Riverside County
Waste Management Department
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February 27, 2008

Air Resources Board
1001 "I" Street, 2nd Floor
Sacramento, CA 95814

RE: February 28, 2008 Agenda Item 08-2-6
Economic and Technology Advancement Advisory Committee (ETAAC) Report

Dear Board Members:

The Riverside County Waste Management Department (RCWMD) has reviewed the **ETAAC Final Report** and would like to submit into the record for your consideration the following specific comments on *Section IV. Waste Reduction, Recycling and Resource Management*:

1. The California Integrated Waste Management Act of 1989 and subsequent related legislation (AB 939) recognized that reducing the volume and toxicity of municipal solid waste (MSW) from landfilling and incineration required an integrated approach to manage the MSW, establishing a hierarchy of planning practices that included, not only source reduction and recycling and composting, but also environmentally-safe landfill disposal and transformation. The fact that ETAAC only "recognizes the hierarchy of waste reduction, reuse, and recycling to reduce GHG [Greenhouse Gas] emissions," seeing landfills as the barrier to recycling, overlooks the following: 1) the complexity of MSW management systems; 2) the fact that an integrated approach to AB 939 resulted in California successfully achieving a 52% statewide diversion rate in 2005; and, 3) the results of technical studies, such as the one conducted for the U.S. Conference of Mayors entitled, *The Impact of Municipal Solid Waste Management on Greenhouse Gas Emissions in the United States*, which found that "technology advancements and the movement toward integrated strategies for MSW management" have avoided the annual release of 52 million metric tons carbon equivalents (MMTCE) of GHG emissions.[1] "Integrated strategies involving recycling, composting, waste-to-energy combustion, and landfills with gas collection and energy recovery play a significant role in reducing GHG emissions by recovering materials and energy from the MSW stream."[2] Without this perspective, the **ETAAC Final Report** lacks credibility.

2. ETAAC describes the waste industry as a source of GHG emissions, particularly from the operation of solid waste landfills, failing to acknowledge the GHG mitigation benefits that have been made in the waste industry to recycle, reduce, and reuse under AB 939. ETAAC also fails to acknowledge the "technological advancements in collection,

[1] Keith A. Weitz, *et al.*, "The Impact of Municipal Solid Waste Management on Greenhouse Gas Emission in the United State," Journal of the Air & Waste Management Association, Volume 52 (September 2002): 1000-1011.
[2] Ibid, p. 1000.

transport, recycling/composting, combustion, and landfilling," which have helped "to minimize potential impacts to human health and the environment. For example, federal and state requirements are in place under the Resource Conservation and Recovery Act of 1976 and the Clean Air Act."[3] The federal and state requirements for landfill design and operation already address environmental mitigation to reduce potential impacts from landfill gas generation and emissions, of which GHG is a part. From the technical study reported in the Technical Report, *The Impact of Municipal Solid Waste Management on Greenhouse Gas Emissions in the United States*, it was concluded that the "total quantity of GHG emissions from MSW management was reduced by more than a factor of 6 (from 60 to 8 MMTCE) from what it otherwise would have been, despite an almost doubling in the rate of MSW generation."[4]

3. Under Section K (Increase Commercial-Sector Recycling), *GHG Reduction Potential*, it is stated, "A modest 25 percent increase in recycling of commonly disposed materials would generate over five $MMTCO_2$ in emission reductions." Under *Cobenefits/Mitigation Requirements*, it is stated, "Co-benefits include meeting waste management goals..." Waste management goals currently mandate 50% diversion. The ETAAC seems to be taking a backdoor or non-legislative approach to requiring 75% diversion.

4. Regarding Section K (Increase Commercial-Sector Recycling), the RCWMD is in complete disagreement that residential, multi-family dwellings are considered part of the commercial sector in terms of recycling. The RCWMD is also in disagreement with ETAAC's possible solution that "owners of multifamily dwellings should be required to arrange for recycling services that are appropriate for the multifamily dwelling, consistent with State of local law requirements."

   First, the last two bills that were introduced to require mandatory multi-family recycling have failed. The fact that it is being introduced in this report under "commercial-sector recycling" appears as if the ETAAC is taking a backdoor approach.

