

## DOCKETED

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*Comment Received From: Hilary Bryant*

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**Calliope Waterworks Comments on Innovative Water Conservation and Water Loss Detection and Control Technologies**

*Additional submitted attachment is included below.*



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October 24, 2016

Commissioner McAllister  
California Energy Commission  
1516 Ninth Street  
Sacramento, CA 95814-5512

Docket #11-OII-01

**RE: Calliope Waterworks Comments on Innovative Water Conservation and Water Loss Detection and Control Technologies**

Dear Commissioner McAllister:

Thank you for the opportunity to provide comments on Innovative Water Conservation and Water Loss Detection and Control Technologies in response to Governor Brown's Executive Order B-37-16. Calliope Waterworks, Inc. (Calliope) is working hard to develop products which will help residents to use water more wisely, eliminate water waste and strengthen local drought resistance. We strongly support the California Energy Commission and Governor Brown's efforts to establish long-term water conservation measures and bolster California's drought resilience.

A significant portion of California's water and energy is lost to household leaks and uninformed water use behavior. Many homeowners use more water than they need due to a lack of understanding of the relationship between their specific behaviors, actions, and water and energy use. A recent California single family water use efficiency study found that 18% of average indoor household water use is lost to leaks. Leaks damage homes, requiring the replacement of materials that have embodied energy. This can be expensive for both homeowners and insurance companies. Water use reduction due to behavioral changes, and avoided chronic drips and catastrophic leaks, offer significant opportunities to reduce water and energy demand in California.

**Comments to CEC on Docket #11-OII-01**

Homeowners have limited visibility into water wasted from significant leaks, receiving notifications from their water districts days and typically weeks after the fact. Lesser leaks and drips go unnoticed altogether. Unless the leak is easily visible, it can run undetected for months, causing damage and wasting both water and money. Additionally, in many areas of the United States, such as California, concerns about drought and dwindling groundwater supply have caused municipalities to sharply increase water pricing, putting more pressure on homeowners to eliminate wasted water throughout the household. Calliope is focusing first on diagnosing and eliminating in-house leaks and allowing homeowners to use water only in ways that matter most.

Buoy™ by Calliope is a connected whole-house flowmeter that measures water flow at a single point near the water main entrance and continuously streams that information to the cloud via the homeowner's Wi-Fi. There, Buoy's data service processes the water use data and disaggregates it into its category components: toilets, shower, bath, washing machine, dishwasher, sinks, outdoor watering, etc. The Buoy app provides simple, intuitive visualizations and reporting on this water use and how it compares to averages. Key features of the device include the ability to view water use by time in real-time, notifications when leaks or other water waste occur, and remote water shutoff via an app. Buoy also integrates with other smart home devices like Nest and Amazon Echo, and provides daily actionable information about how to improve water use and make smart water budgeting decisions.

There are two key innovations that offer advantages over other water and energy saving opportunities. First, the proposed solution addresses the quantity of water lost through leaks and drips from a single point at the household level. These are losses that cannot be avoided through efficiency improvements or water conservation efforts because many leaks occur in places out of sight, or while homeowners are away, and can go unnoticed for long periods of time. Second, the device and app interface allow customers to better understand the connections between their actions and behaviors to water usage and enable practical water reduction opportunities.

In addition, a critical mass of adoption of other smart home devices, such as Nest, has made it possible to approach the problem of leak detection in a novel, low-cost way. For example, existing residential leak monitoring solutions use a keypad near the door, similar to an alarm system, for the homeowner to note whether they are home or away, and adjust the sensitivity of leak detection accordingly. However, if the homeowner has a Nest thermostat, it is able to detect home/away automatically, and exposes that via an accessible API. Buoy uses this integration to greatly improve the customer experience. Finally, water prices, which have traditionally been heavily subsidized by government, are rising much faster than any other utility pricing in the US. As a household bill, it is rising in prominence for US homeowners, who are increasingly open to solutions to reduce waste and cost without further sacrifices to lifestyle.

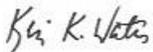
**Comments to CEC on Docket #11-OII-01**

Specifically, we would suggest the State should move forward with the following:

- Provide additional grant funding for testing and validation of new technologies that will improve water conservation and water loss detection at the household level.
- Promote and support water district pilot programs for innovative new products that reduce water usage and loss due to leaks.
- Create a certification process for effective technologies and tie these certified technologies to future financial assistance and statewide rebate programs.

Again, thank you for the opportunity to provide comments on the Innovative Water conservation and Water Loss Detection Program and we look forward to working together to help residents of the State of California improve conservation and prevention of water loss due to leaks. Should you have any questions or would like additional information please do not hesitate to contact us at [founders@calliopewater.com](mailto:founders@calliopewater.com).

With appreciation and our best regards,



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