



American Water Works
Association

Energy Savings from Water Conservation and Energy Saving Water Technologies

J. Alan Roberson, P.E.

Director of Security and Regulatory Affairs
American Water Works Association

Presentation Outline

- Review municipal water use and energy use
- Water conservation
- Energy saving technologies
- Challenges for the future



Review of Municipal Water/Energy Use

- **Municipal water use is a small fraction of use**
 - Power generation – 48%
 - Irrigation – 34%
 - Public supply – 11%
- **Energy is a moderate fraction of operating budget**
 - Water is heavy to pump
 - More pumping, more electricity used
 - Electrical use accounts for 5% to 35%
 - Average – 11% of operating budget

Water Conservation

- **More work is needed on power and irrigation**
 - 82% of total water use
- **Public water supply efforts**
 - Low flow plumbing fixtures now standard for new
 - Toilets, showers, faucets
 - Toilet retrofit programs
 - Focus shifting to other household appliances
 - Outdoor use
 - Low water use landscaping (Xeriscape)

EPA's WaterSense

- **Mission: Protect water supply thru promoting and enhancing market for water-efficient products and services**
 - Indoor products-toilets, showers, faucets
 - Outdoor products-sprinkler sensors and landscape irrigation services
- **Example outputs**
 - Performance criteria
 - Product certification
 - Draft specifications

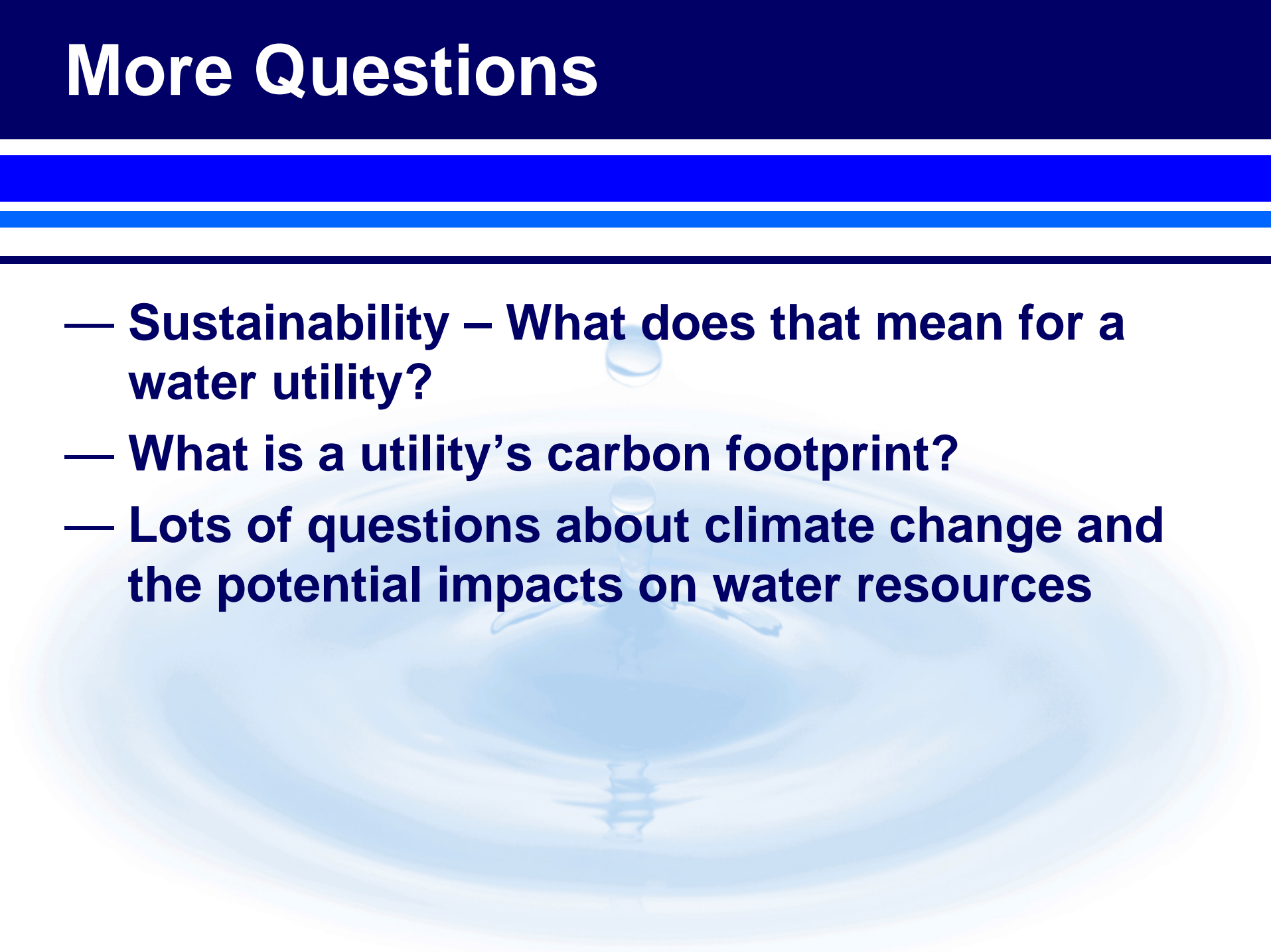
Energy-Saving Technologies

- **Utilities want to lower operating \$**
 - Energy management a big component (5%-35%)
- **Awwa Research Foundation (AwwaRF)**
 - 18 energy mgmt. projects completed or in progress
 - Several on pumping optimization
 - Real-time demands vs. “peak” charges

Future Challenges

- **New water supplies need more pumping**
 - Surface water is further away
 - Ground water – aquifer levels dropping
- **New supplies are typically lower-quality**
 - Better supplies already being used
 - More treatment needed
 - Advanced treatment needs more energy
 - Ozone, ultraviolet light, membranes
- **More desalination and water reuse**

More Questions

- **Sustainability – What does that mean for a water utility?**
 - **What is a utility's carbon footprint?**
 - **Lots of questions about climate change and the potential impacts on water resources**
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- A background image showing a close-up of water splashing, with several droplets and ripples visible, creating a sense of movement and freshness.