

**THE ROLE OF THE
PUBLIC-PRIVATE
PARTNERSHIPS IN
WATER AND
WASTEWATER
SYSTEM INVESTMENT
AND RENEWAL**

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PROBLEM STATEMENT

- Many systems are facing costly underground asset upgrade requirements
- Many municipal systems face limited political will to commit the requisite financial resources for strategic or regulatory upgrades
 - Prior sources of funding are no longer available at historical levels
 - Rate increases are often unpalatable at the local level, even when required by regulatory requirements or consent decree
 - Increased funding may be limited for opportunities for increased sustainability or efficiency that may be present
- Many municipal systems are currently seeking opportunities to streamline their operations or build on operational success by engaging the expertise and experience of private firms
- Some municipalities seeking opportunities to engage private firms face ideological opposition, i.e., the idea that because water is essential for human survival, it is a human right and must not be subject to private ownership or control

PURPOSE OF RESEARCH

- The purpose of this research is to determine the opportunities for overcoming ideological opposition to the involvement of private water companies in the rehabilitation and renewal of US water and wastewater infrastructure.
 - We will conduct literature review and establish a mechanism for ongoing documentation of opportunities for private water companies to meet the documented needs for water and wastewater systems
 - We will evaluate, recommend, and assist with implementation of stakeholder engagement models for communicating the risks and benefits of private water companies in the implementation of stakeholder engagement strategies
- A range of private water models will be considered, including
 - Operations and Maintenance Contracts
 - Design-Build-Operate
 - Design-Build-Finance-Operate
 - Build-Operate-Transfer
 - Build-Operate-Own
 - Asset Sales

RESEARCH NEEDS

- The overall goal of this research program is to compare private sector involvement in ownership and/or operation of water systems, with regards to compliance and investment, to the national average.
- We believe that key stakeholders will use our research findings to develop, or solidify, their support for projects that would benefit from involvement by private water companies.

RESEARCH PROGRAM TASKS

- To satisfy these research needs, the research program will proceed in three phases:
 1. Define the Problem (Year 1)
 2. Identify the Solution (Years 1 and 2)
 3. Translating our Research to Improving Stakeholder Engagement (Years 1-3)

PROJECT PHASES

- **Phase 1: Define the Problem (Year 1, Tasks 1 and 2)**
 1. **Characterization of the enforcement actions and financial impacts on municipalities with NPDES discharge and SDWA violations or infrastructure upgrade requirements.**
 2. **Characterization of potential non-regulatory performance drivers for water and wastewater systems, including: sewer discharge impacts on the local environmental sustainability and environmental health, unaccounted for water impacts on utility financial sustainability, rate of investment in infrastructure, and emerging understanding of the role of water and wastewater systems in community resilience.**

PROJECT PHASES

- **Phase II: Identify the Solution (Years 1 and 2, Tasks 3 and 4)**
 3. **Conduct a critical review of private water (including public-private partnership) financing methods in water-related infrastructure development under the hypothesis, “Private equity financing can improve the cost-effectiveness of municipal water-related development, rehabilitation, and operation, when compared to traditional approaches of municipal financing,” and**
 4. **Illustrate through case studies the scope of the needs that can be effectively addressed through private water (including public-private partnerships), with emphasis on the potential for private investment in water-related infrastructure development, rehabilitation and operation.**

PROJECT PHASES

- Phase III: Translating our Research to Improving Stakeholder Engagement (Years 1-3, Tasks 5 and 6)
 5. Develop a characterization of the way that risks are allocated among the participants involved in the implementation of a water-related project by investigating the risks that occur throughout the project life-cycle of representative water or wastewater system upgrades.
 6. Develop a graphical “report card” and a technical report that communicate to the general public the benefits and advantages of private water/public private partnerships for addressing major water and wastewater infrastructure needs. We will also investigate the potential for using these outputs to facilitate non-regulatory, collaborative approaches to achieving environmental and public health objectives.

KEY PROJECT DELIVERABLES

- The proposed project term is three years. Key project deliverables include the following:
 1. Annual Research Workshops. Progress will be reported to stakeholders annually on project findings and to engage sponsors in discussions about project objectives and research needs.
 2. Conference Presentations and Peer-Reviewed Archival Publications. During the course of the research, conference presentations and publications will be prepared for dissemination in the scientific and technical literature.
 3. Graphical Report Card for Public-Private Partnership Opportunities. The scope of the opportunities and benefits for using private water/public-private partnerships to address the infrastructure needs will be communicated through a graphical report card disseminated at the same time as the technical report.
 4. Project Technical Report. At the end of the project, a final technical report will be prepared and delivered to the sponsor for dissemination to interested parties.

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QUESTIONS AND COMMENTS

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