

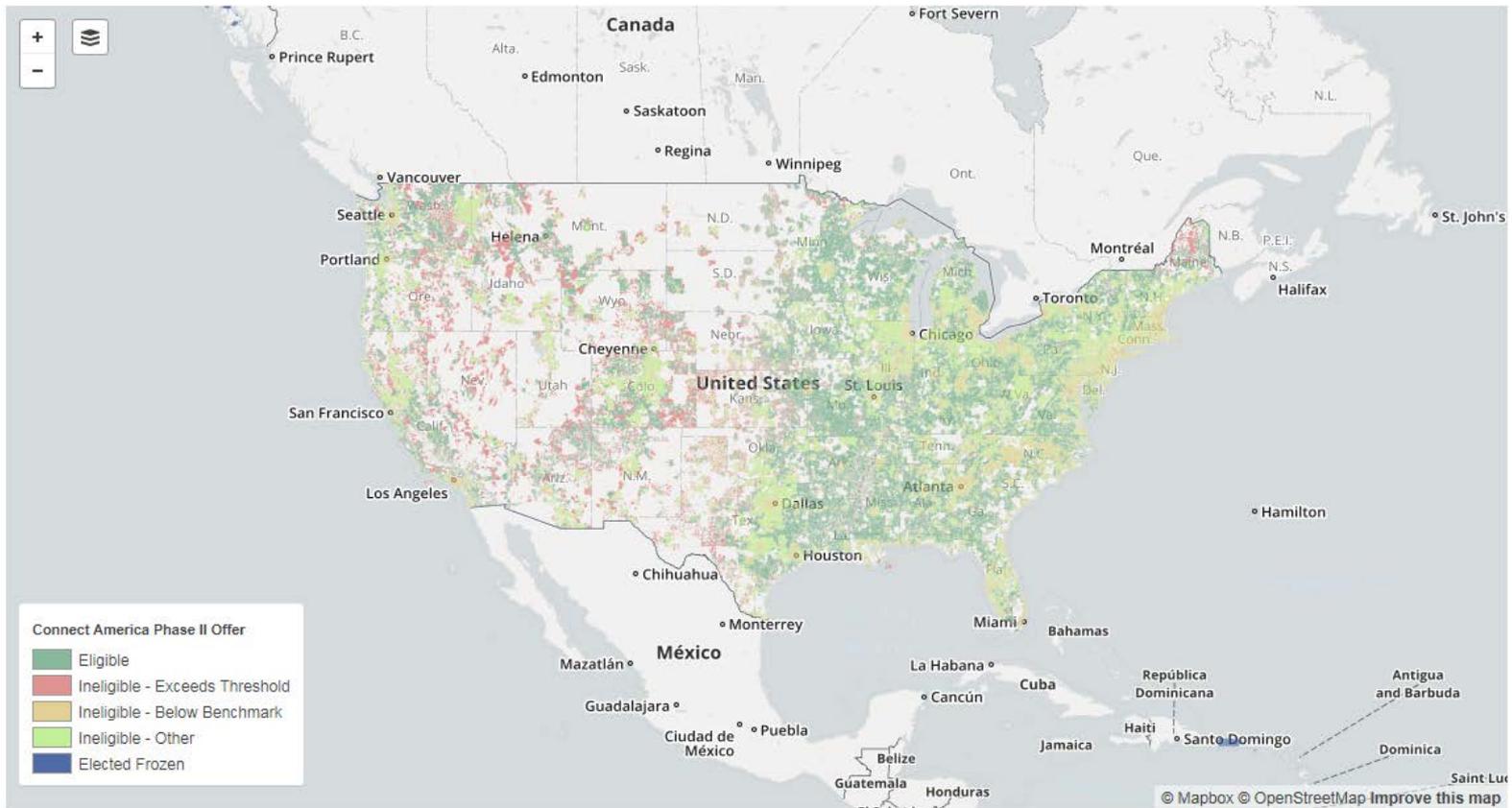


**Commissioner Catherine Sandoval**  
**California Public Utilities Commission**  
**National Association of Water Companies Water Summit**  
**October 3, 2016**





# FCC Connect America Phase II -Final Eligible Areas Map (Sept. 2015): Communications Gaps and Opportunities to Leverage Communications Investments for Water and Energy Management





# The Communications/Water/Energy Nexus

- Communications enable new methods for water and energy management, monitoring, optimization and use.
- The Water/Energy Nexus reflects the embedded energy in water and the embedded water in energy.
- Communications can help identify, analysis and address the water/energy nexus





# Reliable Communication is Key

- Communications technologies harness data about water and energy resources, facilities, use, and service conditions, and enable demand response.
- Communications facilities and services are critical to monitoring water tanks, pressure, water safety, pumping, energy use, and many other water system management.
- Reliable communications capability is required for electric substations and interconnected distributed energy resources.





