

The background is a light blue gradient with several water droplets and bubbles of various sizes scattered across it. The droplets are rendered with realistic shading and highlights, giving them a three-dimensional appearance. The text is centered and reads:

# Seeking/Sharing Water Sustainability Solutions for Decentralized Systems of Supply and Wastewater

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# DECENTRALIZED WATER MANAGEMENT SYSTEMS

- Defining decentralized (‘localized’) water supply and wastewater systems
  - specialized, small scale, and/or rural
  - water supplies may be co-located with wastewater discharge systems
  - overseen by local authorities
- What is their relevance to this conference?
  - Federal activities that rely on such systems
  - scientific, technical, and governance experience
  - lead by example for the future of sustainable water management

# CHALLENGES / OPPORTUNITIES

- Distributed geographically
- Closed hydrologic cycle
- Provide feedback to users
- Unknowns of performance or impacts over the long term
- Supply and discharge systems may impact one another, positively and negatively
- Viewed as interim
- Resilient-by-necessity

# CHALLENGES / OPPORTUNITIES (CONTINUED)

- Large variability in systems' designs and situational characteristics
- Extrapolating readily available technical information to local level and/or small-scale
- Ensuring continued viability
- What makes sense versus what can be regulated
- Avoiding re-inventing the wheel at the local level

# CHALLENGES / OPPORTUNITIES (CONTINUED)

- Co-location imperative
- Tailoring treatment
- Participatory management and engagement
- Regional authorities' role
  - track resource status
  - coordination of uses, changes, objectives
- Federal facilities – temporary or long-term

# FEDERAL AGENCIES: EVALUATION OF IMPLEMENTATION

- Federal Agency advantages:
  - better access to technical services and expertise
  - authority over the entirety of a facility's systems
  - geographic distribution
- Evaluation examples:
  - experimenting with adaptive approaches as clean water availability diminishes
  - replicating retrofitting strategies
  - conducting unbiased research

# WHAT SMALL TOWNS OFFER

- Experience:
  - patterns exhibited
  - practical concerns
- Relieving burden on large-scale systems
- Models for Federal facilities' operations
- Nimble, to a degree
- Sustainability

# INFORMATION AND EXPERIENCE SHARING

- What mechanisms already exist
- What information to gather and how
  - with ease, so that time/effort is not a disincentive/barrier
  - important to know both what has and has not worked
- How to share the information
  - including raising awareness that it exists
- Priorities?
  - leading edge issues
  - most common challenges