January 29, 2016

The Honorable Edmund G. Brown, Jr.
Governor
State of California
State Capitol
Sacramento, CA 95814

RE: Cap and Trade Funding for the Wastewater Sector

Dear Governor Brown:

I am writing on behalf of the California Association of Sanitation Agencies (CASA) to express our support for the cap and trade fund allocations proposed in your budget earlier this month, for proactive initiatives to mitigate climate change impacts. These allocations will facilitate greenhouse gas (GHG) emission reductions through enhanced bioenergy production, waste diversion, and healthy soils. However, one sector with significant potential to mitigate climate change impacts is noticeably absent from the allocations: municipal wastewater. CASA respectfully requests that the budget be revised to adequately reflect the collaborative assistance the wastewater sector can offer in these efforts by allocating a specific subset of cap and trade funds for wastewater projects as described below.

CASA is an association of local agencies, engaged in advancing the recycling of wastewater into usable water, maximizing beneficial use of biosolids, generating renewable energy, and producing other valuable resources. Through these efforts we help create a clean and sustainable environment for Californians. CASA members are actively engaged as partners with the state to fulfill by 2020 a number of mandates and initiatives intended to mitigate climate change impacts. These include: (1) providing 33% of the state’s energy needs from renewable sources (and 50% by 2030); (2) reducing carbon dioxide equivalent emissions to 1990 levels; (3) reducing the carbon intensity of transportation fuel used in the state by 10%; (4) recycling 75% of the solid waste generated in the state; (5) reducing the release of short lived climate pollutants; and (6) advancing the objectives of the Healthy Soils Initiative through the recycling of biosolids to agricultural land.

Wastewater agencies have a multitude of projects that can provide tangible GHG reductions consistent with the allocated provisions in the budget. Of tremendous importance is the fact that wastewater agencies can help the state meet its objectives largely by utilizing existing infrastructure, with minor modifications. This makes wastewater agency projects immediate, cost effective and extremely competitive candidates for funding through the proposed budget allocations. While the proposed budget includes provisions which may be available to the wastewater sector to
advance these practices, this is not explicitly clear. Below are some specific recommendations related to the proposed budget:

1. Request that at least $40 million of the $100 million allocated to CalRecycle for waste diversion be directed to the municipal wastewater sector.

CASA strongly recommends that at least $40 million of the $100 million allocated for waste diversion be designated for wastewater projects either through separate allocation to the State Water Board or that specific direction be given to CalRecycle to distribute this funding to wastewater facilities. CASA conservatively estimates that at least 75% of the food waste currently landfilled could be managed at wastewater plants with major existing infrastructure components already in place. At least $40 million is needed to develop, purchase, and implement the supporting ancillary infrastructure that will allow these digesters to be more fully utilized, facilitate the productive use of increased biogas production, as well as ensure beneficial use of the increased biosolids produced.

Anaerobic digestion (AD) is a typical part of the wastewater treatment process employed at wastewater plants across the state. Roughly 95% of wastewater flow in California is treated at plants using AD as the solids treatment process. The AD process produces biomethane, which is converted into power at the majority of these plants. This power production generally provides between 40 and 70 percent of the treatment plant's energy needs, significantly reducing demand from the grid and offsetting the need for fossil-fuel based power with waste from renewable energy. With relatively minor ancillary infrastructure additions or improvements, existing wastewater plants can accept hauled in additional organic feedstocks such as food waste (FW) and fats, oils, and grease (FOG) for introduction into digesters for co-digestion with sewage sludge. The addition of these feedstocks into the AD system leads to the production of more biomethane (and hence, additional power production) and diversion of organics from landfills.

Some wastewater entities have been able to meet 100 percent of their power needs by taking advantage of these processes and are now able to produce excess renewable energy that could be used productively through alternative means. The biomethane produced (or a portion of it) can also be converted to low carbon intensity transportation fuel (see Point 2 below). This may be especially attractive in air districts certified as being in severe nonattainment for ground level ozone standards under the Clean Air Act. Alternatively, biomethane could also be injected directly into the common carrier pipeline as envisioned by AB 1900 (Gatto) of 2012.

Funding is required to ensure all biogas produced is used productively through any or all of these means as they all mitigate climate change. Moreover, biosolids produced as part of the wastewater treatment and AD process can be land applied in agricultural or horticultural settings helping to mitigate climate change by substituting for the use
of fossil fuel intense inorganic fertilizer and by providing long-term sequestration of carbon in soil.

2. Increase the $25 million dollars currently allocated to the Air Resources Board for biofuels to at least $75 million.

As mentioned above, if diverted food waste is received for co-digestion at municipal wastewater plants, there will be an increase in the biomethane produced. Biofuel derived from wastewater AD is among the lowest carbon intense fuels developed by the Air Resources Board under the Low Carbon Fuel Standard protocols. The carbon intensity is 7.9 gCO₂ e/MJ for wastewater facilities treating more than 20 million gallons per day (MGD), compared to roughly 95 gCO₂ e/MJ for gasoline and diesel fuel. Despite this significant opportunity, only $25 million dollars is allocated in the budget for all forms of biofuels, including ethanol. Two wastewater agencies in the state are currently constructing infrastructure, with the assistance of grant funding from the California Energy Commission, to ultimately produce transportation fuel with their biogas. More funding is essential to ensure the goal of reducing the carbon intensity of fuel by 10% by 2020 is achieved. If all capacity at existing digesters at California wastewater plants were to be maximized and converted to low carbon transportation fuel, we conservatively estimate that this could produce 30 million gasoline gallon equivalents per year or 27 million diesel gallon equivalents per year, meeting the California Air Resources Board’s Low Carbon Fuel Standard criteria. We recommend increasing this allocation to at least $75 million dollars to ensure adequate funding for these types of projects.

