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WaterSmart Comment Letter: Phase Two Water Energy Technology (WET) Program

Dear WET Program Staff,

We appreciate the opportunity to submit comments on the Phase 2 Draft Grant Application Manual for the Water Energy Technology (WET) Program. Please see comments attached.

Thank you,

Peter Yolles

Additional submitted attachment is included below.

September 1, 2015

California Energy Commission

Water Energy Technology (WET) Program

1516 9th Street

Sacramento, CA 95814

Dear WET Program Staff,

We appreciate the opportunity to submit comments on the Phase 2 Draft Grant Application Manual for the Water Energy Technology (WET) Program. We strongly support the creation of the WET Program and applaud its objectives to significantly reduce water consumption, energy use, and associated greenhouse gas emissions. In order to employ all effective tools in pursuit of these goals, we respectfully request amending the water-use monitoring category to allow proven, behavioral change technologies that reduce both water- and energy-use and provide substantial greenhouse gas (GHG) emission reductions.

WaterSmart's technology provides a valuable drought tool that immediately and cost-effectively conserves water, helping to meet the average 25% water reduction mandate and achieve the state's aggressive greenhouse gas emission goals. There is a strong nexus between water and energy and water and greenhouse gas emissions. About 20% of California's total electricity use goes

toward the movement, heating, and treatment of water around the state. Investing in water management technologies that help conserve water and reduce greenhouse gas emissions through behavioral change 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.

WaterSmart is currently helping more than two dozen utilities in California educate their customers about how much water their households use, how this usage compares to that of other households, and how they can save water, energy, and money, all with the goal of motivating them to use significantly less water. Increasing public education and awareness with more precise 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] 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.

Deploying behavioral based, water-use monitoring software in the 400 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.

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[1] California Water Foundation, 2013 http://californiawaterfoundation.org/uploads/1389391749-Watersmart_evaluation_report_FINAL_12-12-13(00238356).pdf

The Governor's Executive Order B-29-15 includes a list of new technologies to consider eligible in the WET program, including water-use monitoring software. We appreciate the inclusion of water-use monitoring software as an example of an eligible technology for the Industrial/Commercial and Residential area in order to realize the water and energy saving benefits in these water-use sectors. As stated above, we strongly request amending the water-use monitoring category to allow proven, behavioral change technologies that reduce both water and energy-use. Water-use monitoring software is an emerging technology that facilitates strong behavioral changes to generate on-site energy, water, and greenhouse gas savings through reduced hot water consumption in residential, industrial, and commercial sectors, as well as providing substantial water-use, energy-use and GHG emission reductions system-wide.

What are some of the main barriers preventing implementation of advanced water and energy saving projects?

Water utilities are traditionally risk averse and may not be willing to try new technologies without significant support from state or local agencies. Even when technologies have been proven, utilities often struggle to find funding sources for new technologies that have not previously been budgeted. State funding support and reinforcement will help create the strong spark needed to overcome the main barriers of upfront costs and program inertia, accelerating deployment of innovative drought technologies such as water-use monitoring software. In

addition, further focus and direction from state agencies on how to address the water-energy-ghg nexus will help energy and water utilities allocate additional resources to this area.

How can the WET Program best bring benefits to disadvantaged communities?

We recommend the WET program prioritize projects that demonstrate benefits for disadvantaged communities and require projects to report on results for specific groups. Water-use monitoring software generates custom water reports tailored for individual homes in targeted customer segments, including information on available rebates and other programs to help consumers further reduce their water and energy usage. Using targeted messaging, disadvantaged communities can be the first to receive home water reports and have early or exclusive access to the available rebates, direct install programs, weatherization, efficiency programs, and other products and services offered by their water and energy utilities. In addition, by saving water and energy, communities will save money on their water and energy bills.

What grant award amounts would be most appropriate for customized projects?

For customized projects, we respectfully recommend a minimum grant award of $100,000 and 50% cost-share to effectively accelerate deployment of water-use monitoring software to achieve significant water and energy savings.

Are there any operational, regulatory, or other constraints that prevent installing projects quickly?

Water-use monitoring software is a cost-effective technology that achieves immediate water conservation for utilities throughout California. The software can be implemented within 30 days, and water and energy savings can be realized within a few months. There are no operational or regulatory constraints that prevent the installation of this effective technology.

What is the capability of obtaining utility data showing pre- and post-energy and water use? If utility data is not available, how will pre- and post-results be documented?

WaterSmart routinely uses Randomized Control Trials (RCTs) to determine program effectiveness in each of our 40+ utility partnerships. By randomly assigning customers to either the project group or the control group, any observed effect is isolated to that one intervention with a high degree of confidence. In addition, utilities with smart meter data for both water and energy improves our granularity of data and, together, can determine how much energy has been saved from reductions in water consumption. (Social norms can still be effectively used to reduce consumption even without smart meters) To illustrate, WaterSmart is currently conducting such a program with the UC Davis Center for Water-Energy Efficiency. The program will evaluate changes in water use and natural gas consumption with hourly interval data to determine the amount of

natural gas saved from reductions in hot water consumption across residential customers. In sum, water-use monitoring software programs that utilize social norms-based messaging are proven to reduce water consumption, and therefore energy consumption and greenhouse gases.

We encourage the California Energy Commission to utilize 5-10% of the WET program's funding for evaluation, measurement and verification of the various technologies to fully realize related energy and water saving benefits.

We thank you for the opportunity to submit comments on the WET Program and appreciate your support in accelerating the deployment of needed technologies that are proven to be cost-effective and immediately responsive to the state's historic drought.

Sincerely,

Peter Yolles

Founder