From:	Erik Porse
To:	DWR Water Use Efficiency
Subject:	EO B-37-16 UAG workshop: Comments
Date:	Monday, September 12, 2016 4:22:42 PM
Attachments:	UCLA_UAG_Comments_v10Sept16.docx

Greetings,

Please find attached comments from the California Center for Sustainable Communities at UCLA regarding implementation of urban water use efficiency targets as part EO B-37-16.

These comments are based on our participation in the Urban Advisory Group workshops to date. They incorporate academic perspectives based on research from our current and on-going projects for urban water management in California.

Please contact us with any questions.

Regards,
Erik Porse,

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"They were talking one day about highways and where they got built, and here were these mathematical formulas about traffic density and population density and so on, and all of a sudden I said to myself: 'This is completely wrong. This isn't why highways get built. Highways get built because Robert Moses wants them built there.'"

- Robert Caro, quoted in the New York Times (2012)

To: EO B-37-16 Urban Advisory Board

From: UCLA California Center for Sustainable Communities, UCLA Institute of the Environment and Sustainability, 619 Charles E. Young Dr East #300, Los Angeles, CA, 90095

Re: Comments on UAG workshops for EO Implementation

11 September 2016

Greetings,

We are writing to provide input to California state agencies working to implement EO B-37-16. As part of the Urban Advisory Group, our center participated in the first workshop in Sacramento and the second workshop focused on targets in Los Angeles.

We strongly support the targets-based approach proposed thus far during the workshops. Water budgets based on population and usage expectations for urban retailers are critical for improved future management of water in California, while research suggests that such targets are more effective for individual users to understand. We have taken a similar approach to specify per capita use targets for metropolitan residents as part of a large systems analysis of L.A. County water providers (which consist of over 100 sizable retailers).

The four categories of targets- indoor use, outdoor use, commercial and industrial consumption, and losses- are useful delineations.

The indoor use target of 55 gpcd is a progressive but achievable goal. We have estimated 50 gpcd in our analysis.

For commercial and industrial uses, we recognize the difficulty of assessing potential conservation. In our analysis, we use 2010 reported numbers, which is dated and subject to uncertainties around economic prosperity. As such, we strongly encourage state agencies to require better reporting across all sectors of urban water use- including commercial and industrial- as part of or parallel to the implementation of the EO. The noted difficulties of assessing water conservation potential cannot be addressed without effective data.

For outdoor use, the proposed framework makes sense and may be realistic, but we advocate more progressive measures. For instance, outdoor water use can better protect the community investments in urban landscapes by quantifying water requirements to maintain existing urban tree canopies. Urban trees, while they require maintenance and may disproportionately benefit wealthier neighborhoods as currently distributed, do provide valuable ecosystem services such as shading to reduce urban heat island effects and energy consumption. Trees take decades to

reach maturity and urban water conservation measures should look to preserve existing healthy tree canopies while expanding public investments in areas without canopies. As a baseline for outdoor water consumption, an urban water use target could assess the water needs for current (and expanded to improve social equity) urban tree canopies, supported by systematic public investments in tree maintenance and planting. A smaller, additional volume of water could be added to the outdoor use target for water conscious landscapes that preserve and enhance property values. California needs a fundamental reconsideration of current outdoor landscapes, regardless of age.

While the increasingly stricter MWELO targets are a good start, state agencies should better align the targets based on best available scientific information for urban evapotranspiration rates. Using measurements of evapotranspiration across many urban species in L.A. City, collaborators at the University of Utah have quantified uncertainties associated with ET rates in urban stations within the California Irrigation Management Information System (CIMIS) (Litvak et al, forthcoming). Addressing this uncertainty could better determine actual water use and loss on urban landscapes, but would require better data that validates CIMIS readings. We do recognize that the current system of assessment, monitoring, and data collection is accepted by most participants, but an opportunity exists here to improve science-based policy making for urban environments.

We support guidelines for implementing mandatory dual meters for measuring account-level indoor and outdoor use, which in time should be reported as part of monthly consumption statistics.

We also advocate that state agencies provide better guidelines for water agencies implementing turf replacement programs. Our current research shows that such programs often rely on significant assumptions (such as assumed water savings per square foot) and consist of limited measurement and verification procedures. Linking turf replacement with tiered water rates can help incentivize households to make use of public investment in lawn removal, but when the agencies are not well linked, such as when the agency providing the rebate is not the billing agency, the result can be poor investments that often go to higher income households.

We strongly support the purchasing, analysis, and distribution of imagery data by DWR to support the assessment of irrigable land by retailers. This data has many uses across sectors. For instance, we have used high-detail imagery of LA County, which has good data as part of the LARIAC, to study urban tree canopies, assess parcel-level energy consumption (both total per parcel and per square-foot), determine likely outdoor water use in L.A. City households, support decision models for installation of on-site stormwater controls such as Low Impact Development, and others. In our expanding analysis of building scale energy use (*LA Energy Atlas*), we currently face challenges of working in regions with limited or expensive data. Making this data available to not only water retailers, but also stormwater agencies, city planning departments responsible for developing climate action plans, and

other local governments would be highly valuable. Not all jurisdictions may as of yet have capacity to use such data. Nevertheless, connecting robust and updated datasets such as imagery, real estate data, account-level water and energy use, and census data would significantly improve local planning, helping the state to meet goals across many resource sectors such as energy efficiency and conservation, water use reductions, and greenhouse gas mitigation.

Finally, though not specifically required, we encourage state agencies implementing the EO to better incorporate GHG mitigation frameworks into current or future procedures. This can be a question of jurisdiction. As communities develop Climate Action Plans, potable water must be included. Local governments should have readily available information for estimating GHG emissions. Moving water agencies to consider GHGs, whether they are municipal utilities or Investor-Owned Utilities (IOUs), in planning would have benefits across sectors and be an actionable way to promote improved planning at the water-energy nexus.

Please contact us with any questions.

Regards,

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