   Second, whereas ETAAC's possible solution to increase commercial recycling (i.e., "any firm that generates 4 or more cubic yards of waste per week to implement a recycling program...") is somewhat thought out, the possible solution to increase multi-dwelling recycling is not (i.e., "owners of multifamily dwellings should be required to arrange for recycling services..."). The number of multi-family dwellings is not denoted (i.e., five or more). In addition, there are multi-family buildings (i.e., apartments) and multi-family complexes (i.e., condominiums or townhomes); ownership may vary with each, and the owner may not be the proper entity to arrange recycling services. There is also no guarantee that if recycling service is provided that occupant(s) of individual units will recycle.

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[3] Ibid, p. 1003.
[4] Ibid, p. 1010.

Lastly, the one State law (AB 1327, Chapter 18, California Solid Waste Reuse and Recycling Access Act of 1991) that requires that adequate areas for collecting and loading recyclable materials be provided in development projects, including any residential building having five or more living units or in any residential project where solid waste is collected and loaded in a location serving five or more living units, clearly distinguishes between commercial and residential, multi-family dwellings. Commercial and residential land use types (single family or multi-family) are also clearly distinguished from one another in local land use and zoning ordinances. The CARB and the CIWMB should strive for consistency with established land use practices and laws and remove all reference to and recommended solutions involving multi-family dwellings from "commercial-sector recycling."

5. Under Section L (Remove Barriers to Composting), it is represented that landfills are the primary, if not sole, obstacle to a viable composting industry in California, ignoring many other limiting factors, such as the fact that the composting industry has always faced critical challenges in terms of its long-term viability from the unreliability of the end markets for compost products and even "NIMBY-ism" for established operations. Also, as indicated in the **Report**, the industry faces a series of regulatory challenges and siting problems, which inevitably cause the capital investment and operating costs for establishing and running a composting facility to be high.

6. Under Section L (Remove Barriers to Composting), it is stated that "much" of the "significant quantities of methane" gas produced within landfills are not captured by landfill gas systems. Not only is this conclusion not based on any technical data, but it is also inaccurate. According to recent research performed by the Los Angeles County Sanitation District, the results of which were reported in a study entitled *Measuring Landfill Gas Collection Efficiency Using Surface Methane Concentrations*, the collection efficiency of a landfill gas system, which is subject to the U.S. EPA's 1996 New Source Performance Standards (NSPS), actually approaches 95% or greater.

7. Under Section L (Remove Barriers to Composting), the ETAAC reports that composting can render lower methane emissions than landfills, offer greater carbon sequestration in crop biomass and soil, and reduce the need for GHG emission-releasing fertilizers and pesticides and reliance on energy-intensive irrigation, concluding that composting offers an environmentally superior alternative to landfilling organic wastes. While, in principle, this may be correct, the conclusion is not supported, without first considering the environmental liabilities of composting in terms of GHG emissions.

   Compost operations do create GHG emissions from direct methane emissions when not properly operated, from transportation, and from material processing. In addition to methane emissions, composting can emit other GHG like N_2O, due to feedstock composition (e.g., nitrogen rich grasses), even when the composting process itself is managed properly, that is, aerobically. In discussing the relative liabilities or merits of composting and landfilling in GHG emissions, consideration has to be given to the

following facts: a) GHG emissions from landfills can be and are captured by the majority; b) the most potent GHG components of the emissions are destroyed, either by the process of flaring or energy conversion; c) energy recovery is made from the methane in the landfill gas; and, d) conventional composting does not do any of the above, and therefore, emits 100% of its GHG into the atmosphere.

8. Under Section L (Remove Barriers to Composting), the ETAAC alleges that landfill costs are artificially rendered low, presenting a serious obstacle to composting. This allegation is unfounded and a misrepresentation of the solid waste management industry. Public landfill operation has public accountability and fiscal responsibility as a public service provider. Pursuant to the goals and policies of the Riverside Countywide Integrated Waste Management Plan (CIWMP), Riverside County is responsible for providing cost-effective and environmentally-safe disposal. It is too easy to blame landfill costs for the infrastructural and economic problems of the composting industry.

