



Water Finance 101

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Session Objectives

- Learn how to think about your water system as a financial entity
- Understand some basic financial facts about water systems across the country



Let's Start With the Basics

- What does your water system do?



Water Systems Serve Multiple Purposes

Sometimes Those Purposes Conflict

- 1) System serves an important **environmental and health purpose** -- protecting community's water resources and supplying community with highest quality drinking water.



Dr. John L. Leal



Water Systems Serve Multiple Purposes

Sometimes Those Purposes Conflict

- 1) System serves an important **environmental and health purpose** -- protecting community's water resources and supplying community with highest quality drinking water.
- 2) System serves an important **public service** – providing community with basic services that everyone in the community can afford.
- 3) System serves as a well managed **public enterprise** – putting into practice forward-thinking sustainable business practices.

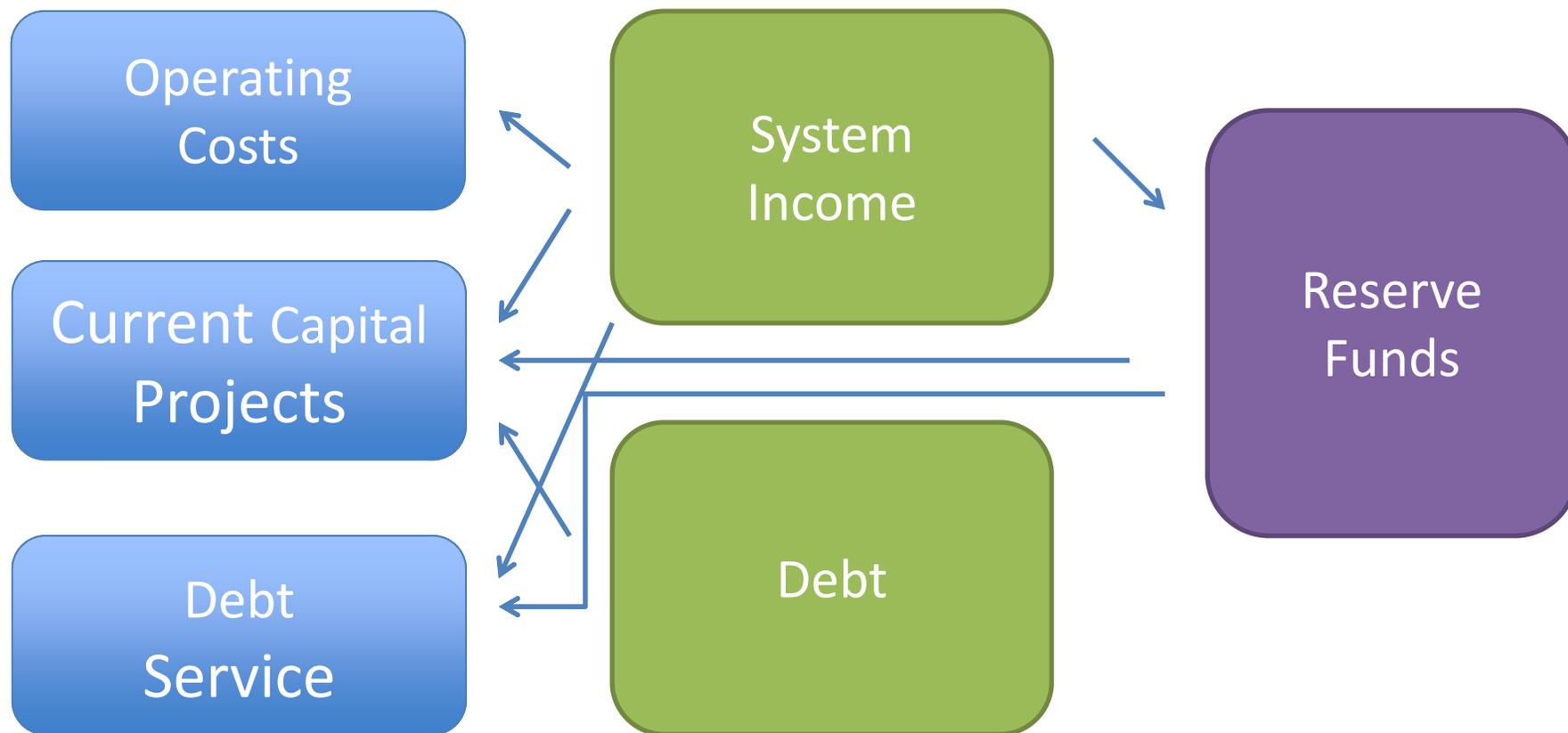


How do you see your system primarily?

1. Environmental and health purpose
2. Public service
3. Public enterprise/business
4. All of the above
5. None of the above



Water System Finance Diagram





Three Types of Costs

- **Operating Costs**—what you need to run the system day in and day out
