



THE METROPOLITAN WATER DISTRICT
OF SOUTHERN CALIFORNIA

Office of the General Manager

April 10, 2017

REVISED

Ms. Mary Nichols, Chair
California Air Resources Board
1001 I Street
Sacramento, CA 95814

Dear Ms. Nichols:

Comments on the 2017 Climate Change Scoping Plan Update –
The Proposed Strategy for Achieving California’s 2030 Greenhouse Gas Target

The Metropolitan Water District of Southern California (Metropolitan) appreciates the opportunity to comment on the California Air Resources Board’s (CARB) January 20, 2017, draft of the 2030 Target Scoping Plan. Metropolitan supports CARB’s comprehensive approach to managing greenhouse gas (GHG) emissions and appreciates the overall goals of the Scoping Plan pursuant to California Assembly Bill 32 and Governor Brown’s Executive Order B-30-15.

In order to better address potential energy savings in the water sector as a whole, Metropolitan recommends that the water sector section of the Scoping Plan should clearly emphasize the following points:

- 1) Consistent with the state’s policy established in AB 685, water agencies have a primary obligation to provide safe and reliable water before meeting GHG emission reduction goals,
- 2) As noted by the Department of Water Resources, the greatest energy consumption related to water is from end uses. Consequently, the greatest potential for energy savings also resides with water end users, where water conservation and efficiency play an important role, and
- 3) Recognizing that water agencies have already developed significant renewable energy supplies and will continue to develop cost-effective renewable energy projects, the continued de-carbonization of the state’s electrical supply will benefit the overall water sector.

Background

Metropolitan is the primary wholesale water purveyor for Southern California and is comprised of 26 member agencies which provide water to nearly 19 million Southern California residents. Metropolitan’s mission is to “Provide its service area with adequate and reliable supplies of high-quality water to meet present and future needs in an environmentally and economically responsible

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way.” As a steward of Southern California’s water resources, Metropolitan has been committed to increasing preparedness and addressing climate change for decades.

Metropolitan’s original 1996 Integrated Water Resources Plan (IRP), with subsequent updates, set a regional resource development path that emphasized the development of a diversified resource portfolio, including conservation, recycled water, desalination and water storage – all fundamental investments that increase resiliency to a changing climate. In 2002, Metropolitan’s Board of Directors adopted a set of Climate Change Policy Principles that recognize the importance of incorporating potential climate change impacts in the planning and environmental review of water supply and infrastructure projects. Since then, Metropolitan has been an active participant in climate change forums, funding research and collecting data to assess the impact of climate change on current and future water supplies. Additionally, Metropolitan continues to take steps to progressively maintain and improve its water conveyance and treatment systems to minimize energy use and improve climate change resiliency. It is with this perspective that Metropolitan provides the following comments for your review and consideration.

General Comments

First Priority is Delivery of Safe, Reliable, High-Quality Water

Water agencies must first meet their obligations to provide safe and reliable water before meeting GHG emissions reduction goals. AB 685 (Eng, Ch. 524, 2012) established state policy to ensure “every human has the right to safe, clean, affordable, and accessible water.” Since its enactment, the policy has directly impacted a broad range of water issues in California. Due to its significance in continuing to shape related state programs and regulations, Metropolitan believes it is important to move the referencing paragraph that is currently the last paragraph on page 127 to the first paragraph of the Water Chapter on page 125 to provide the proper backdrop to any proposed measure and consideration. Metropolitan concurs with the statement that the human right to water “should take precedence over achieving GHG emission reductions from water sector activities where a potential conflict exists” (page 127, third paragraph).

Furthermore, water quality is also an important component of water supply which has inevitable implications on overall energy use. Many of the treatment techniques that are in practice today to meet increasingly stringent water quality regulations require more energy (e.g. ozone, ultra-filtration, nano-filtration, reverse osmosis, etc.). Therefore, it is all the more critical to consider water quality and supply needs in the context of how any proposed measures will impact access to safe, clean and affordable supplies.

End-Uses Represent The Greatest Source of Water Sector Energy Demand

While the conveyance, treatment, and distribution of water represents the single largest use of energy within the water sector, this energy and associated GHG emissions are significantly less than the collective amount of energy used for water end-uses. As shown in Figure IV-4 of the Scoping Plan, 12 percent of the total energy used in the state is related to water, but 10 of those 12

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percentage points are related to customers' end-uses, including heating, cooling, pressurizing, and industrial processing. Overall, the Scoping Plan places greater emphasis on the issues, goals, and potential actions related to the 2 percent fraction, than the larger 10 percent where the greatest energy savings can be realized. The Water Section should be rewritten to include more discussion on conservation and reduction in energy for end-uses, including natural gas use.

