



CALCULATING WATER AND WASTEWATER RATES



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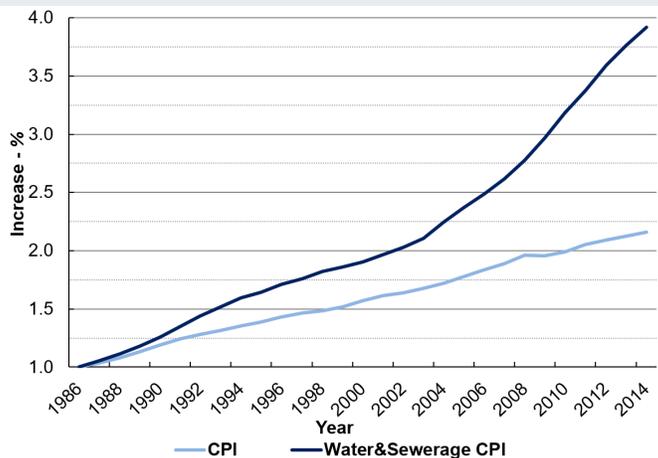
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Motivation

Water utilities have historically priced water treatment and delivery at artificially low levels. Enabled by government grant programs and delayed capital improvements, low water and wastewater rates for consumers across the United States have prompted the widespread perception of potable water as a relatively cheap commodity. Between 2001 and 2013, however, water and wastewater rates rose sharply, sometimes outpacing the Consumer Price Index (CPI) by two and a half times. (Black & Veatch, 2013) Although rates have risen in the past, sustained and steep rate increases observed in recent years have exceeded previous water and wastewater rate trends, warranting closer attention.

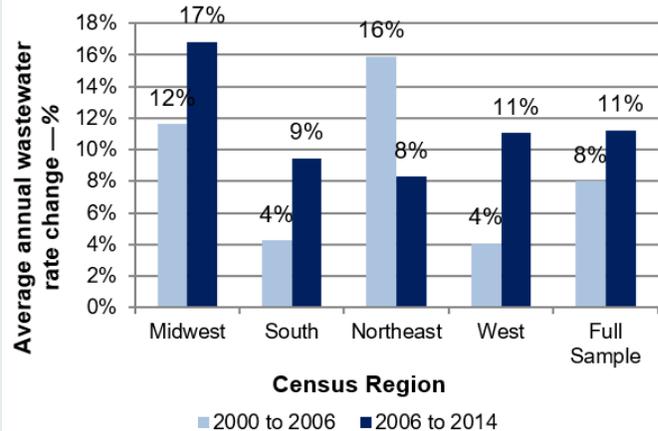
Future infrastructure needs, shifts and growth in population, and intensifying drought in certain regions of the country—paired with issues of water supply shortages and conservation pricing—are all likely to become more pronounced over the coming years, indicating that rate increases are likely to continue. However, these rate hikes are not projected to adequately address the pressing financial needs of utilities.



CPI for water & sewerage maintenance versus general CPI

Technological Challenges

Due to difficulties inherent to survey data collection, inputs to the analysis were characterized by limited and variable samples. Consequently, estimated water rates may not be nationally or regionally representative. To minimize this challenge, a chained analysis method allowed the largest possible sample, instead of one restricted to utilities that participated every survey year.



Average annual (%) change in wastewater rates by region and time period

Research

LBNL summarized water and wastewater rate trends in the existing literature and employed a chained analysis method to calculate the percent change in water and wastewater rates from 2000-2014 for a sample of several hundred utilities, in comparison to the Consumer Price Index for all urban consumers. Additionally, LBNL examined changes over time in the underlying rate structure for this same sample. The rate trend estimates were determined from biennial surveys conducted by Raffelis Financial Consultants and the American Water Works Association. The biennial surveys represent utilities serving from fewer than 500 to more than 9 million customers, and are organized by utility size and location. Results demonstrate that water and wastewater prices for this sample group have consistently risen, surpassing CPI growth since 2006. Additionally, results found variation in water and wastewater rate increases by region.

References

Stratton, Hannah, Heidi Fuchs, Yuting Chen, Camilla Dunham, and Alison A. Williams. 2017. Keeping Pace with Water and Wastewater Rates. American Water Works Association Journal. October.

Acknowledgements

Funded by the US EPA. We acknowledge the contributions of EPA's Jonah Schein.