- **Capital Costs**—rehabilitation and replacement of existing infrastructure and new infrastructure
- **Debt Service**—what you owe on loans and bonds



Two Types of Revenues

- **System Income**—Money from rates, tap fees, impact fees, grants, other sources
 - Note: To be a true enterprise fund, not taxes!
- **Debt**—Money from bonds and loans



Many Types of Reserve Funds

- Capital Reserve Fund—Infrastructure rehabilitation and replacement
- Repair Fund—Known, ongoing maintenance issues
- Emergency Fund—Unknown, unanticipated maintenance issues
- Rainy Day Fund—Unexpected revenue shortfalls



How Much Do You Need In Your Reserves?

- It depends
- Enough to pay for your most expensive piece of equipment?
- Enough to cover your costs if you had no revenue for two months?
- Enough to cover the projects in your capital improvement plan?



Financial Facts About Public Water Systems



In the United States, there are

147,413

“public” drinking
water systems



www.efcnetwork.org

Source: EPA SDWIS Database as of July



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1, 2016



Confusing Terminology

- “Public” water systems are publically regulated regardless of whether they are owned by a public or private entity



EPA Divides Public Water Systems Into Three Types

- Community Water Systems (**CWS**)
- Non-Transient, Non-Community Water Systems (**NTNC**)
- Transient, Non-Community Water Systems (**TNC**)

