

David Nahai Consulting Services, Inc.  
1875 Century Park East  
Suite 1120  
Los Angeles,  
California 90067  
USA

H. David Nahai,  
President

October 26, 2022

Re: UN 2023 Water Conference – Stakeholder Inputs for Themes

The Impacts of Climate Change on Water Supply in Los Angeles and the Steps Needed to Address the Crisis.

By: H. David Nahai

The following submittal concerns principally the theme of “*Water for Climate, Resilience and Environment*” and seeks to present the impacts of climate change on the water supply situation in Los Angeles and the actions being taken to combat the problem.

First, it should be noted that the City of Los Angeles (home to 4 million people) is heavily dependent on imported water. The bulk of its water comes from long distances, such as the Colorado River and snowmelt from the Eastern Sierra Mountain ranges. However, the advent of climate change and other factors mean that the imported water, once so plentiful and inexpensive, is now dwindling, unpredictable and costly. California is in the midst of year three of extreme drought, recording the driest months dating back over 100 years. We must adapt to a hotter, drier climate.

For Los Angeles, we must pursue the following 7 strategies to secure our water future. Although these points are somewhat specific to LA, I hope that sharing LA’s story can be helpful to other areas faced with similar challenges. Fortunately

for LA, much of the work is already underway. However, much remains to be done.

1. Conservation
2. Infrastructure repair
3. New building standards
4. Wastewater recycling
5. Rainfall capture
6. Aquifer remediation
7. Agricultural advances

1. Conservation. LA has done well but more can be done. It is reported that over the decades our population has grown considerably, and yet our water consumption has declined. Still, compared to other parts of the world, water consumption in LA remains high. Our goal is to reduce per capita use by 25% by 2035.
2. Infrastructure. Water pipes and treatment systems throughout the US are deteriorating. 240,000 water main breaks occur in the US every year. This is a waste of billions of gallons per day. We must make the needed investments to upgrade our water infrastructure.
3. New building standards. We have made good progress in LA with ordinances which require water saving appliances to be incorporated in development. So much more can be done by way of legal mandates, especially with respect to gray water systems.
4. Wastewater recycling. This has to be a crucial element of any program to produce new water. In LA we've spent billions of dollars building facilities to treat our wastewater to very high degrees (secondary and tertiary levels) only to discharge it to the ocean. Our current goal is to cease discharges of wastewater to the ocean by 2035 and to recycle that water.
5. Rainfall capture. It is estimated that in LA, 60% of the rain that falls on the city is lost. It hits impervious surfaces enters a storm drain system and runs to ocean untreated. In doing this, the rain carries the pollutants on our streets straight to the shore. It is thus a water quantity and water quality problem. We must implement stormwater capture projects to keep more of our rain. Fortunately, LA County voters approved a measure that infuses \$280 million into the water sector to fund stormwater capture projects.

6. Aquifer remediation. In LA roughly 10% of our water comes from our groundwater resources. Unfortunately, our main aquifer has some contamination. However, work has begun to restore the aquifer to health.
7. Agriculture. The vast bulk of the water used in California is consumed by agriculture. In addition, farm runoff has been a source of contamination to surface water and groundwater resources. On top of this, over pumping of groundwater in many farm areas has led to surface subsidence and degradation of groundwater assets. Much remains to be done, but the lessons of the drought together with prescriptive laws such as the Sustainable Groundwater Management Act will bring improvements.