

# Committee on Resources

## Subcommittee on Water & Power

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### Witness Statement

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**Testimony of:  
Peter MacLaggan  
Executive Director  
WateReuse Association**

Mr. Chairman and members of the Subcommittee, I appear before you today on behalf of the WateReuse Association, a non-profit public-private partnership formed in 1990 to help shape public policy affecting the development and use of recycled water. I would like to submit for the record my formal testimony and a brochure detailing the Association's activities. The Association's membership consists of more than 250 public agencies and water industry professionals. Collectively, our utility members provide water to more than 20 million people and collect, treat and reuse or dispose of more than 2 billion gallons of wastewater per day.

I wish to thank you and your colleagues for the invitation to appear before the Subcommittee on Water and Power of the U.S. House of Representatives Committee on Resources oversight hearing to receive testimony the Reclamation Wastewater and Groundwater Study and Facilities Act (Title XVI of Public Law 102-575). The Subcommittee has invited me to testify concerning water recycling and reuse. Per the Subcommittee's request, in the testimony that follows, I have addressed the current status of the water recycling industry; how water recycling projects are financed; and the role the Bureau of Reclamation's Title XVI program can serve in addressing water recycling challenges. I apologize in advance to the Subcommittee because the perspective I have provided is based on my personal experience with recycled water development, which has largely been in California. It cannot be disputed, however, that California has been in the forefront of water recycling for the past 30 years.

### **Current Status of the Water Recycling Industry**

In many areas of the nation, particularly the more arid regions, water recycling has become an integral component of the overall water management strategy. Current uses of recycled water include irrigation of wide variety of crops and ornamental landscapes, wildlife and fisheries enhancement, industrial supply, groundwater recharge and many more innovative and creative applications. California and Florida are the most active states judging by the volume of water reused. According to the state Department of Water Resources (DWR), the fastest growing water supply in California is recycled water. In a 1998 survey, DWR estimated that California's 450,000 acre-feet per year (afy) of recycled water use is offsetting the water supply needs of more than 2.0 million people. Furthermore, DWR identified 165 proposed recycling projects that are in various stages of planning and development with a combined yield of nearly 1 million afy. Other states with significant reuse projects are Arizona, Hawaii, Nevada, New Mexico, North Carolina, Oregon, Texas and Washington.

The recent surge in recycling activity can be attributed to improvements in technology, increased public

acceptance and greater recognition of the economic, social and environmental benefits of water recycling. From the local agency perspective, recycled water represents an opportunity to enhance water supply reliability and insulate the local economy from the devastating effect of drought conditions and water supply shortages. For many communities, an investment in recycled water solves many problems simultaneously. It may solve a difficult water pollution control problem. It may forestall a severe water shortage. And, it may offset the need to divert additional water from a sensitive watershed.

Similarly, an expanded water recycling effort can address an number of important federal interests, including water supply reliability, economic development, ecosystem restoration and enhancement, water quality protection and pollution control. A number of water and wastewater utilities are uniquely poised to continue the growth in recycled water development in furtherance of these interests. However, without strong federal, state, regional and local partnerships to address the current impediments to water recycling, a considerable portion of the water recycling potential may not be realized. In my view, the Federal role in these partnerships must include two essential elements for an effective water recycling program to be viable: a project financing program and a complementary program to support research and development into new and better methods of water recycling.

### **Water Recycling Project Financing**

First, the viability of most water recycling projects is contingent upon the identification of meaningful cost-sharing partners. Water recycling projects can be capital intensive undertakings which, when viewed from the local or regional perspective, may or may not be cost-effective. Thus, from a local agency perspective, identification of significant non-local funding sources is a necessary prerequisite to the timely implementation of a water recycling project.

The Federal and state governments and three contractors for federal and state water supplies are actively involved in financing water recycling. At the federal level, the Bureau of Reclamation's Title XVI Program is an example of an extremely successful cost-sharing partnership between the Federal government and the local project sponsors. Pursuant to Public Law 102-575, the U.S. Bureau of Reclamation has authority to conduct feasibility studies and demonstration projects to further water recycling and participate in the design and construction of 22 water recycling projects and 2 desalination projects that have congressional authorization to receive up to 25% in federal funding. Additionally, the Bureau of Reclamation is completing studies to assess the feasibility of regional water systems serving: (1) the six major urban counties in the San Francisco bay area and (2) the six major urban counties in southern California.

The California Water Resources Control Board (State Board) administers three voter-approved water recycling bond laws that authorize the State Board to issue grants and low-interest loans for design and construction of water recycling projects. With the passage of Proposition 13 Bond Law in March 1999, \$100 million was appropriated to the Water Recycling Program. This program provides water recycling capital financing (grants up to 25% of project cost and low-interest loans for the remainder) and funding for water recycling research. The project sponsors are asked to compete for the available funds and project selection is made on the basis of objective criteria included in the Bond Law.