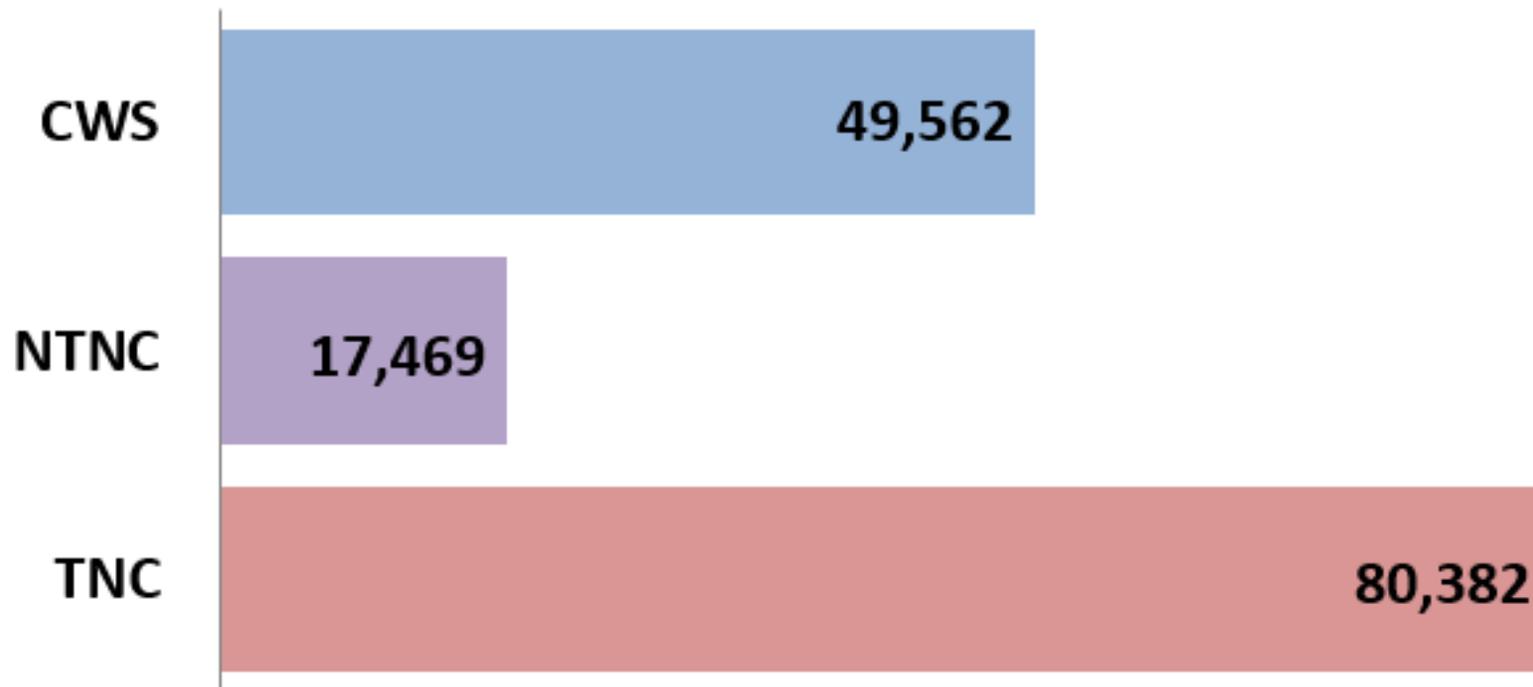


Which Type They Are Depends on Who They Serve

- **CWS** serve the same 25+ people/15+ connections regularly where they live
- **NTNC** serve the same 25+ people regularly outside of the home
- **TNC** serve 25+ people regularly but not the same people



Most Water Systems are Transient Non-Community Systems





EPA Also Divides Systems into Five Categories Based on Number People Served

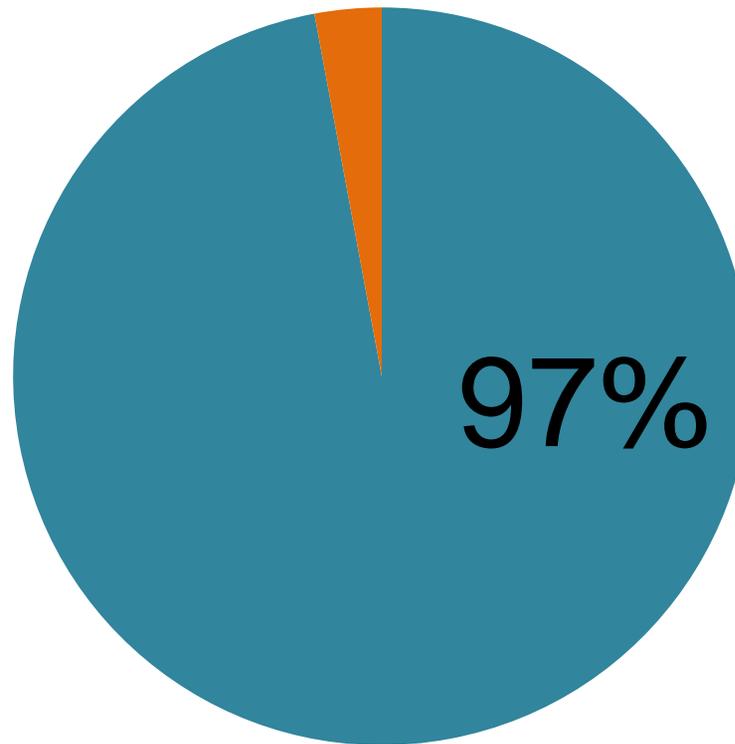
- Small Systems** {
- Very Small: Up to 500
 - Small: 501 to 3,300
 - Medium: 3,300 to 10,000

