



CALIFORNIA ASSOCIATION of SANITATION AGENCIES

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THE NATIONAL ASSOCIATION OF CLEAN WATER AGENCIES



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TESTIMONY

ON THE

CLEAN ENERGY JOBS AND AMERICAN POWER ACT

S. 1733

PRESENTED BY

RONALD E. YOUNG

GENERAL MANAGER

ELSINORE VALLEY MUNICIPAL WATER AGENCY

ON BEHALF OF

CALIFORNIA ASSOCIATION OF SANITATION AGENCIES

AND

NATIONAL ASSOCIATION OF CLEAN WATER AGENCIES

SUBMITTED TO THE

COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS

U.S. SENATE

OCTOBER 28, 2009

Ensuring Clean Water for California

Thank you Chairman Boxer and members of the Committee. I am Ronald E. Young, General Manager of Elsinore Valley Municipal Water District located in Lake Elsinore, California. I appear before the committee today as President of the California Association of Sanitation Agencies (CASA), a statewide organization representing 124 publicly owned wastewater treatment works (POTWs) that provide water quality services to more than 25 million Californians. Aside from my agency, CASA represents small, medium and large agencies representing over 90% of California's sewer population. I also appear before you on behalf of our national organization, the National Association of Clean Water Agencies (NACWA) that represents nearly 300 POTWs across the country including numerous California wastewater agencies. Collectively, NACWA members provide wastewater treatment services to 80% of all sewer communities.

At the outset, we are grateful for the opportunity to appear before the Committee and to lend our support to the Committee's efforts to address climate change impacts. The Clean Energy Jobs and American Power Act (S. 1733), sponsored by Chairman Boxer and Senator John Kerry, represents a significant step in this endeavor. Equally important, S. 1733 will position our nation to leverage economic opportunities that will evolve from the new energy efficient economy.

POTW owners and operators believe we can play an important role in participating in climate change solutions. We generate sources of renewable energy such as digester gas, biosolids, and biodiesel fuel that if harnessed can reduce energy consumption and reduce greenhouse gas emissions. We also produce recycled water - a climate resilient water supply.

CASA and NACWA believe that water supply and water quality are like the canary in the coalmine. Our member agencies will experience the first significant infrastructure impacts of climate change. POTWs will be among the hardest hit by climate change. Because most communities use gravity to convey wastewater to

treatment plants, wastewater plants are generally located at the low point in each watershed. In coastal areas, plants are often located along the coast or within an estuary. Even in the case of inland locations, plants and the outfalls are within river valleys and floodplains. Therefore, wastewater agencies will acutely experience the effects of either sea level rise or storm surge events attributable to climate change.

Wastewater collection systems are already stressed when managing wet weather flows. Under climate change conditions, we expect an increase in extreme storm events - indeed, recent weather events in places like Atlanta and Louisville appear to be a portent of the new climate-modified environment we face. These extreme storms can exceed the current capacity of much of our wastewater infrastructure, meaning we will need to invest significantly in upgrading systems to prevent raw sewage overflows from endangering public health.

In the West, and particularly in my state of California, we are experiencing severe drought that has wreaked economic havoc in the Central Valley, the nation's most productive agricultural region, due to greatly reduced water supplies. Throughout California, the impact of unpredictable precipitation and decreased water content in snowpack has resulted in a statewide effort to reduce water consumption. This is being done through conservation efforts and the consideration of construction of alternative water supply production such as recycling and desalination projects.

Across the nation, climate analyses illustrate that there will be modified weather patterns that, depending on the region, will produce too much or too little water. In each instance, this will impose substantial operational costs upon public agencies. For example, severe storm events can lead to surges of wastewater flows that can overwhelm collection systems and treatment plants. Alternatively, drought conditions can lead to reduced flows and increased concentration of pollutants that comprise the wastewater flows. In each case, these events will likely require

changes in treatment system operations and control technologies. Other impacts that we believe our agencies are expected to encounter include: rising sea levels that inundate infrastructure leading to increased health risks, warmer ambient surface water temperatures which will likely lead to new regulatory requirements and associated treatment needs, and decreased potable supplies which will require greater reuse and recycling of wastewater effluent.

These are new and real challenges that public officials must address in addition to the mounting demands on our limited resources for traditional infrastructure needs.

THE NEED FOR ADAPTATION ASSISTANCE

Today, NACWA and the Association of Metropolitan Water Agencies (AMWA) have released a study on the kinds of impacts and challenges the wastewater community expect to encounter, and the projected costs of meeting those challenges. Titled “Confronting Climate Change: An Early Analysis of Water and Wastewater Adaptation Costs”, the report examines the likely climate-related effects to our water resources and the resulting impacts to our water systems. I provide a copy this study and request that it be included as part of the formal committee record along with my testimony. I will highlight the findings below.

As CASA and NACWA have testified in the past, current infrastructure demands that our agencies must meet already are estimated to exceed half a trillion dollars. This amount does not take into account the costs to address challenges of climate change. According to the NACWA/AMWA report, we expect the costs for water and wastewater agencies to adapt to climate change to be in the range of one-half to one trillion dollars just thru 2050, as explained in greater detail below.

We also believe that climate change presents us with opportunities. It is forcing our agencies to find ways to build upon the innovative energy savings developed over the past few decades. According to Water Environment Research Foundation,

POTWs could generate ten times the amount of energy required to actually treat wastewater flows. In fact, these public agencies have the potential of producing up to twelve percent of nation's energy demand. The development of this important legislation should incorporate this underutilized energy resource as part of the solution to reduce greenhouse gas emissions and advance energy security. We therefore request that the committee explicitly identify biogas and biosolids as renewable energy resources for purposes of meeting the goals and objectives of S. 1733.

