980,000 gallons



## **Grand & Venice, Los Angeles**

Housing for low-income residents

124 toilet leak sensors installed

Estimated annual water savings: 664,000 gallons



## **Vista Del Campo Norte, Irvine**

Housing for UC Irvine students

893 toilet leak sensors installed

Estimated annual water savings: 4,800,000 gallons



# Stakeholder perspectives: this project reduces time spent finding and fixing leaks

Helps identify leaks exactly *when* they are occurring.

Helps identify leaks exactly *where* they are occurring.

Streamlines the process of sending in work orders.

Property Manager Survey Results

# This project improves property maintenance efficiency

“”

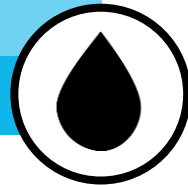
***We no longer have to rely on residents to let us know about leaks. Due to language barriers, memory issues or otherwise we can now fix the problem as soon as we see it.***

Property Manager, Mac Arthur Park Tower

# This project demonstrates a multi-benefit approach

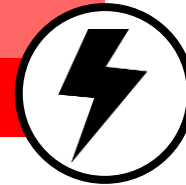
Cutting water use  
by 15-20%

**WATER**



Saving embedded  
energy in water  
supplies

**ENERGY**



Supporting low-  
income, nonprofit-  
owned housing

**COMMUNITY**



Demonstrating  
leak detection  
technology

**INNOVATION**



Convening public,  
private, and NGO  
partners

**PARTNERSHIP**



# Scaling This Approach



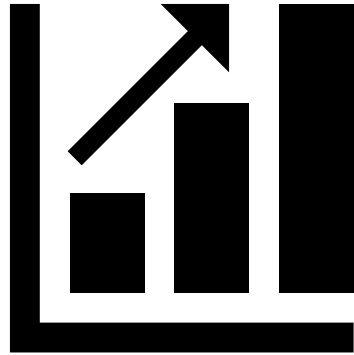
# This project was recognized by the LA Better Buildings Challenge for Water Innovation



# We are implementing more pilots in LA and scaling to San Francisco, Texas, and New York



# We are now exploring scaling opportunities



**Partnering with affordable housing organizations**

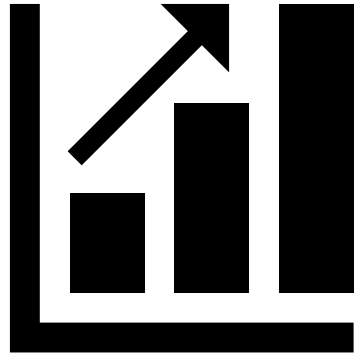
**Incorporating into energy programs**

**Adopting innovative financing mechanisms**

**Expanding the portfolio of water-saving solutions**

**Education and engagement with tenants**

# We are now exploring scaling opportunities



**Partnering with affordable housing organizations**

Incorporating into energy programs

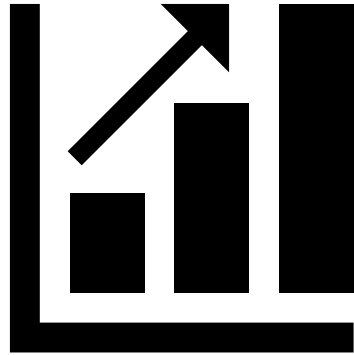
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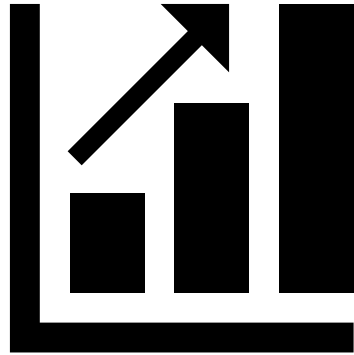
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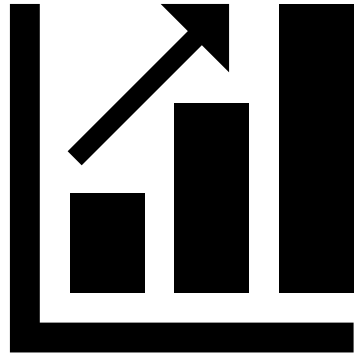
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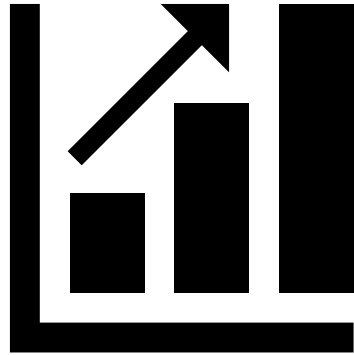
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Partnering with affordable housing organizations

Incorporating into energy programs

Adopting innovative financing mechanisms

Expanding the portfolio of water-saving solutions

Education and engagement with tenants

# Presentation Summary

- **Water scarcity** is worsening across California and the American West.
- Projects that leverage **innovative technology and partnerships** can help advance water resilience.
- Our **Southern California pilots** are showing high potential for impact across multiple benefits.
- We are exploring several **pathways for scaling** the project with public and private partners.



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Join our other Pacific Institute sessions today!

**Harnessing the Power of Water to Meet Energy and Climate Goals**

2:55 PM, Napa D | Heather Cooley, Director of Research

**The Untapped Potential of California's Urban Water Supply:  
Water Efficiency, Water Reuse, and Stormwater Capture**

3:35 PM, Sonoma D | Dr. Sonali Abraham, Research Associate

# References

<sup>1</sup>Source: <https://www.fao.org/aquastat/en/overview/methodology/water-use>

<sup>2</sup>Source: *A Wave of Change: The role of companies in building a water secure Role*. CDP, 2020.