

# Drivers and Trends: Evolving Approaches to Water Management



**ESE Distinguished Alumni Award Recipient**

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## **ABSTRACT**

Various drivers and trends are changing the manner in which we approach water management. During the 1970's and 1980's, a host of regulations shaped the water industry in the United States, primarily associated with treatment requirements for both drinking water and wastewater. While that regulatory agenda changed the face of treatment and its impact on water quality, other forces are now significantly influencing the direction of water management. Increases in population, changes in demographics, water scarcity in populated areas, financial constraints, retiring baby boomers, increased emphasis on health care and pharmaceutical options, aging infrastructure, and climate change are among the challenges that utilities must face in meeting customer needs. In addition, customers desire to be a larger part of decision-making, changing the traditional process for determining solutions at local, regional, and federal levels. This presentation will discuss how some of these trends and drivers are changing the way that the profession must address water management options and deliver projects, and how federal agencies, utilities, customers, and the private sector are responding.

## **BIO**

Doug Owen is a Vice President with Malcolm Pirnie, Inc. and is the Chief Technology Officer for the firm. In that role, he is responsible for technology applications for clients and the firm, applied research programs, outreach to universities, and knowledge management. Prior to 2007, Doug served as Managing Director of Malcolm Pirnie's business unit providing drinking water, wastewater, and water resources services to municipal clients. Mr. Owen has specialized in water planning and design since he received his Bachelors Degree in Civil Engineering from Purdue University in 1980 and his Masters Degree in Environmental Sciences and Engineering from the University of North Carolina at Chapel Hill in 1982. He has led applied research projects on advanced technologies, consulted with utilities on treatment and facility planning for over 6 billion gallons per day of treatment capacity throughout the United States, and has provided technical and facilitation support to USEPA and AWWA on a range of policy issues since 1990 - including drinking water regulatory development, advanced technology implementation and utility compliance. Mr. Owen currently serves on EPA's National Drinking Water Advisory Council and is a Board member for the WaterReuse Foundation, the UNC School of Public Health Foundation, and the National Action Council for Minorities in Engineering. He has served as the Chair of the Editorial Advisory Board for Journal AWWA, as a Trustee for AWWA's Water Science and Research Division, and on advisory boards for the universities of Texas, New Hampshire, and Columbia. He has published widely on water treatment and planning topics in books, peer-reviewed journals, and at national and international conferences.