Additionally, three major water wholesalers, the Metropolitan Water District of Southern California (MWD), San Diego County Water Authority (SDCWA) and Santa Clara Valley Water District (SCVWD), have adopted financial assistance programs to help local agencies develop water recycling projects. MWD, SDCWA and SCVWD currently are spending over \$10 million per year on recycling. Their investment in water recycling incentive programs is expected to grow to over \$50 million per year by 2005.

Water recycling projects recently bid or constructed in the City of San Diego and City of San Jose, West Basin Municipal Water District and the San Elijo Joint Powers Authority are representative of typical large-scale urban recycling efforts that offer the potential to fulfill Federal water recycling objectives. A large part of the success of these projects can be attributed to the significant funding provided from non-local sources. Cost-effectiveness is an important consideration for local agencies charged making a decision as to whether to implement a water recycling project. The local agency must weigh the cost of the recycled water project against other water supply and wastewater disposal options. Competing alternatives generally include the option to purchase additional water at the wholesale water rate from the imported water supplier and the option of continuing to treat the wastewater to the minimum level required for disposal.

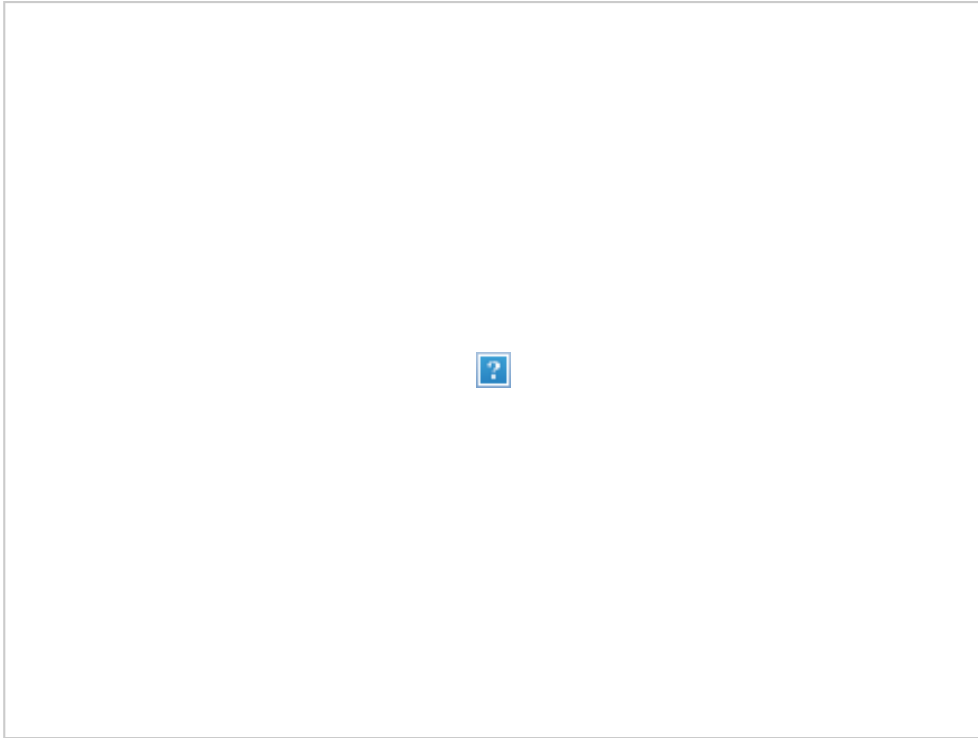
In San Diego and San Jose, the decision to recycle water was driven primarily by wastewater disposal considerations and to a lesser extent the desire for increased water supply reliability. In West Basin MWD and San Elijo JPA, improved water supply reliability was the primary motivating factor. These agencies point to their ability to reduce the unit cost of the recycled water through the availability of external funding as a critical consideration in their decision to proceed to implementation. For example, Figure 1 illustrates that while the cost of water recycling in San Diego County has increased over the last eight years, the availability of external funding has also increased, which has allowed the unit cost to the local agencies to decline considerably.

