PITCHFORKS AND TORCHES: THE CURIOUS RESULT OF CONSERVATION

In July 2015, the California State Water Resources Control Board reported that state water suppliers have achieved an average reduction of 29%\(^1\) (in terms of residential gallons per capita per day, R-GPCD) over the same period from May 2013 to June 2014. In fact, of the 401 reporting California water suppliers, 53 indicated R-GPCD reductions in excess of 40%\(^2\). While this is good news for water resources, it could spell disaster for the financial viability of our utilities.

While water utilities continue to face financial pressures – from stricter water quality and quantity regulations, capital investments as a function of infrastructure age, and increasing costs for power, chemicals and other consumables – most water utilities have rate structures designed to cover those operating costs at historically “normal” water consumption levels. As a result, any significant achievements in conservation directly impact revenues for the utility. And while consumption and revenues are down, the operating costs do not diminish. From a financial stability perspective, the loss of revenue significantly reduces the available options for utility managers to continue to provide high quality and reliable service.

“IT’S FRONKENSTEEN”\(^3\)

This is a conundrum for utilities in all drought affected areas. While there is certainly a real resource requirement – and in some cases a regulatory requirement as in the case of California’s drought regulations enacted in May 2015\(^4\) – to curtail use, there is also the reality that conservation, curtailment or any reduction in water use results in immediate revenue impacts. This typically means increased rates for customers – and those customers react with outrage and confusion, leading to angry mobs of residents voicing their concerns at council chambers or utility commission hearings.
The problem is also often more complex than simply raising rates. Data suggests that there is often not a one-to-one relationship for rate-to-revenue increases. In many cases, revenue increases significantly lag rate increases in both time and effect. Data gathered by the University of North Carolina Environmental Finance Center shows that a successful rate proceeding is not a guarantee of revenue recovery. And as costs of water increase as a percentage of monthly income, water utilities are pushing into the “zone of elasticity” for water prices, where further increases in customer costs result in continued declines in consumption.

It is also important to note that increasing prices and drought messaging can have a permanent impact on consumption and revenue. Historical data from Brisbane, Australia indicates that while customer consumption may rebound slightly when drought conditions relent, overall there is a permanent deficit in usage.

“\[In 2009, despite the drought broken for over a year and the water consumption target lifted to 200 liters/person/day (53 GPCD) residents were continuing to consume water, on average, less than 140 liters/person/day (37 GPCD).\]”

Whereas that is a good outcome for water resources, the water suppliers, and ultimately customers, suffer financially: “Household water usage in Queensland plummeted almost 40 percent in four years while the cost of the precious commodity more than doubled,” from A$0.97 per 1,000 liters (US$2.68/1,000 gallons\(^7\)) in 2005 to $2.32 per 1,000 liters ($6.47/1,000 gallons\(^7\)) in 2009. This increase was largely a result of utilities seeking to recoup the cost of the A$9 billion invested in infrastructure in response to Australia’s Millennial Drought.\(^8\)

**FATHOM REVENUE ASSURANCE**

To avoid the madding crowds of disaffected customers and the dilemma of revenue shortfalls, it is imperative that utilities and water suppliers ensure that they are collecting all of their existing revenue. While utilities are good at billing, it is surprising to note that in many cases the data being used to generate those bills is subject to serious data quality and integrity issues – preventing the collection of every drop of revenue for all services provided.
Typically this missing revenue is hidden as non-revenue water that is assumed to be physically leaking away. In actuality, revenue and water loss is more likely to be due to leaking data, and not leaking water. By systematically assessing the integrity of physical assets against logical assets, and enforcing data compliance processes going forward, FATHOM partner utilities benefit from increases of revenue – as much as 20% – even in the face of conservation.⁹

In addition, through the adoption of integrated meter data management, customer information systems, customer presentment systems, interactive voice recognition systems provided under the FATHOM bundled services offering, bad debt write-offs dramatically decline. The combination of a multitude of payment channels, alert notifications for customers, and near real-time consumption information allows customers to tailor their use and payments to their own circumstances – resulting in utilities receiving more revenue and lessening the requirement for rate increases.

If we are to move to a new water reality, customers will be required to conserve water, and more importantly, utilities will be required to conserve revenue. To do so, and avoid the crushing throngs of irate villagers, utilities need to adopt a proactive data management and assessment plan, and maximize the available revenue under their current rate structures.

REFERENCES

²Data from http://www.waterboards.ca.gov/waterrights/water_issues/programs/drought/docs/uw_supplier_data070115.xlsx
³“Young Frankenstein”, Dir. Mel Brooks, 20th Century Fox, 1974
⁵http://www.efc.sog.unc.edu/sites/www.efc.sog.unc.edu/files/HughesCascadePresentation_0.pdf
⁷Cost conversion based on exchange rate 21 July 2015.
⁹Data from Comprehensive Annual Financial Reports and public utilities commission Annual Reports for utilities employing FATHOM Meter Data Management, Customer Information Systems, and Customer Presentment Platforms.