



# Smart Metering for Smarter Water Use

The City of Englewood metering upgrade project addresses the critical challenge of improving water management efficiency and ensuring equitable billing practices across the service area. Currently, 73% of customer connections have been successfully upgraded to Advanced Metering Infrastructure (AMI), a system that enables real-time monitoring, early leak detection, and more accurate billing. However, 10% of customers remain on a flat-rate billing system, which does not reflect actual water usage and can contribute to inefficiencies in water conservation and system management. The continued use of flat-rate billing undermines conservation incentives and may lead to inequitable cost distribution among users. By converting the remaining flat-rate customers to AMI, the utility aims to modernize its entire metering infrastructure, promote responsible water use, enhance system reliability, and reduce non-revenue water loss.

 **REDUCE**



**ENGLEWOOD, COLORADO, USA**



**DRINKING WATER**





## CHALLENGES FACED

Approximately 60% of water meters were located inside homes, making data retrieval difficult and requiring relocation outdoors. Gaining access to private property created scheduling and communication challenges, while meter upgrades had to be coordinated with simultaneous infrastructure projects. In addition, a concurrent billing system overhaul introduced further integration and timing complexities.

## TECHNOLOGIES & SOLUTIONS USED

The utility implemented Neptune AMI meters with integrated cellular endpoints, enabling real-time water usage tracking, remote communication, and eliminating the need for drive-by meter reading. This upgrade marked a major shift from manual or flat-rate billing to an automated, data-driven system that supports leak detection, water conservation, and responsive customer service. By leveraging cellular technology, the utility improved data reliability and streamlined operations.

## IMPACT & INSIGHTS



The transition to AMI greatly reduced the need for manual walk-by meter readings—previously required for 15% of meters—enhancing employee safety and minimizing staff contact with private property.

### Key Benefits

- Improved employee safety through reduced walk-by meter readings.
- Lower vehicle use and emissions, supporting sustainability goals.
- Fewer disruptions on private property, increasing customer trust and satisfaction.

## LESSONS LEARNED



A key lesson learned is the value of separating major upgrades to reduce complexity and manage risk more effectively. Implementing the AMI installation as a stand-alone project, rather than coupling it with a billing system upgrade and lead service line replacement, streamlined coordination, improved focus, and reduced the strain on staff and resources. Each initiative posed distinct challenges, and doing them simultaneously caused conflicts, integration issues, and delays. For future projects, utilities should sequence major upgrades to allow focused planning, staff training, and customer engagement.

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**The project directly supports long-term sustainability goals by enabling data-driven decision-making and optimizing resource allocation in the face of increasing water demand and potential supply constraints.**  
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