



**LOS ANGELES COUNTY
SANITATION DISTRICTS**
Converting Waste Into Resources

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House Committee on Transportation and Infrastructure

Subcommittee on Water Resources and the Environment

Hearing on Sustainable Wastewater Infrastructure:

Measures to Promote Resiliency and Climate Adaptation and Mitigation

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Testimony of Robert C. Ferrante

Chief Engineer and General Manager

Los Angeles County Sanitation Districts

Good morning, Chairman DeFazio, Chairwoman Napolitano, Ranking Member= Graves, and Ranking Member Rouzer, members of the Subcommittee and staff. My name is Robert Ferrante, and I am the Chief Engineer and General Manager of the Los Angeles County Sanitation Districts, where I have worked for 28 years. It is my great pleasure to participate in the hearing this morning on behalf of the Sanitation Districts to speak to you about the important topic of climate resiliency and the role that wastewater agencies can play in it. I would like to begin by stating my agency's support for H.R. 1915, the Water Quality Protection and Job Creation Act of 2021, which would authorize \$50 billion over five years for water infrastructure investments. We thank you for bringing this legislation forward. We appreciate your recognition of the critically important need for a strong federal commitment to invest in our Nation's clean water infrastructure, and that there are ways in which those investments can be put to work to not only protect water quality in our rivers, lakes and oceans, but also to help communities become more resilient to the effects of climate change.

Background

The Los Angeles County Sanitation Districts were formed in 1923, and today consist of 24 independent special districts that provide wastewater and solid waste services to about 5.6 million people in 78 cities and unincorporated areas in Los Angeles County. Many of our customers live in disadvantaged communities and have been hit hard by COVID-19. To maximize efficiency and reduce costs, the 24 Sanitation Districts work cooperatively with one administrative staff headquartered near the City of Whittier. Each Sanitation District has a Board of Directors consisting of the mayor of each city served, and the Chair of the County Board of

Supervisors for unincorporated territory. Each Sanitation District pays its proportionate share of administrative costs.

The Sanitation Districts protect public health and the environment through innovative and cost-effective wastewater and solid waste management, and, in so doing, convert waste into resources such as recycled water, energy, and recycled materials. Our facilities are not waste treatment or disposal sites, they are resource recovery facilities and support the goal of a more circular economy. In addition to managing about one-quarter of the County's municipal solid waste, we operate and maintain a regional wastewater collection system, that treats about half the wastewater in Los Angeles County. Collectively, the Sanitation Districts treat about 400 million gallons of water per day, which is enough to fill the Rose Bowl nearly five times a day. Over the last 50 years, the Sanitation Districts have been the nation's largest producer of recycled water. Our service area spans about 850 square miles , and to cover this large area, we have several distinct wastewater systems. Seventeen of the Sanitation Districts in the metropolitan Los Angeles area are served by a regional, interconnected system of facilities known as the Joint Outfall System (JOS). The JOS consists of seven wastewater treatment plants. Six upstream water reclamation plants (WRPs) capture low salinity, high-quality wastewater and produce a drought-resistant water resource: disinfected recycled water that is ready to use in a variety of applications without further treatment. Downstream, the Joint Water Pollution Control Plant, or Joint Plant, uses secondary treatment to treat two-thirds of the wastewater in the JOS along with the solids removed at the upstream plants.

The Sanitation Districts manage separate wastewater systems in the Santa Clarita Valley and the Antelope Valley. Each of these valleys is home to two WRPs that provide important sources of water for wildlife habitats and for municipal and agricultural reuse.

Water Recycling

We embarked on our modern water recycling program in 1949 when it was determined that upstream water reclamation plants would allow us to both handle wastewater generated by the burgeoning post-war development in our service area, and to produce recycled water, which even then was anticipated to become a critical resource in our semi-arid and drought-prone climate. The Sanitation Districts' first water reclamation plant, Whittier Narrows, began operation in August 1962 and nearly every drop of recycled water produced by that facility has been put to beneficial use since then, mainly for groundwater replenishment and later also for irrigation of nearby urban parks and green areas. Whittier Narrows was the first plant in the nation to be built solely for the purpose of water recycling. We subsequently built other water reclamation plants, and these plants now collectively supply approximately 95 million gallons per day (or 100,000 acre-feet per year) of recycled water to over 900 sites through partnerships with over 30 local water suppliers for a variety of uses, including industrial use, agricultural use, groundwater replenishment, and landscape irrigation.

In recent years, the need to develop local recycled water supplies as a means to be more climate-resilient has become more apparent than ever as we experience impacts from climate change. These include drought, extreme weather events, earlier snow melt, and sea level rise. This includes impacts in northern California where water is transported to other parts of the State via the State Water Project, as well as impacts in the Colorado River Basin, which is another

source of imported water for Southern California. Climate change is reducing the snowpack and affecting the timing of snow melt, both of which reduce water availability. Other factors driving interest in developing new recycled water projects include the need to plan for the possibility of a major seismic event along the San Andreas fault, which could disrupt imported water supplies for months and the extremely limited options for development of new sources of water.

