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PACIFIC INSTITUTE

METERING IN CALIFORNIA

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The drought is prompting a closer look at the use and management of the state's water resources. One area that has come under increased scrutiny is the use of water meters. While water meters have been in use for decades in most California communities, they are not yet universal. Even in California, more than 219,000 urban water connections remain unmetered. Additionally, the majority of multi-family units have a single meter for all units. Studies show that metering, when coupled with effective pricing structures, reduces water use by 15% to 20%. Additional water savings are possible through improved management of the water system, particularly the identification and repair of leaks in the distribution system. Water savings from metering all connections in California can produce considerable water savings at the local level, reducing vulnerability to drought and other water supply constraints. Moreover, water savings in previous years would have been left in storage. Metering is an essential water management strategy and expanding and improving metering should be a priority for all California utilities.

METERING IS ESSENTIAL FOR EFFECTIVE WATER MANAGEMENT

Metering is an essential element of effective water management. In the absence of meters, customers are billed at a flat rate – meaning that they pay the same amount regardless of how much water they use. Metering enables utilities to use pricing to encourage water conservation and efficiency. Charging customers by volume sends a price signal to customers to use the resource more efficiently (Renwick and Green 2000; Beecher et al 1994).

Metering data can also be used to manage demand through non-price mechanisms. Meters can help utilities and customers identify and locate leaks and losses from the system. Not only does this reduce overall water losses to the system, it can also reduce the cost to customers who pay for unused water. In addition, utilities can use information on customer water use to target water conservation and efficiency programs to customer classes or individual customers with particularly high water use. Similarly, this information can help customers plan and implement conservation and efficiency efforts.

Despite the known benefits of water metering, there are barriers. For example, meter installation requires a large up-front investment, especially when existing infrastructure must be retrofitted to accommodate the new device. By the time the City of Sacramento completes their meter installation program, the city will have spent more than $416 million to install 110,000 meters and make other related infrastructure upgrades (Morain 2014).

Several new metering technologies provide sophisticated water use measurements, enabling water utilities and customers to improve use and management even further. Automatic meter reading (AMR) systems automatically send real-time water usage data to the utility, without the need for an employee to physically read the meter onsite. Advanced metering infrastructure (AMI) also reads usage automatically and allows two-way communication between the customer and the utility. Utilities using these systems can collect usage data every day, hour, or more frequently, resulting in a more accurate water bill and a more detailed understanding of a customer's water use patterns. They can also help to detect leaks. For example, after