- Large Systems** {
- Large: 10,001 to 100,000
 - Very Large: More than 100,000



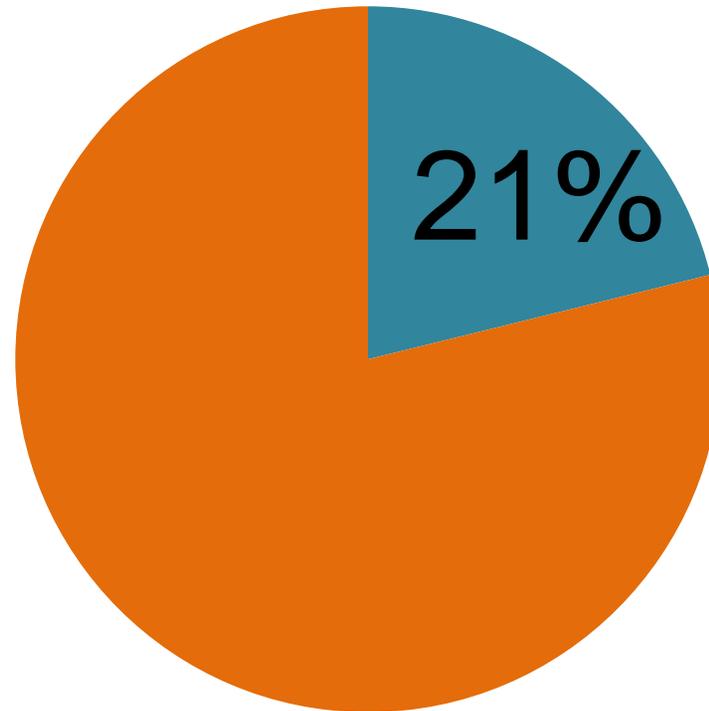
Most Water Systems are Small

They serve 10,000 or fewer customers





Collectively, Though, **Large Systems** Serve Far More Total People





Almost all Non-Community Systems are Small

- More than 99% of **NTNC** and **TNC** serve 10,000 or fewer people
- At least 85% serve 500 or fewer people