Regional Recycled Water Project

With this as a backdrop, I would like to highlight a major new project that we are partnering on with the Metropolitan Water District of Southern California, which serves nearly 19 million people in six Southern California counties. The Regional Recycled Water Project first began with early planning and a pilot project in 2010. A \$17 million, 500,000 gallon per day demonstration facility at the Joint Plant was approved in 2015 and began operation in October 2019. The potential full-scale regional recycled water program would treat about 180 million gallons per day in order to produce up to 150 million gallons daily, or enough to serve more than 500,000 homes. Purified water from the advanced treatment facility would be delivered through 60 miles of new pipelines to the region's groundwater basins, industrial facilities and two of Metropolitan's treatment plants. In November 2020, the boards of directors for both agencies approved moving forward with environmental review, preliminary engineering, and public outreach, which are anticipated to take two to three years.

This project, which could become the largest of its type in the world, will replenish local groundwater basins, and has the potential to pursue direct potable reuse by delivering the recycled water to two raw water treatment facilities operated by Metropolitan for incorporation into the wholesale water supply system. The State of California is currently working on the

development of regulations for direct potable reuse, which are anticipated to be completed in 2023. This project would have the ability to produce roughly 10% of Metropolitan's annual water supply need and be a reliable new source especially when imported water is curtailed or cutoff by natural disaster or climate change. The Regional Recycled Water Project is estimated to cost \$3.4 billion, and while most of the cost will be paid for by the ratepayers, we will be looking for federal financing through programs such as the Clean Water SRF, WIFIA, Title XVI, and/or the Alternative Water Source Management Program, in order to help keep drinking water costs affordable for Southern Californians. All of these funding programs are essential not just to our project but for water recycling projects all over the country.

Food Waste to Energy Project

I would now like to turn to another major initiative we are developing to turn some of the 4,000 tons per day of food waste generated in Los Angeles County into energy by using both our solid waste and wastewater infrastructure. California has an extensive set of state laws to support Greenhouse Gas (GHG) and Short-Lived Climate Pollutant (SLCP) mitigation, increased use of renewable energy and diversion of waste from landfills. Because the Sanitation Districts manage both solid waste and wastewater, food waste diversion for co-digestion at the Joint Plant was a project that makes perfect sense for us. Following research and pilot testing, a four-year demonstration project was conducted in partnership with the private company, Waste Management, in which up to 60 tons per day of preprocessed food waste slurry was injected directly into a test digester. Based on the success of the demonstration project, we have initiated a very large-scale codigestion program, and Phase I of an energy strategy for the additional biogas. We are developing a diversified set of sources for food waste slurries from private sector

suppliers, as well as from our own food waste preprocessing facility installed at the Puente Hills Materials Recovery Facility in 2018. We currently receive about 300 tons per day of food waste slurry at the Joint Plant, and we have the potential to increase the amount accepted to about 600 tons per day.

The biogas is used in two ways. Some is sent to the Joint Plant's 20-megawatt power plant where the biogas is converted into electricity that runs the treatment plant, which is virtually self-sufficient. The remaining biogas is sent to a gas purification system to make fuel-grade renewable natural gas. The purification system can produce the renewable natural gas equivalent of 2,000 gallons of gasoline per day. This renewable natural gas is dispensed at the Sanitation Districts' nearby compressed natural gas (CNG) fueling station that is open to the public. By fueling cars, buses and trucks with renewable natural gas, this program produces a low carbon fuel that both reduces GHG/SLCP emissions through avoided landfill emissions and avoids fossil fuel use. We are still evaluating future options for use of the additional biogas that will be produced as the program grows, including production of additional renewable electricity for sale to the grid and injection of biogas into the natural gas pipeline system.

Conclusion

I hope that these projects can serve as examples of innovative projects that can be done right now at our nation's wastewater utilities to foster water resilience and to mitigate climate change by reducing GHG/SLCP emissions. These projects are converting wastewater treatment plants into resource recovery facilities where clean water, energy, vehicle fuel, and soil amendment are generated which supports a circular economy and reduces greenhouse gas

emissions. H.R. 1915 and this Committee's leadership can assist the Sanitation Districts' and the nation's wastewater facilities achieve a more resilient and reliable future.

In conclusion, I thank the Subcommittee for the opportunity to be here today to share information about our projects. If you have any questions, I would be happy to answer them.

DOC 6140226

ATTACHMENTS

1. Metropolitan Water District and Los Angeles County Sanitation Districts, “A New Source of Water for Southern California: Regional Recycled Water Advanced Purification Center,” January 2021.
2. Los Angeles County Sanitation Districts, “Food Waste Recycling,” January 2021.