3. Clarify that the use of biosolids is necessary to achieve the objectives of the Healthy Soils Initiative and specify how the $55 million to the California Department of Food and Agriculture (CDFA) for healthy soils and dairy digesters is to be allocated.

As mentioned above, biosolids are the necessary product of wastewater treatment and can help achieve all of the objectives laid out by CDFA to meet the proactive Healthy Soils Initiative. More than 60% of biosolids managed in California each year are land applied on agricultural or horticultural land, landscape projects, parks, golf courses, and other home uses. Such use sequesters carbon in the soil and avoids the use of fossil fuel intense inorganic fertilizer. Roughly 0.22 gallons of fossil fuel is required to produce every pound of inorganic nitrogen fertilizer, illustrating the tremendous offset gained by using biosolids for land application. Because biosolids are an organic matrix, rich in organic carbon and nitrogen as well as other valuable micro and macro
nutrients, biosolids improve soil tilth, reduce the need for irrigation because of their excessive water holding capacity, and increase crop production.

Research has shown that during the breakdown of organic matter by microbes in biosolids, the working microbes secrete essential plant hormones (auxins and cytokynins - naturally occurring in nature) that help plants get through stressful conditions such as drought. The treatment and use of biosolids is effectively regulated by federal and state regulations. As an ancillary matter, state support for those regulations is essential since currently local ordinances can supersede them as a matter of urban – rural disputes which forces some wastewater plants in southern California to export biosolids to Arizona, thereby depriving California soils and farmers of this tremendous benefit.

Landfilling and incineration are the only other permitted management options and neither appears viable in California in the long-term. Therefore it is critical that the time proven practice of land application be supported and promoted at the highest level to ensure effective means to manage this ever increasing product of wastewater treatment. The use of biosolids for reclamation efforts; including, superfund and other mines, brownfields, wetlands, and fire ravaged land, should also be funded, promoted and supported in policy.

4. Allocate $200,000 of the $150 million allocation to CAL Fire to support demonstration projects to reclaim fire-ravaged land with biosolids.

Biosolids can be utilized to reclaim fire-ravaged land, control erosion, and reduce the potential severity, and climate change impacts, of future fires by allowing native vegetation to outcompete invasive species that become dried out fuel by early summer. Reclamation of fire ravaged land and the reduction of the potential severity of future fires is an extremely high priority for areas prone to such devastation. All drought stricken areas are at increased risk for devastating fires.

Demonstration projects to evaluate and quantify the benefits of using biosolids to mitigate this effect are vital. Researchers estimate a need of $200,000 to conduct credible projects. The successful use of biosolids for this purpose would be of critical importance, as it will create another beneficial use opportunity for biosolids while simultaneously addressing a significant social and economic problem. Fire ravaged land is subject to increased erosion, contributes to impaired water quality, suffers from reduced ecological services including habitat support for vegetation and animal life, and experiences the destruction of soil quality. Biosolids can mitigate adverse impacts at fire-impacted sites by increasing soil organic matter, nutrients, and water holding capacity. This will result in improved water quality, reduced erosion, enhanced terrestrial carbon sequestration, and the promotion of healthy forage production.
Further research is needed to quantify the benefits of biosolids for these purposes in order to gain widespread acceptance by regulators and the public for their use to mitigate fire ravaged and prone areas. CASA has spent the last two years building a foundation and network of key California regulators and personnel who will facilitate the implementation of this research. We have met with CAL Fire, State and Regional Water Boards, Air Resources Board, California Energy Commission, Local Air Quality Management Districts, and others and have gained their support in concept for the use of biosolids to reclaim fire-ravaged land. We have assembled a highly qualified team of researchers from UC Davis, UC Riverside, US EPA Region 8/Colorado State University, Utah State, and the University of Washington who stand poised to execute this research.

Each of these types of projects will create tangible, measurable GHG reductions that coincide with the overarching goals of the cap and trade program. For all of the reasons above, CASA and its members stand as ready and willing partners with the state to help realize the many objectives and mandates for climate change mitigation. Wastewater treatment plants offer some of the most cost-effective solutions available to achieve these goals, needing only to modify existing infrastructure in order to maximize benefits. CASA greatly appreciates the allocations proposed in the budget but does request the specificity and allocation changes articulated in this letter be made.

Thank you for your consideration of these comments. Please do not hesitate to contact me (blarson@casaweb.org or 916-446-0388), or Greg Kester, CASA’s Director of Renewable Resources, (gkester@casaweb.org or 916-844-5262) with any questions or for further clarification of any of our comments. We look forward to working together as proactive partners on our multitude of shared objectives.

Sincerely,

Roberta L. Larson
Executive Director

cc: Felicia Marcus, Chair, State Water Board
Scott Smithline, Director, CalRecycle
Mary Nichols, Chair, Air Resources Board
Karen Ross, Secretary, Department of Food and Agriculture
Ken Pimlott, Director, CAL Fire
Cliff Rechtschaffen, Senior Advisor, Office of Governor Edmund G. Brown, Jr.
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