Community Water Systems have the most **Large** and **Very Large** Systems



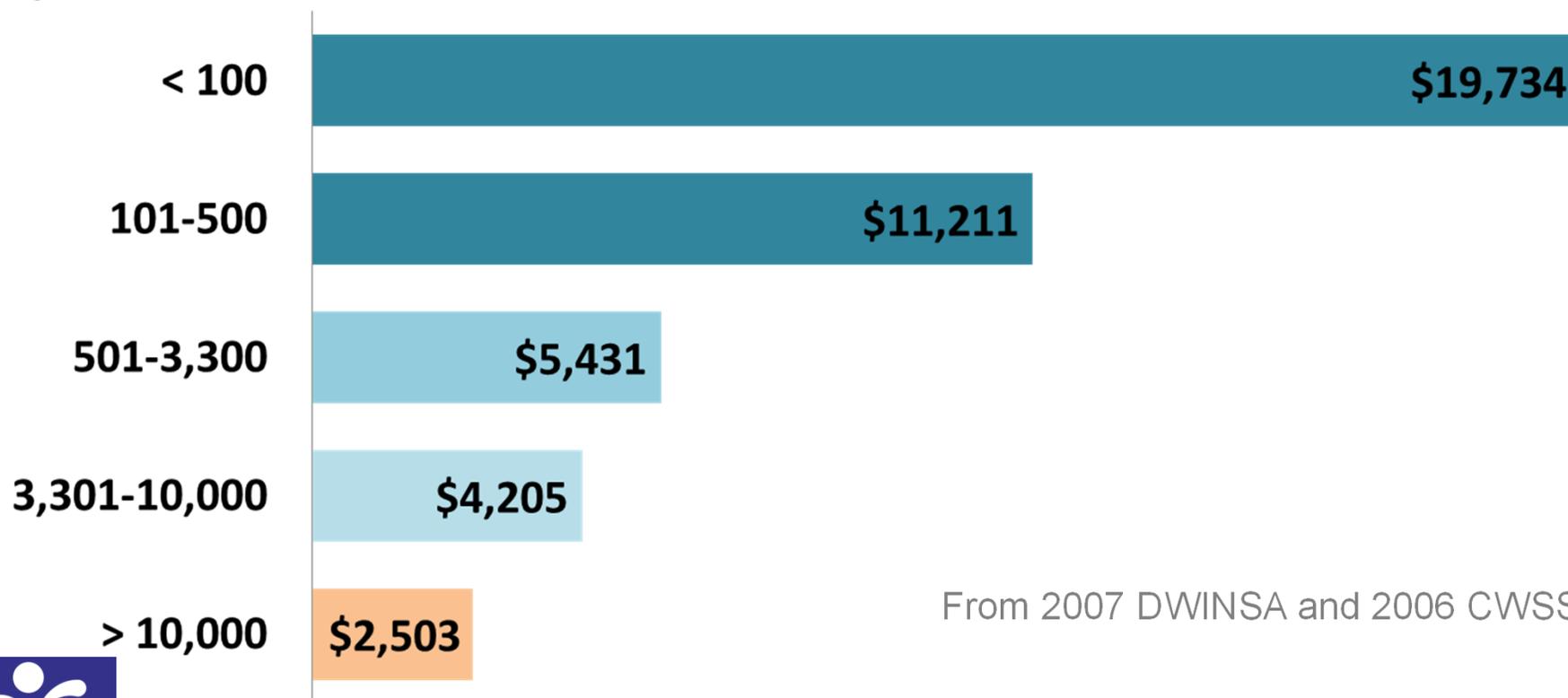


Why does system size matter?

What's the issue with small systems?



The Infrastructure Needs Per Residential Connection are Much Greater for Small Systems

