November 13, 2015

Shelby Livingston

Climate Investments Branch Chief

California Air Resources Board

1001 “I” Street

Sacramento, CA 95814

Dear Ms. Livingston,

We appreciate the opportunity to submit comments on the Cap-and-Trade Auction Proceeds Second Draft Investment Plan: Fiscal Years 2016-17 through 2018-19 (“Plan”). We applaud the Cap-and-Trade auction for providing an opportunity for the State to invest in projects that help California achieve its climate goals and provide benefits to disadvantaged communities. We strongly encourage the Investment Plan to recognize the nexus between water conservation and greenhouse gas (GHG) emission reductions.

There is a strong nexus between water and energy and water and greenhouse gas emissions. Almost 20% of California’s total electricity use, and 30% of non-power plant natural gas go toward the movement, heating, and treatment of water throughout the state. Investing in water management technologies that help conserve water will translate into significant system-wide water, energy, and cost savings for utilities in the form of avoided costs for water, energy, treatment, and future capital investments, and avoid greenhouse emissions related to this energy use.

To fully address GHG reductions, the urban water cycle must be included, as supported by the California Energy Commission’s *California’s Water Energy Relationship* staff report, which is part of the *Integrated Energy Policy Report* proceeding. It was prepared for the purpose of promoting the greater understanding of the critical symbiotic relationship between the water and energy sectors. It finds a clear relationship between the State’s water and energy resources. As stated before, energy is needed for moving, heating, and treating water. Conversely, water is used by turbines to generate power from hydroelectric thermal power plants, which depend on water for cooling. WaterSmart’s comments focus primarily on the energy for water relationship rather than the water for energy relationship.

As was noted in the Plan, reducing demand for both cold and hot water is a critical component in removing carbon emissions from California’s water system. WaterSmart supports the Plan’s recommendation to target “investments to power water systems with more renewable energy sources, improve energy efficiencies, and strategically reduce demand for carbon-intensive water”. WaterSmart is currently using behavioral science “nudges” in more than three dozen utilities in California to educate their customers about how much water their households use, how this usage compares to that of similar households and businesses, and how they can save water, energy, and money. Increasing public education and awareness with more precise, personalized and comparative information on water-use through monitoring software is proven through an independent evaluation to reduce water demand by 4.6% to 6.6%.[[1]](#footnote-1) In addition, customers receiving social-norms based messaging are between two and six times as likely to participate in water conservation programs offered by the utility, such as appliance rebates, on-site water evaluations, and landscape conversions, further reducing demand for imported water and energy. Along the way, customers that receive social-norms based reports have improved trust and confidence in their utility, raising customer satisfaction levels.

By deploying behavioral based, water-use monitoring software in the 412 largest California utilities, at 5% water savings, California will save 86,755,844,776 gallons of water per year, 183,644,857 kWh in energy/year and eliminate 419,646 mtCO2e/year. This volume of water, energy and emission savings is considerable and must not be ignored when developing California’s carbon reduction investment strategy.

In order to properly acknowledge the impact of the water-energy nexus on GHG emissions reductions, we urge you to take the following actions:

1. Develop or adopt a valid carbon accounting system for water and wastewater that includes greenhouse gas emission reductions from both cold water and hot water savings. Consider using the [University of California, Davis](http://cwee.ucdavis.edu/research/data-analytics/) system or [The Climate Registry system](http://www.theclimateregistry.org/wp-content/uploads/2015/03/Water-Energy-GHG-Technical-Brief-Draft-March-2015.pdf)[[2]](#footnote-2), among others for calculating the associated GHG emission reductions to water conservation.
2. Utilize water experts to develop California’s approach to decarbonizing the water-energy-greenhouse nexus. Water is different from electricity and gas, and we encourage you to seek out experts in this area to be part of your team.
3. Consider adopting the areas of the 412 large water agencies as the boundaries for determining greenhouse gas saving areas in the water-energy-greenhouse gas nexus.

California has continued to be a leader in this area and we would like to see that leadership acknowledged in the Plan. The Public Utilities Commission has approved the utility use of a water-energy calculator to allow better estimation of energy savings made possible by water conservation. This is representative of a huge step forward, opening the door for better collaboration between energy utilities and water suppliers. This Plan has the potential to continue the momentum from this decision.

We thank you for the opportunity to submit comments on the Cap-and-Trade Auction Proceeds Second Investment Plan and the need for acknowledging the water-energy-greenhouse gas nexus in accomplishing California’s laudable climate goals.

Sincerely,



Peter Yolles

Founder, Chief Policy Officer

1. California Water Foundation, 2013 http://californiawaterfoundation.org/uploads/1389391749-Watersmart\_evaluation\_report\_FINAL\_12-12-13(00238356).pdf [↑](#footnote-ref-1)
2. Water-Energy GHG Guidance Version 1.0, The Climate Registry, December 2015. [↑](#footnote-ref-2)