The unit cost of the San Diego, San Jose, West Basin and San Elijo water recycling projects range from \$900 to \$1,200 per acre-foot delivered, of which \$650 to \$900 is allocated to capital debt service and \$250 to \$300 goes toward operation and maintenance. The initial capital investment for these projects was on the order of \$7,000 to \$10,000 per acre-foot of installed capacity.<sup>(1)</sup> These agencies have secured long-term commitments for external funding to offset project costs: San Diego 48%, West Basin 42%, San Elijo 41% and San Jose 31%. Without the availability of external funding, it is questionable whether these projects would have been implemented. Thus, past experience also suggests that 30% to 50% of this funding must come from non-local sources (federal, state and regional) to maintain local interest in water recycling. Stated differently, local agencies would assume the responsibility for construction and operation of the water recycling facilities and bear 50 to 70 percent of the cost. In many instances, regional agencies would assume a significant portion of the remainder of the cost

Figure 1

Sources of Funding

San Diego County Water Recycling Projects



### **Role of the Bureau of Reclamation in Addressing Water Recycling Challenges**

The viability of most water recycling projects is largely contingent upon the identification of meaningful cost-sharing partners. An important role for the Bureau of Reclamation and the Title XVI Program is to address water recycling challenges by providing meaningful cost sharing with the local agencies for the planning, design and construction of water recycling projects and assist with the research and development of the science and technology of water recycling.

### **Federal Financial Assistance Program for Water Recycling**

Water recycling projects can be capital intensive undertakings which, when viewed from the local or regional perspective, may or may not be cost-effective. Thus, from a local agency perspective, the availability of Federal financial assistance is often a prerequisite to the timely implementation of a water recycling project.

In order to ensure that the process for selection of water recycling projects to receive this funding is both timely and equitable and that the projects selected are the best candidates to serve the federal interest. Ideally, a portion of the water recycling program funding should be made available on a competitive basis to encourage the development of well-planned recycled water facilities to address critical water management needs of the federal government. Our experience has shown that an open, competitive process supported by objective project selection criteria that clearly articulate the Federal government's interest in recycled water development offers the most effective way in which the State Board can achieve the objectives of the Water Recycling Program.

The WateReuse Association is of the view that a "pay-for-performance" approach to funding water recycling could offer an effective means of optimizing Federal investment in recycled water development. Under this approach, financial assistance could be made available to projects capable achieving Federal objectives on a competitive basis. Funding would be available upon actual delivery of the recycled water

rather than a traditional capital construction loan or grant. The Bureau of Reclamation (or the appropriate Federal agency) could enter into a long-term funding contract with project sponsor for the purchase of water, thereby ensuring that funding is provided to the worthiest projects.

### **Water Recycling Research and Development**

Second, as we work to expand the use of recycled water, we must simultaneously advance the science and technology of water recycling to ensure the highest possible public confidence in the water recycling programs at the lowest overall cost. One of the most promising ways to ensure that we continue to have a successful and ever expanding water recycling program is to employ the most effective and technologically advanced responses to meet these challenges. A cost-shared research program can form the foundation to achieve a meaningful, long-term response to the challenges facing the water recycling industry. We believe a commitment to research and development of water recycling technology should be part of any Bureau budget.

The aim the Title XVI research program should be to improve the efficiency of water recycling technology, address emerging issues and improve the understanding and acceptance of water recycling. The need for accurate research is particularly true in the State of California, where water reuse has confronted numerous obstacles in gaining acceptance because of public concerns over the safety of such a resource.

An aggressive research program grounded in a partnership between local and federal policymakers, tailored to the scientific and technological issues, will provide the important answers to enhance public awareness and acceptance of reusing our water resources. It will also directly complement the Federal government's efforts to develop programs to protect our ecosystems and provide a reliable source of water for the future.

### **WateReuse Association Title XVI Policy Principles**

The WateReuse Association has adopted the following policy principles regarding the Title XVI Program:

1. The Federal government should recognize the importance of water recycling and the significant investment made by local and state agencies in sustainable water supply planning.
2. The Bureau of Reclamation and other Federal agencies should ensure that adequate funding is available to meet identified water recycling needs.
3. Federal funding assistance for water recycling should not be limited to Title XVI, other Federal agencies should be encourage to commit funding for water recycling project incentives.
4. Projects, which have received a commitment for continued funding, should have that commitment honored and be given priority in meeting funding requests.
5. Funding of future water recycling projects should consider the local, regional and state funding commitments; feasibility of implementation and cost-effectiveness of the project.
6. Funding of future water recycling projects should acknowledge ecosystem benefits both within and external to the area of project implementation, as well as regional and interstate benefits.

In conclusion, what distinguishes water recycling from other water management strategies Bureau of Reclamation is considering is that the local agencies are prepared to implement the projects and assume

responsibility for a significant portion of the cost. Water recycling can provide an incremental solution to some of the more immediate problems facing the Bureau of Reclamation, including water supply reliability, water quality and ecosystem restoration.

Thank you for the opportunity to share our views with you today. I would be pleased to respond to any questions the Subcommittee may have.

1. <sup>1</sup> Average capital investment after deduction of costs associated with over sizing of facilities to accommodate future expansions is \$8,500 per AFY of installed capacity.

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