



Performance Benchmarking for Effectively Managed Water Utilities [Project #4313]

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OBJECTIVES

The objectives of this project, “Performance Benchmarking for Effectively Managed Water Utilities”, were to build upon past Effective Utility Management (EUM) work by:

- Identifying practice areas associated with achieving the Ten Attributes associated with EUM
- Identifying key performance metrics for each practice area
- Providing the capability for utilities to identify targets associated with each leading practice
- Developing a benchmarking framework and assessment methodology
- Developing a supporting benchmarking tool
- Pilot testing the framework across an appropriate cross-section of utilities
- Making the tool available for the use and benefit of the water sector

BACKGROUND

The U.S. Environmental Protection Agency (EPA) and organizations representing North American water and wastewater utilities have long been cognizant of the challenges water sector utilities are facing and have been identifying EUM practices to address them. In May 2006, EPA and six of these organizations formed the Effective Utility Management Collaborating Organizations to “formalize a collaborative effort among the signatory organizations in order to promote effective utility management” (EPA et al. 2008). They developed a framework for utility management that would result in effectively managed water utilities. These organizations, with the support of 16 water and wastewater utilities, then identified the following “Ten Attributes of Effectively Managed Water Sector Utilities”:

1. Product Quality
2. Customer Satisfaction
3. Employee and Leadership Development
4. Operational Optimization
5. Financial Viability
6. Infrastructure Stability
7. Operational Resiliency
8. Community Sustainability
9. Water Resource Adequacy
10. Stakeholder Understanding and Support

Despite the number of EUM-related documents available to the water sector, there were no specific or discrete recommendations on how utilities would develop and implement the Ten Attributes. WRF identified this opportunity to build upon the work performed so far by addressing some components that were not included in these efforts, including:

- An explicit identification of the practice areas used by water sector utilities to support the Ten Attributes, including a number of AWWA QualServe business systems areas referenced in the previous EUM documents.
- A structured process benchmarking exercise that could help water sector utilities to identify relevant performance metrics within the practice areas that could be scored to guide the development of strategies to achieve performance excellence.

As a result, WRF sponsored this project to fill these gaps.

APPROACH

To achieve the project objectives, the project team executed the project in two phases. Figure ES.1 shows the implementation methodology of this phased approach. WRF and the Project Advisory Committee (PAC) encouraged a focus on the framework development and the EUM self-assessment benchmarking tool

