

1-1-2010

## Colorado Cleantech Industry Association - Advanced Water Management: Using Cleantech to Manage Scarc Resources

Ethan Ice

Follow this and additional works at: <https://digitalcommons.du.edu/wlr>



Part of the [Law Commons](#)

---

### Custom Citation

Ethan Ice, Conference Report, Colorado Cleantech Industry Association - Advanced Water Management: Using Cleantech to Manage Scarc Resources, 13 U. Denv. Water L. Rev. 494 (2010).

This Conference Report is brought to you for free and open access by the University of Denver Sturm College of Law at Digital Commons @ DU. It has been accepted for inclusion in Water Law Review by an authorized editor of Digital Commons @ DU. For more information, please contact [jennifer.cox@du.edu](mailto:jennifer.cox@du.edu), [dig-commons@du.edu](mailto:dig-commons@du.edu).

---

**Colorado Cleantech Industry Association - Advanced Water Management: Using  
Cleantech to Manage Scarc Resources**

Other important questions that must be answered include whether Colorado has a right to use this water, and whether there is a real need for this water in Colorado. Because the water will be piped from the Flaming Gorge Reservoir in southwestern Wyoming, the effect on recreation in the Flaming Gorge is also an important issue.

LaBonde noted that Wyoming must consider whether this project will impact Wyoming's ability to develop its remaining allocation of Colorado River water. Also, it must weigh what benefits Wyoming will receive from the project. While MCRG's pipeline remains a project in the distant future, Mr. LaBonde noted that there is a possibility that it could go forward, and it is not entirely a pipe dream.

*Kathlyn Bullis*

## COLORADO CLEANTECH INDUSTRY ASSOCIATION

### ADVANCED WATER MANAGEMENT: USING CLEANTECH TO MANAGE SCARC RESOURCES

Denver, Colorado      February 25, 2010

#### INTRODUCTION

In recent years, water technology has quickly risen to become a major focus of innovation and commercialization. On a global scale, there is an approaching water crisis as world populations rise while the amount of safe drinking water decreases. The United Nations estimates that by 2025, two-thirds of the world will experience some form of water scarcity. This conference discussed the kinds of water management innovations and technologies that have evolved to combat this impending problem. Shelley Curtiss, Communications Director at Colorado Cleantech Industry Association (CCIA) in Denver, Colorado opened the conference and welcomed the audience and participants.

#### KEYNOTE PRESENTATION: SMARTER WATER MANAGEMENT

Cameron J. Brooks, Ph.D., Director of Solutions and Business Development at IBM Big Green Innovations, was the keynote speaker. Mr. Brooks explained that many factors in recent years, such as increased agriculture, climate change, and an aging infrastructure, have required us to develop a better overall system of watershed management. Currently, Mr. Brooks explained, up to 45% of water is lost worldwide because of faulty or inefficient delivery systems.

However, according to Mr. Brooks, we can alleviate or even solve this problem through the implementation of "smart grid technology," a better overall system that predicts problems and finds solutions in advance, rather than reacting to problems after they occur. In past years, IBM developed smart grid technology for electricity management. Smart grid technology increases the connectivity, coordination, and automation between electricity suppliers, consumers, and overall networks that are involved in long distance electricity transmission. Now, IBM is developing this concept in the realm of water management.

IBM accomplishes this newer system of water management by collecting massive amount of data through a combination of information gathering technology and analytic devices and tools. Collecting more water data overall has allowed IBM to optimize future events and in general get a better idea of how much water areas have on a natural scale (overall water mass), a utility scale (overall water quality), and an enterprise scale (overall water usage and management). The result from this data is a variety of water technologies that manage water in a predictive, rather than a reactive, outlook.

IBM has already implemented many of these technologies in various parts of the world, all with positive results. These technologies include developments in sensor and intelligence networks for water utilities, smart water meters, and a new technology for water filtration. In Galway Bay, Ireland, Brooks and IBM have been collecting data related to water quality, aquaculture, chemical content, wave energy, and tidal movement, and have been using that data to help the local fishermen manage shellfish crops and to help the local governments regulate the water supply. In the Netherlands, IBM has implemented new water monitoring systems, helping the Dutch to monitor flooding and, thus, exert better control of their levees. In Israel, the company has employed water methodology to address water changes systematically and to better adapt to drought. Mr. Brooks also discussed new kinds of IBM-developed nanotechnology that can extract significant amounts of salt from water, rendering it potable for human consumption. With innovations like these, IBM will no doubt play a large role in the globe's complicated water condition.

#### OPPORTUNITIES IN THE WATER MARKET: PANEL DISCUSSION

Opportunities in the water market are growing rapidly. The water market is already enormous and expanding, and is involved in a crisis that requires innovation and efficiency. Because of this problem and its close connection with energy usage, the water market will demand a variety of new technological approaches. CCIA invited four expert panelists to discuss how they are providing creative and sustainable solutions to water supply, treatment, and management challenges. The panelists included Robin Newmark, Principal Program Manager of Planning and Program Development at National Renewable Energy

Laboratory (NREL); Roger Austin, National Vice President and Managing Consulting Director of MWH Global; Forbes Guthrie, Director of Stewart Environmental Consultants, Inc. (SEC); and Jeffrey Popiel, President and CEO of Geotech Environmental Equipment.

Robin Newmark started the panel and discussed NREL's growth of generation and cooling technologies that combine water and energy management. By developing a variety of biofuel, geothermal, solar, and wind energy technologies, NREL hopes to expand the types of energy innovations used to actually manage water supplies.

Roger Austin spoke next, describing how MWH Global provides comprehensive consulting management, engineering and technical services, and construction management services to Colorado and other places around the country. These innovations will only become more important as water resources diminish because "out west, whiskey is for a'drinking, and water is for a'fighting." While a humorous quote, it also holds a fair amount of truth: water is quickly becoming a valuable commodity in Colorado and the western United States, and the next hundred years of water management will most likely be different from the last hundred years of water management.

Forbes Guthrie represented SEC and described various innovations in the future of water storage and treatment. This included the promising BIO<sup>2</sup> solution project, in which SEC was using certain species of waste-extracting algae to treat and purify water rather than employing the standard, energy-wasting devices commonly utilized.

Finally, Jeffrey Popiel discussed Geotech's role in the water technology marketplace, specifically in the development of new technology in the areas of groundwater sampling and analysis. Showing how these innovations aid in data collection and analysis to help manage water consumption, Geotech provides environmental equipment to those who are interested in managing water efficiently.

It is difficult to summarize the many ideas and viewpoints at this conference concisely, but the role of "smart" water management came up frequently. The theme of the discussions suggested that the world around us is changing at a rapid rate, and we must use our new technologies to adapt to these changes and wisely manage the water that we have.

*Ethan Ice*