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**Name: Art Umble, PhD, PE, BCEE**  
**Title: Americas Wastewater Practice Leader**  
**Organization: MWH**

**Title: Water and energy are inextricably linked**

**Abstract:**

Water and energy are inextricably linked, and their combined “footprint” is vital to a sustainable future. Water is needed for energy production, and energy is needed for the management of the total water cycle. How can we address this critical nexus between water and energy? A critical factor for water consumption in energy production is the quality and availability of the water source. Water reuse must be a solution, for it is the bridge linking integrated, holistic water cycle management with heat and energy recovery.

**Professional Background:**

Dr. Umble’s experience covers many aspects of engineering practice. He began developing his engineering career in private development and municipal civil engineering in areas throughout the southwestern United States, specializing in hydraulics and water resources. After completing a Ph.D. in biological waste treatment at the University of Notre Dame, he added to his experience nearly a decade municipal water and wastewater utilities management and operations for the City of Elkhart, IN, a city of 50,000. In this capacity he was responsible for strategic master planning, day-to-day treatment plant operations, regulatory compliance, facility planning, preliminary and final design of civil/sanitary systems, asset management and maintenance of the drinking water and wastewater treatment systems. During this time, Dr. Umble has also served as Adjunct Professor of Civil Engineering at the University of Notre Dame.

In his current role as the Americas Wastewater Practice Leader, Dr. Umble provides technical analysis and review support to design teams for new and rehabilitated wastewater treatment plants, with a focus on nutrient removal facilities, process optimization for treatment capacity, wet weather treatment, solids processing and disposal facilities, disinfection systems, and emerging contaminant removal technology. His role focuses on providing technical support to the wastewater facilities design staff, development of design guidelines, staff technical training, and a wide range of business development opportunities with existing and potential clients for business units across the country. He is also responsible for cultivating the firm’s role and participation in professional associations both nationally and at the State level through a wide range of participatory activities.

Dr. Umble has been a leader in community initiatives involving the promotion of environmental stewardship, such as watershed planning and pollution prevention. He serves in numerous state and national forums and stakeholder work groups related to environmental rules, regulations and environmental legislation, and emerging treatment technologies. His focus has been in technical support for the environmental policy areas of water quality standards, treatment technology, water reuse, biosolids and residuals management, stormwater management, watershed planning, affordability for water environment program implementation, developing frameworks for stakeholder coalitions in environmental policy, and implementation of environmental management systems. He is active on numerous committees with the Water Environment Federation, and serves as a technical advisor/reviewer for Water Environment Research Foundation and the Water Reuse Foundation collaborative research projects.