9. Under Section L (Remove Barriers to Composting), *Possible Solutions*, it is the ETAAC recommendation that the State should consider placing a per-ton GHG emission surcharge on landfill operators. This possible solution would be an artificial intervention into solid waste industry to favor one sector of the industry over another. Before a comprehensive quantitative comparison between the tail-end GHG emissions of the two industries are made by the CARB to determine the net effects of GHG emission from the industries, the surcharge recommendation is premature and inappropriate. As noted previously in #7, whereas landfill operations manage to capture and destruct or convert methane emission, mitigating for GHG impacts, composting does very little to control GHG emissions. Therefore, as a provider of a crucial public service, Riverside County is opposed to this recommendation.

10. Under Section M (Phase Out Diversion Credit for Greenwaste Alternative Daily Cover), ETAAC claims that the greenwaste composting industry faces undue competition for (raw) materials from landfills, because landfill operations are able to get "diversion credit" for using greenwaste as alternate daily cover (ADC). This claim is not entirely true. In the mid 1990's, Riverside County applied a differential tipping fee to greenwaste with the intention of diverting the material to local greenwaste recyclers. This policy did succeed in diverting the material but not in encouraging its recycling. Around the same time, there was a mounting demand from the greenwaste recycling industry in the County to find an alternative outlet for the processed material of the industry. In fact, before the County obtained permission from the State to use the excessive greenwaste from the recycling industry for ADC and other beneficial uses, such as erosion control on intermediate landfill surfaces, there were sporadic fires happening to greenwaste facilities in the County (i.e., World Products, Blue Ribbon, etc.).
At the time that Riverside County was considering the use of ADC, the primary intent was not diversion credit, but the numerous operational advantages that ADC could provide as opposed to conventional soil cover. One crucial benefit to all landfill operators from use of ADC, in general, is the conservation of highly valuable landfill

space that is gained by reducing the use of soil cover over time, which does not degrade. This is the reason why Riverside County experimented with many other ADC operations than greenwaste for effectiveness and application efficiency. It is also why State regulations for ADC allow multiple ADC options and why the waste reduction and recycling law recognizes the residual beneficial use values of the materials and allow diversion credit for their use as ADC at the landfills (i.e., the materials are not considered waste in its use as ADC or other beneficial uses at the landfills). Therefore, it is not correct or objective to characterize existing policy as providing a "perverse incentive for local governments to use greenwaste s landfill cover to meet their recycling goals."

11. Under Section M (Phase Out Diversion Credit for Greenwaste Alternative Daily Cover), ETAAC fails to evaluate the overall air pollutant and GHG emissions reduction benefits of using greenwaste as ADC for erosion control. When ADC is used, soil excavation and hauling for daily cover operation is reduced, as are the quantities of the associated equipment engine emissions and fugitive PM_{10} emissions. Further, the application of organic ADC increases the possibility of energy recovery from the methane gas generated from biodegradation of the material. Ground greenwaste can be used to provide long term protection of the integrity of the intermediate soil cover. This function of the greenwaste cover contributes to GHG emissions reduction in two ways: a) it minimizes surface leakage of GHG from inside the landfill; and, b) it facilitates methane oxidation within the soil landfill cover.

12. Under Section M (Phase Out Diversion Credit for Greenwaste Alternative Daily Cover), ETAAC states that using greenwaste as ADC contributes to global climate change, "because materials are porous and therefore are not very effective landfill covers." This statement totally discredits the existing State regulatory standards for ADC that were established to ensure that the performance of ADC will meet the four primary functions of a landfill cover, of which prevention of landfill gas and odor emissions is one function that pertains to GHG emissions reduction.

13. Under Section M (Phase Out Diversion Credit for Greenwaste Alternative Daily Cover), *Ease of Implementation,* ETAAC determines that it would be "easy" to phase out diversion credit for greenwaste ADC. While it may be true that such a policy could discourage abuses in ADC usage, it may not be as easy and helpful to the composting industry in creating a long-term outlet for its composting products. The absence of such a reliable outlet was one of the initial reasons that greenwaste ADC was needed.

14. The RCWMD is in support of ETAAC recommendations to evaluate and improve policies for qualified waste conversion technologies.

15. Throughout Section IV of the **ETAAC Final Report,** adjectives are used (i.e., "A *modest* 25 percent increase...," "...policy provides a *perverse* incentive..."), as well as punctuation (i.e., "...more than four million cars from the road!), that raise question as to the objectivity of the **Report**.

Thank you for the opportunity to comment on the **ETAAC Final Report**. Your consideration of these comments would be most appreciated.

Sincerely,

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