Water Agencies Will Continue To Implement Onsite Renewable Generation When It Is Economically Feasible, And Consistent With Providing Safe, Affordable And Reliable Supplies. The GHG Emissions Achieved From These Investments And Practices Will Be Supplemental And Complimentary To The State's Overall Effort In Reducing GHG Emissions From The State's Energy Grid. Metropolitan's Colorado River Aqueduct operations demonstrate this point. While the energy intensity to move water on Metropolitan's Colorado River Aqueduct (CRA) is relatively constant, Metropolitan's annual GHG emissions related to electricity consumption on the CRA is highly variable. Metropolitan receives a substantial amount of zero-emission hydro-produced electricity from the Hoover and Parker dams. In some years, hydropower is sufficient for almost all of Metropolitan's pumping needs along the CRA. However, when hydropower is insufficient to meet Metropolitan's CRA energy needs, Metropolitan purchases electricity through the CAISO or energy market to make up the difference. Therefore, the indirect GHG emissions attributable to CRA pumping are not linearly related to the amount of water moved.

The highly variable need for purchased electricity in any given year creates a mismatch with potential on-site renewable electricity generation facilities that would generate similar amounts of power. The amount of renewable capacity required to ensure sufficient availability of electricity would result in excess electricity in years where Metropolitan needs to purchase less electricity. There would also be timing mismatches between intermittent renewable generation and continuous 24/7 pumping needs. This electricity would not be responsive to the supply and demand balancing controls established by CAISO and would likely be disruptive to electricity markets, thus making overall efforts to incorporate renewables more difficult.

There are opportunities for implementing renewables alongside water operations, and Metropolitan has pursued those opportunities where they complement water operations and/or are economically feasible including 131 MW of hydropower and 4.5 MW of PV solar. However, purchased electricity will remain a critical component of reliably providing high-quality water to our service area. As water agencies use about two percent of the state's overall energy use and obtain most of the needed energy from electrical utilities, continued efforts to reduce the GHG emissions of the state's electrical supply will provide the most efficient avenue toward reducing the GHG's associated with the energy required to pump, convey, and treat water.

Specific Comments

In addition to, and in support of, these general comments, Metropolitan offers the following specific suggestions:

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1. On page 126, move the third paragraph referencing AB 685 to beginning of the Water Chapter on page 124.
2. On Page 125, the beginning of the third paragraph, revise text to read “The principal source of GHG emissions from the water sector comes from the fossil fuel-based energy consumed for water end uses (e.g., heating, cooling, pressurizing, and industrial processes), and the fossil fuel-based energy used to “produce” water (e.g., pump, convey, treat)~~used to “produce” (e.g., pump, convey, treat) water and the fossil fuel based energy consumed for water end uses (e.g., heating).~~ This order better matches the order of Figure IV-4, where 10 percent of the 12 percent of energy use attributed to water is shown to be used for end-uses. The larger percentage should be referenced first.
3. On Page 125, fourth sentence of the third paragraph, revise text to read “Within California, the energy intensity of water varies greatly depending on the geography, water source, and end use.” Since consumer end-use is the greatest source of energy use related to water, it should be listed as one of the factors that cause the energy intensity of water to vary.
4. On Page 125-126, last sentence of the third paragraph on Page 125 that continues to Page 126, revise text to read “An interactive map on the DWR website allows users to see a summary of the energy intensity of regional water supplies, ignoring end-use factors.” Adding this text better reflects the data displayed by the DWR website.
5. On Page 126, the last three sentences of the first paragraph include statements regarding end uses and demand offsets which should be revised or deleted. First, reducing customer end uses has the potential to save direct energy use, such as natural gas use for heating water, as well as the energy imbedded in water and waste water treatment. Second, the discussion of offsets does not capture the complexity of long-term demand growth and resource development as it relates to GHG emissions.
6. On Page 128, first bullet under “Ongoing and Proposed Measures”, revise text to read “...State law requires a 20 percent reduction in urban per capita water use...”, as SBx7-7 requires a 20 percent reduction in urban per capita water use, and not urban water use as a whole. Make equivalent changes in any location where the 20 percent reduction is referenced.
7. On Page 126, fourth and fifth bullet under the “Looking to the Future” section, combine the two bullets and revise text to read “Continue to decarbonize the state’s electrical supply and fund water agency activities that reduce the overall energy intensity of the water sector ~~Increase the use of renewable energy to pump, convey, treat, and utilize water”~~”.

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8. On Page 127, third paragraph of the “Cross-Sector Interactions” section, revise text to “Altogether, agriculture uses about 40 percent of the State’s applied water use ~~managed water supply~~”. As footnoted, this statistic is based on a DWR statistic for applied water use, which refers to the total amount of water that is diverted from any source to meet the demands of water users without adjusting for water that is used up, returned to the developed supply, or considered irrecoverable.

In addition to the above suggestions, Metropolitan also supports the comments submitted by the California Municipal Utilities Association and The Association of California Water Agencies.

Metropolitan appreciates CARB’s continued work on the Scoping Plan to ensure that California reduces its GHG emissions efficiently and thoughtfully.

Very truly yours,



Deven N. Upadhyay
Manager, Water Resource Management

LL:vsm