Telephone lines connect water utility workers to treatment plants.

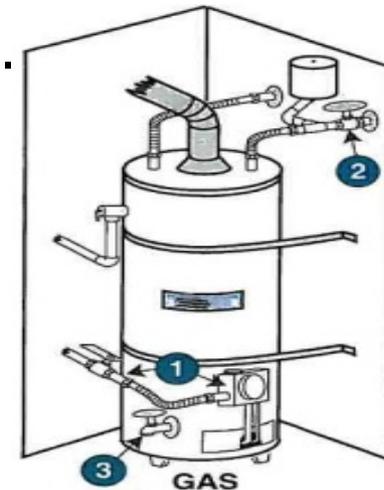
Cal Water Treatment plant, Lake Isabella, California





# Advanced Metering Infrastructure

- The electric grid has widely adopted smart meters while fewer water systems have moved to automated metering infrastructure (AMI).
- Utilities that have adopted AMI for water systems have use them to identify leaks. They spot users whose water use spikes over several hours or more than a day.
- AMI enables the water utility to quickly make contact with the customer to identify and stop leaks, e.g. leaky hot water heater systems that waste water and natural gas.





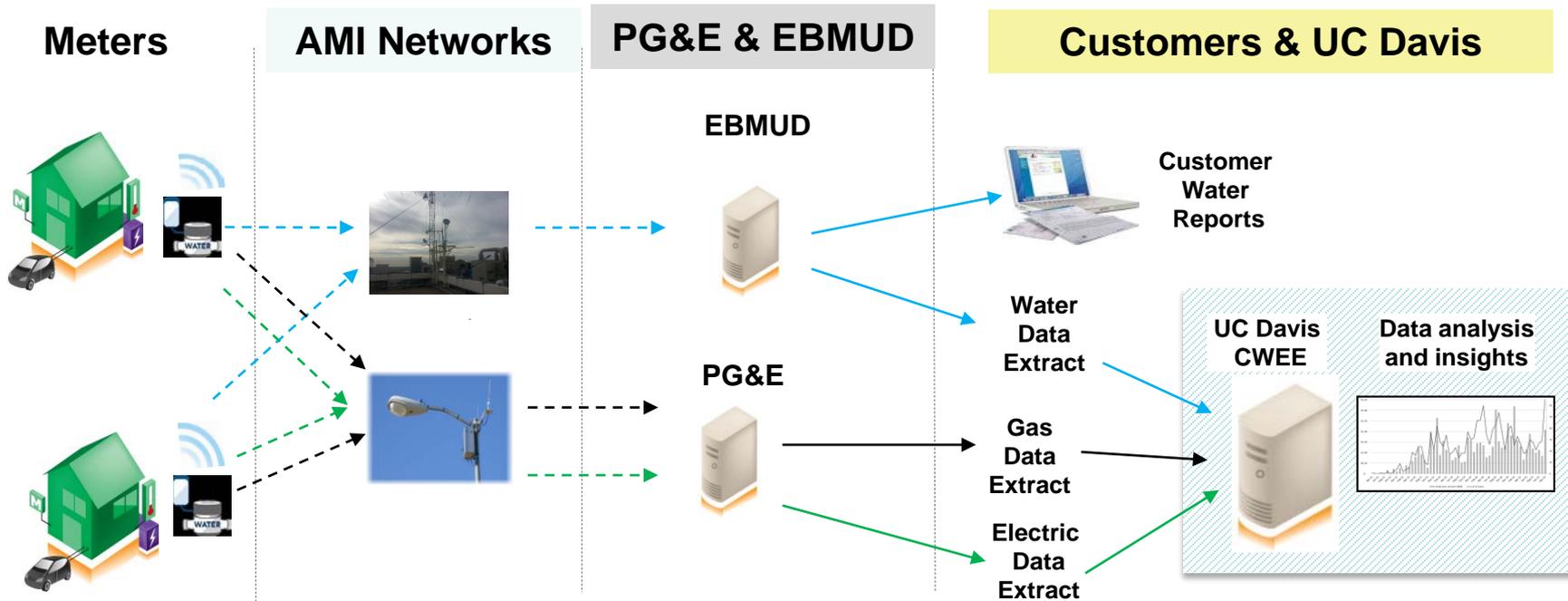
# Water Energy Nexus Proceeding R. 13-12-011

