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# *Funding the Retirement Plan for Tennessee's Aging Infrastructure*

2010 TAUD Business Expo

Property of Gresham, Smith and Partners



# Presentation Goals



- Establish facts about infrastructure needs
- Set forth a game plan for addressing needs
- Identify limitations of future funding
- Where do we go from here?

- ASCE graded America's water and wastewater systems a "D minus".
- United States has almost a million miles of water transmission lines – 4x length of National Highway System
  - Most of it is over 50 years old
- EPA and the GAO estimate that community water systems will require \$500 billion above their expected rate of investment to meet safe drinking water and sanitation needs over the next 20 years.
- Materials installed now have shorter life span than materials put in 50-100 years ago
- Water systems lose 7B gallons every day due to leaks

# 5 Steps to Addressing Aging Infrastructure



- 1) Understand your situation
- 2) Calculate the cost of doing business
- 3) Establish proactive measures
- 4) Aggressively pursue funding opportunities: Carpe Cash!
- 5) Achieve a sustainable infrastructure through rate affordability

# 1 – What is your Situation?



- Common situation: Limited water supply / increasing demand
- Geographic imbalance between sources and users: Regionalization vs. decentralized
- Regulatory impact

- Controlling Sewer Overflows
  - Dept. of Justice and EPA
  - Kansas City \$2.5 billion over 25 years
  - Knoxville \$530 million over 10 years (PACE 10 project)
- Controlling Water Loss / Water Conservation
  - Utilities will be required to meet acceptable levels of unaccounted for water
  - Texas: 1<sup>st</sup> state to require water audits every 5 years (2005)
  - Georgia: By 2011, infrastructure leakage index, annual water loss audits
  - TN: UFW loss requirement in annual audit; WLCC has recommended that TN use non revenue water as outlined in IWA/AWWA method
  - AWWA – Free Water Audit Software- Version 4.0





- Improving Effluent Quality
  - Nutrient Removal
    - Nitrogen
    - Phosphorous
  - Temperature and Chlorine Residual
  - Biosolids Disposal
  - Endangered Species

# 2 – Calculate the Cost of Doing Business



- **Treatment Plants**
  - Equipment age & condition, overall process effectiveness / efficiency
- **Pipelines**
  - Material, age, location, service
  - Leak Detection
  - Impact from other infrastructure
- **Utilize GIS:**
  - Asset Management: Know What You Have
  - Identifying Project Areas / Coordination
- **Determine Remaining Useful Life**
- **Develop Capital Replacement Program**
  - Prioritize projects
  - Avoid catastrophic failures
- **Realize the \$aving\$**
  - Energy Efficiency / Conservation



# 3 – Be Proactive



- 85% of water utilities are municipal; decisions are often political in nature
- How do we address issues? Reactive or Proactive
- Does it take a disaster or public health issue for action?
  
- Engage capital stakeholders; higher credit ratings yield better long-term funding solutions

# 4 - Funding Frenzy: Get In Line



- Federal Assistance Programs
  - USDA RD
  - State Revolving Fund Loan Program / ARRA supplements
  - CDBG
- Debt Consolidation / Refinancing
  - Take advantage of low interest rates and low construction costs
  - Stricter lending requirements
- P3's (Public-Private Partnerships)
  - Private sector willing to take on or share in the risks of public utilities management, plant operation, water source development

- Unprecedented amount of federal funding has been injected into infrastructure
- American Recovery and Reinvestment Act (ARRA) has supported a vast majority of tabled projects
- Energy efficiency grants, CDBG's, expanded USDA RD funding, and increased capitalization grants for CW & DW SRF loan programs
- FY2009 Pre-ARRA: CW SRF \$9.885M  
DW SRF \$8.454M
- FY 2009 ARRA: CW SRF \$56.93M  
DW SRF \$20.239M
- FY 2010: CW SRF \$29.6M  
DW SRF \$15.1M



- Additional funding beyond ARRA is planned
- Assistance, Quality, and Affordability (AQUA) Act of 2010 will increase DWSRF funding
- Water Infrastructure Financing Act will increase CWSRF & DWSRF

# 5 – Achieve Rate Sustainability



- Endure through rate affordability
- EPA forecasts that annual rate increases will need to be 3% above inflation rate
- Sustainable Rate Structure
  - User Expectations – Avoid rate shock
  - Establish annual or bi-annual rate increases
  - Inclining vs. Declining
  - Oath of Sustainability

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# References



*Utility Infrastructure Management*. May/June 2010.

*AWWA Journal*, Vol. 102, No. 4. April 2010.

*AWWA Journal*, Vol. 102, No. 7. July 2010.

# *QUESTIONS?*