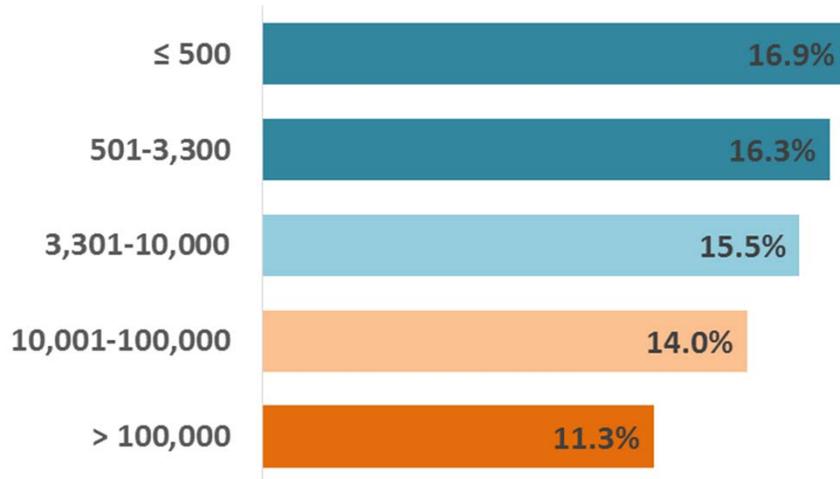


From 2007 DWINSA and 2006 CWSS

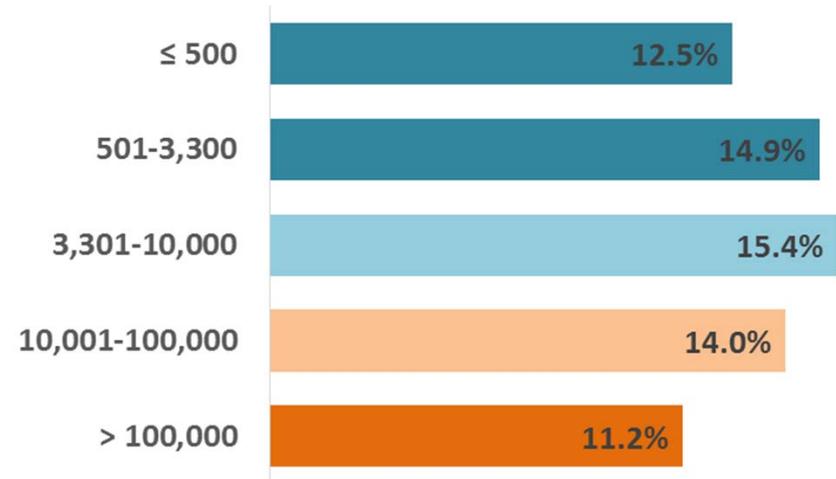


And Small Systems have higher numbers of annual health violations

Community Water Systems



All Systems





The most common violations for Small Systems are for Monitoring & Reporting

Monitoring & Reporting

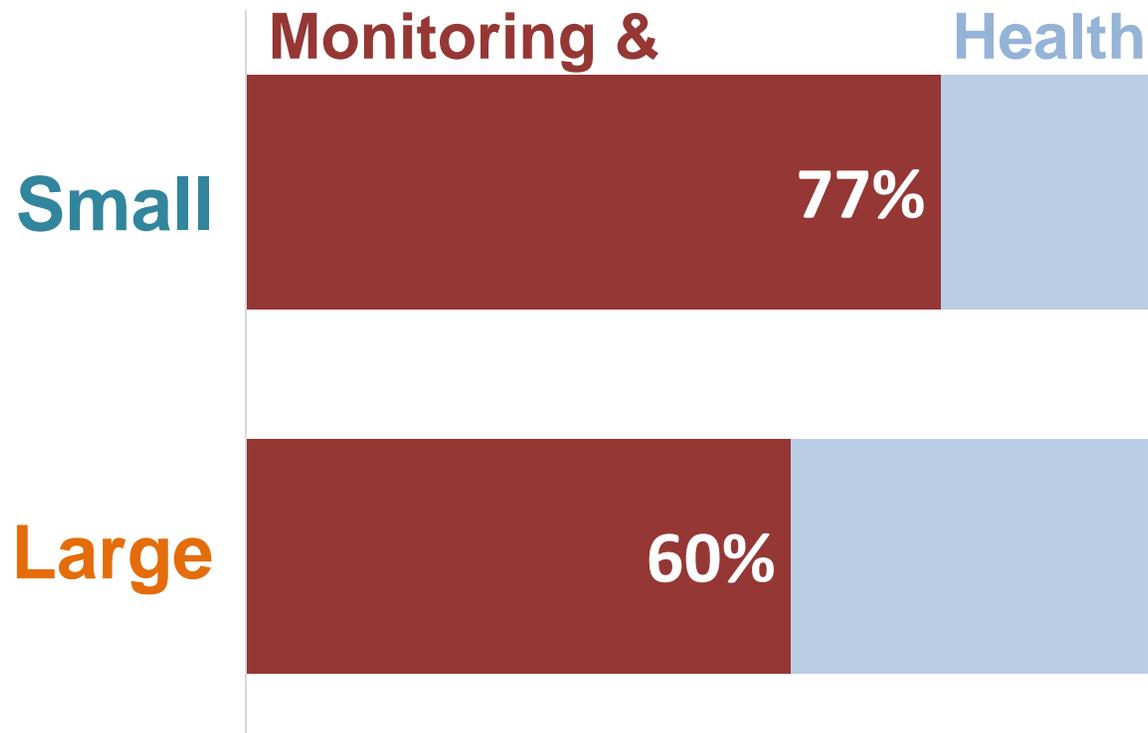
9.4%

Health

4.6%



Monitoring & Reporting violations make up a larger share of total violations





In Other Words...

- Water systems require a large amount of very expensive infrastructure and skilled staff
- And that infrastructure, skilled staff, and other fixed costs don't go away when customers use less water individually or collectively