- Cost Calculator
- AMI Piggybacking Pilots
- Water-Energy-Communications Nexus





# PG&E / EBMUD Water AMI Pilot



- Randomized Control Trial with 5,000 residential meters in treatment group vs 5,000 in control
- Treatment group will receive access to near real-time water use reporting as well as water conservation messaging
- Control group will receive standard bi-monthly water bill
- Study analyzes behavior and technology-based water interventions designed to reduce water usage, peak energy usage, and total energy usage





# SoCalGas Water Energy Nexus AMI Pilot

## Pilot Scope

### Network Piggybacking

- Demonstrate the feasibility of water utility “piggybacking” meter data on the SoCalGas Advanced Meter Network
- Water utility leverages the SoCalGas Advanced Meter Network Infrastructure to transmit hourly water meter reads
- Water reads sent by SoCalGas to Aclara hosted Water Utility HeadEnd server

### Joint Gas/Water Utility Analytics

- SoCalGas and water utility to provide usage data to Valor Water Analytics
- Potential hot water leaks identified based on joint analysis of gas and water data
- Potential hot water leaks validated via in-home visit, when possible
- Goal to determine water, embedded energy, and greenhouse gas (GHG) benefits associated with hot water leak detection and resolution, and to perform trend analytics to identify where water loss reduction results in a change in gas consumption

## Water Utility Partners

### San Gabriel Valley Water Company

- 500 AMI accounts (plus equivalent control accounts)
- Los Angeles County and Fontana Divisions

### California American Water

- Approx. 1300 AMI accounts (plus equivalent control accounts)
- Ventura County District





# SCE Water-Energy Nexus Advanced Meter Infrastructure (AMI) Pilot

## AMI Pilot - Drive Water-Energy Conservation Actions

- Examine potential correlations in water and electric usage data from customers existing AMI infrastructures of SCE and Beverly Hills.
- Review emerging data management tools' (Triton)
- Leverage green button technology to enhance water AMI customer software in driving water-energy conservation and efficiency.
- Identify opportunities and behavioral correlations with provision of AMI data

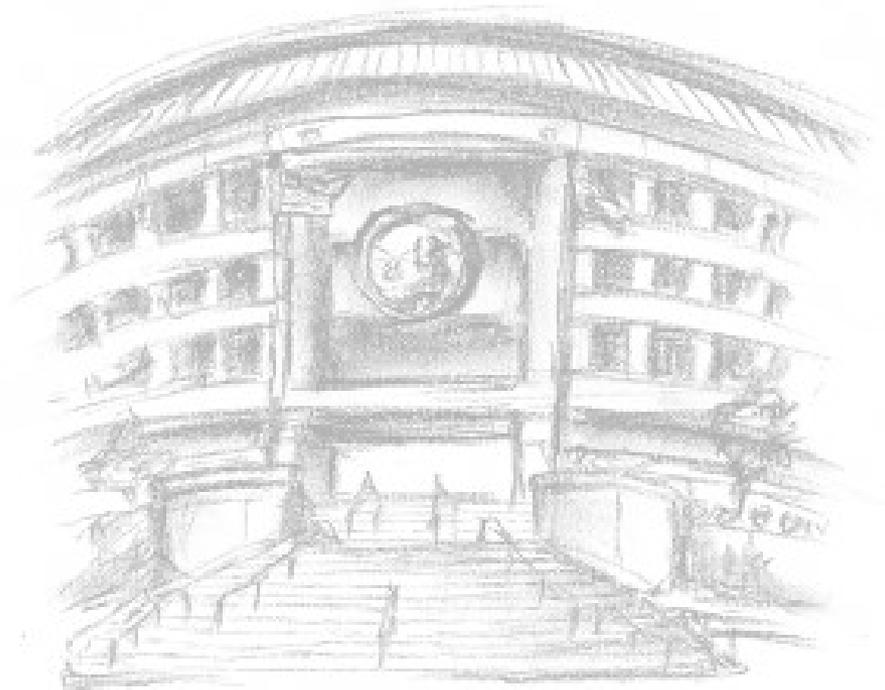
## Pilot Outcomes

- Expansion of existing partnerships with SCE water IOUs
- Water AMI software tools deliverable over smartphones and computers/tablet
- Creation of a behavioral pilot(s) for future program collaboration between Electric and Water utilities.





# Thanks & Questions



Catherine J.K. Sandoval, Commissioner  
California Public Utilities Commission