With these general points of interest, I would like to turn to specific provisions contained in S. 1733 that we believe offer real promise to reduce the impacts of climate change upon our agencies and move the nation toward a sustainable energy policy.

We are pleased that S. 1733 recognizes the unique challenges that climate change will pose to our nation's water, wastewater and stormwater utilities and includes provisions to help address those challenges. Specifically, S. 1733 includes the "*Water System Mitigation and Adaptation Partnerships*" (Section 381) program which would establish a competitive grants program to assist water systems with adaptation needs. The nation's water, wastewater, and stormwater utilities would be able to be eligible to compete for funding to undertake projects to adapt their operations to climate change impacts. Eligible projects include efforts to conserve water or increase the efficiency in its use, preserve or improve water quality, rebuild or relocate threatened infrastructure, protect source waters and ecosystems, or implement advanced treatment technologies such as water reuse, recycling, and desalination.

According to our early analysis, wastewater utilities across the U.S. can expect:

- Increased extreme precipitation events,

- Increased treatment requirements,
- Higher energy demand,
- Increased service disruptions from flood,
- Increased emergency response and recovery, and
- Declining safe and reliable water supplies.

Some of the adaptation strategies that wastewater facilities will likely use to address these challenges include:

- Increasing the use of both green and grey infrastructure and processes to manage wet weather flows, as well as more efficient treatment technologies. Though we anticipate green infrastructure technologies can help us manage larger volumes of stormwater to some degree, these approaches alone are insufficient. As witnessed by the recent flooding in Georgia, wastewater plants can quickly become overwhelmed and discharge partially treated or raw sewage due to extreme storm events unless there is sufficient capacity to handle the extra volume.
- Increasing the treatment of effluent, including cooling of the effluent, to address likely increased surface water temperatures of receiving bodies whose ecological health will be compromised under global warming.
- Relying more heavily on the use of recycling and reuse technologies so that wastewater can help compensate for the decrease in drinking water availability and supplies. In California, we have seen a dramatic increase in the interest to develop such projects to respond to the drought and ensure a safe and reliable water supply.

- Elevating pumping stations, building levees and, in some circumstances, relocating treatment works to avoid rising sea levels from rendering the wastewater plant inoperable.

These are just a few of the impacts and adaptation strategies considered by the report. This study, conducted by the consulting firm CH2M Hill, is an early assessment of the adaptation costs. It does not account for all likely impacts or future regulatory controls that policy makers may deem necessary. However, it does provide us with an understanding of the magnitude of the problems we in the wastewater sector face and the estimated price tag could be as high as \$1 trillion unless substantial reductions of GHG occur.

Even if our agencies and others initiate climate change mitigation programs and projects, existing federal programs fail to account for the fact that current atmospheric concentrations of greenhouse gases (GHG) ensures that our climate will undergo some degree of warming which will lead to severe impacts on our water resources and their treatment. CASA and NACWA firmly believe that if wastewater treatment facilities are to provide uninterrupted, high-quality service to their customers and install new technologies and processes to meet climate change challenges, any climate change bill must address these needs. We believe the Water Systems Mitigation and Adaptation Partnership program contained in S. 1733 is the correct approach and will establish a foundation to help communities manage climate change impacts that can impair our mission to protect human health and the environment.

RENEWABLE ENERGY AND POTW CONTRIBUTIONS TO SUSTAINABLE ENERGY

In addition to the important attention S. 1733 provides to focus on the impacts upon infrastructure and operations of wastewater treatment systems, we believe

that energy production should also be addressed. S. 1733 offers a number of avenues to enhance our nation's ability to develop alternative energy technologies to reduce emissions. For our purposes, we contend that the alternative energy production options should not foreclose any option.

In the case of wastewater treatment operations, the process of treating wastewater generates a significant resource for energy production in the form of biosolids. According to the Water Environment Research Foundation, biosolids contain enough potential energy to meet twelve percent of the nation's energy demand. In simple terms, this is enough energy to meet the annual power needs of New York City, Houston, Dallas and Chicago. Researchers have measured the raw energy content of biosolids and determined that the embedded energy is significant and can provide for significant energy production. Use of biosolids and biogas for energy generation can lead to enhanced stewardship in the way we can reuse this resource, create new employment opportunities and reduce greenhouse gas emissions.

Currently wastewater treatment plants produce only a fraction of the energy they need to operate. In order to ensure that our renewable energy portfolio is as diverse as possible, we need to incorporate the wastewater sector into the renewable energy production effort. In the San Francisco Bay area, a coalition of local agencies has begun to examine the feasibility of using this energy resource. We believe that projects like this offer a meaningful way to minimize waste products, increase the use of green energy technology, and reduce greenhouse gas emissions. Some states, such as Massachusetts and Colorado, already allow biogas and biosolids produced through the wastewater treatment process to qualify as renewable biomass for the purposes of including this energy resource in a state's Renewable Electricity Portfolio Standard.

We urge the committee to include language that will enable all wastewater treatment utilities to participate in the national Renewable Electricity Portfolio Standard program.

CONCLUSION

We support comprehensive climate change legislation and believe S. 1733 will put us on the path toward avoiding the catastrophic impacts climate change will have on our water resources. We believe the bill addresses critical adaptation challenges facing the water sector and look forward to working with you to provide a pathway for the wastewater treatment sector to help America become energy independent. I would be pleased to respond to any questions the committee may have at this time.