

Support for Sustainable Infrastructure

Community stakeholders, utility managers and regulatory agencies are increasingly interested in utility sustainability. Sustainability can and has been defined in many ways but the most broadly accepted definition comes from the United Nations' 1987 Report on Environment and Development: Our Common Future definition:

"Meeting the needs of the present without compromising the ability of future generations to meet their own needs."

New England water resource recovery utilities are increasingly faced with achieving higher levels of service which often comes at the price of greater resources used, such as energy, raw materials and chemicals. In addition, utilities are being asked to do more with less, financially making even routine maintenance of systems difficult at best. New England's aging infrastructure will require significant investment of public funds to repair and replace infrastructure to maintain adequate to superior levels of service over the coming decades. The infrastructure that is being invested in now will last for the next 50 to 75 years. Given that, the need to invest in sustainable infrastructure that will be resilient, reliable and efficient is critical and will require a paradigm shift.



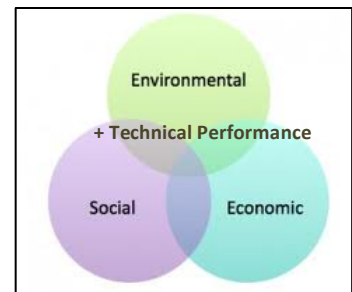
NEWEA supports the United States Environmental Protection Agency's (EPA) *Clean Water and Drinking Water Infrastructure Policy* published in September 2010 (<http://water.epa.gov/infrastructure/sustain/Clean-Water-and-Drinking-Water-Infrastructure-Sustainability-Policy.cfm>). The Policy describes "EPA's overall vision and priorities for ensuring the long-term sustainability of water infrastructure and communities throughout the nation." EPA has developed *Planning for Sustainability: A Handbook for Water and Wastewater Utilities* (<http://water.epa.gov/infrastructure/sustain/upload>

[/EPA-s-Planning-for-Sustainability-Handbook.pdf](#)) to share sustainability best practices.

The Sustainability Handbook, which should be used as a resource for all NEWEA utilities when considering sustainable solutions, is organized around a series of Core Elements, including:

- *Setting utility sustainability goals and objectives that also support relevant community goals;*
- *Analyzing a range of alternatives, including green infrastructure and other innovative approaches, based on full life-cycle costs; and*
- *Implementing a financial strategy, including adequate rate structures, to ensure the alternatives selected are sufficiently funded, operated, maintained, and replaced over time. "*

NEWEA supports Triple Bottom Line Plus (TBL+) sustainability framework, which encompasses environmental, economic, social and technical



1 Triple Bottom Line Plus (TBL+)

performance. Key considerations for sustainable water and water resource recovery systems within the TBL+ framework include:

Environmental	Emissions and Waste
	Resource Use
	Resource Recovery
	Sustainable Materials
	Facility Footprint
Economic	Life-cycle Cost Analysis
	Sustainable Balance Sheet
	Local Purchasing and Hiring
Social	Stakeholder Involvement
	Workforce Sustainability
Technical	Reliability and Redundancy
	Collection System Integrity
	Operations and Maintenance Optimization
	Resiliency and Adaptability

Adapted from the *Sustainable Performance Reporting for Wastewater Systems*

NEWEA also supports the development and use of tools that promote using a life-cycle approach to evaluate short and long term operations and maintenance, new infrastructure and equipment, planning and management costs.

One such tool that is gaining momentum within the water resource recovery industry is the Envision™ Rating system, developed by the Institute for Sustainable Infrastructure. Envision™ provides a holistic framework for evaluating, rating and recognizing projects and utilities that use transformational, collaborative approaches to assess and protect the community, environmental, and economic benefits of all types and sizes of infrastructure projects. Envision™ is most useful in sustainable project planning when the practices can be carried through to design and implementation.

Envision™ helps utilities to:

- Meet sustainability goals.
- Be publicly recognized for high levels of achievement in sustainability.
- Help communities and utilities to collaborate and discuss, "Are we doing the right project?" and, "Are we doing the project right?".
- Make decisions about the investment of scarce resources.
- Include community priorities in civil infrastructure projects.



NEWEA also supports the use of the Water Environment Federation (WEF)'s *Sustainable Performance Reporting for Wastewater Systems*. This tool provides a framework for utilities to monitor, trend and report over time their performance related to sustainable goals and objectives.



The Sustainable Performance Reporting tool incorporates the TBL+ principles and provides utilities with guidance on:

- Developing sustainable goals and objectives.
- Identifying Key Performance Indicators / Metrics for tracking performance.
- Reporting formats for presenting performance to stakeholders.

NEWEA is committed to promoting sustainability within the water and water resource recovery community in New England and as such has established a Sustainability Committee. The Sustainability Committee is charged with the following activities:

- Research, review and recommend sustainable solutions for water resource recovery treatment and collection systems.
- Collaborate with other NEWEA committees and membership to integrate sustainability into committee activities, conferences, specialty seminars, presentations, keynote speakers, journal articles and other publications.
- Encourage the transformation of water resource recovery collection and treatment systems into "resource recovery systems" (hence, the shift in terminology from wastewater to water resource recovery) that use [fewer](#) natural resources while recovering more nutrients / biosolids / fertilizer in a way that achieves high economic value, is operator friendly, regulatory compliant, technically reliable and flexible, environmentally friendly and socially acceptable – the tenets of the TBL+.

In brief, NEWEA strives to improve efforts to achieve sustainable water and wastewater infrastructure for the benefit of our existing communities while providing a solid base for continued safe and clean water for generations to come.