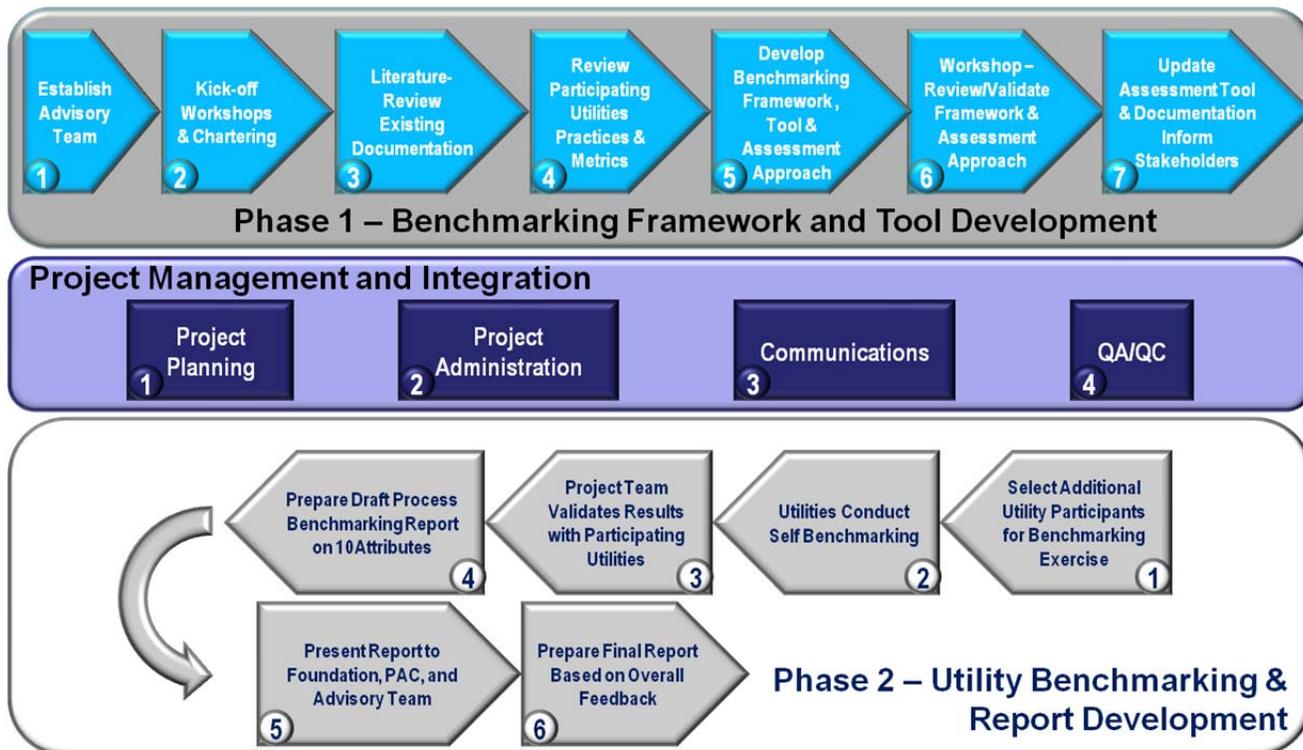


Figure ES.1 Project approach

RESULTS/CONCLUSIONS

Overall, the participating utilities found the tool useful in identifying gaps in performance and helping to identify steps that they can take to reduce the priority gaps. In addition, they offered many useful suggestions on refinements to the benchmarking framework¹ process, and how it can be used by other interested utilities. A number of the suggestions on functionality and contents made by utilities that tested the benchmarking tool have been incorporated into the tool that is included with this report.

Feedback from the utilities included a number of important recommendations, including:

- Form a benchmarking team to maximize the value of this effort.
- Secure executive leadership endorsement and engagement in the benchmarking process. Several utilities mentioned the value of engaging a cross-functional team that includes representatives from the diverse functions addressed in the Ten Attributes.
- Encourage dialogue about performance targets and current performance among colleagues from diverse sections within utility organizations. This was found to be useful in defining a path forward as an organization.

¹ Framework is used here, and throughout the report, to mean the combination of practice areas and performance measures defined by the full project team, for the Ten Attributes of Effective Utility Management.

- Use the findings of the benchmarking efforts to inform other planning processes, including utility strategic plans, capital and operating budgets, and the development of internal initiatives to address priority gaps.
- Engage external stakeholders in the process. Some utilities did so even though the testing period for this project was confined to a short time period.
- Consider entering the benchmarking process progressively, conducting an initial self-assessment, and then building upon the process as useful initial insights and action steps are identified.

A number of utilities expressed interest in further development and research related to identifying appropriate performance targets for some of the practice areas, and the possible need for additional performance measures within some of the practice areas. In addition they recommended three primary areas for future development of the benchmarking process and tool:

- Develop a library of strategies for addressing priority performance gaps
- Provide for cross-utility comparisons of utility targets and performance
- Develop a process for future updates to the tool and self-assessment process

APPLICATIONS/RECOMMENDATIONS

Based on the experience of the project team in conducting benchmarking studies and suggestions from the utilities that used the benchmarking tool, the following approach is recommended for the successful application of the tool within a utility:

1. Form a benchmarking team and develop an initial plan of action.
2. Select EUM attributes to address.
3. Select associated practice areas and performances measures to address.
4. Revise plan of action (if needed).
5. Conduct self-assessment benchmarking for selected attributes, practice areas, and performance measures.
6. Evaluate results and identify methods to narrow priority gaps.
7. Develop follow-up plans.

Each utility's context, however, is unique, including different goals for conducting self-assessments, varying histories with performance measurement, and varying availability of information and other resources to populate the assessment. As such, adaptation of the approach and the sequence of these steps may be needed to provide maximum efficiency and value.

MULTIMEDIA

Some of the material covered in this report can be found on the [#4313 project page](#). These include the benchmarking self-assessment tool and user guide developed for this project, which was designed using Microsoft Excel 2007 and Visual Basic.

The tool enables users to customize and select specific attributes and weigh these attributes in relation to one other. Users can select any grouping of the Ten Attributes and

the model creates a customized self-assessment containing only the relevant attributes, practice areas and performance measures chosen by the user. Based on the custom framework, the tool allows users to score both current and target performance for the selected practices.

PARTICIPANTS

Close to 30 water sector utilities from the United States, Canada, UK, and Australia participated in this project. They were of different sizes (from less than 100,000 customers to over millions of customers), geographies (different parts of North America), and types (water, wastewater, and stormwater).