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July 11, 2013

Dr. Howard Levenson, Deputy Director
Department of Resources Recycling and Recovery (CalRecycle)
1001 I Street
Sacramento, CA 95812-4025

Dear Dr. Levenson:

COMMENTS REGARDING THE PROPOSED WASTE MANAGEMENT SECTOR PLAN (JUNE 18, 2013 DRAFT)

Thank you for the opportunity to provide feedback on the proposed Waste Management Sector Plan (Plan), which was developed jointly by the Department of Resources Recycling and Recovery (CalRecycle) and the California Air Resources Board (CARB). The purpose of this Plan is twofold: to reduce the amount of waste going to landfills and meet the State's 75% recycling goal (established under AB 341, 2012 Statutes); and to reduce greenhouse gas (GHG) emissions from the solid waste sector and meet the State's Global Warming Solutions Act of 2006 (AB 32) goals.

We concur with the stated intent of the Plan to develop "low-carbon, economically sustainable industries, technologies, and strategies that align with the State's long-term and integrated energy, waste, and environmental policy objectives." We also laud the overarching principles and priorities that encourage taking ownership of our waste, maximizing diversion from landfills, promoting additional waste reduction measures, and meeting our infrastructure needs in a sustainable way.

The waste management sector is highly complex in California and it will take a tremendous effort to meet the goals and objectives outlined in the Plan. In addition, we have a number of concerns, as detailed below, regarding the specific actions and solutions proposed. We believe that extensive collaboration and idea-sharing between industry, local government, and the State is needed to move us from our current conditions in 2013 to 75% or higher landfill diversion and significant GHG emissions reductions. The Task Force is ready to work with CalRecycle, CARB, you and staff in developing a practical approach to harmonizing the proposed solutions outlined in the Plan with these principles and priorities.

Based on our review of the overview document and associated technical papers, we have the following general and specific comments related to the technical papers.

General Comments

- Lifecycle environmental and economic impact analyses should be completed on all solid waste management options discussed in the Plan. Such analyses are essential to establishing accurate measures of GHG emissions, on which all reduction goals are based, as well as the economic feasibility and sustainability of the proposals. It is also fundamental to determining which pathway(s) provide the lowest criteria air pollutants and GHG emissions in the most cost effective manner. The economics also needs to consider the viability of markets for products, rather than assuming anything that is collected for recycling will in fact be reconstituted as a product. It should be noted that the legal definition of “recycling” as established in Public Resources Code (PRC) Section 40180 requires that materials be reconstituted and returned “to the economic mainstream in the form of raw material for new, reused, or reconstituted products.”

Furthermore, without this accurate and full measurement, it is not possible to legally substantiate that AB 32 and AB 341 goals have been met. Accounting for the out-of-state and international components of the lifecycle becomes doubly important when assessing the impacts and priorities in striving to meet the stated goal of taking “Full Ownership of the Waste Generated in California” (“Overview of the Waste Management Sector Plan,” pg. 3).

- The “highest and best use” should be considered for elements of the waste stream based on material type and quality of that material; in addition, local and regional constraints for processing these materials must be taken into consideration. For example, composting may be the preferred alternative for green waste management in a Northern California community, but for a community in Southern California in a Federal non-attainment area under the Clean Air Act, an enclosed system or conversion technology, such as anaerobic digestion, would be a preferred alternative. Failing to acknowledge local circumstances such as these may lead to a majority of materials generated in Los Angeles County being exported to remote processing facilities, leading to much higher GHG emissions.
- A streamlined permitting process is essential to creating a business-friendly environment for infrastructure development. The technical papers accurately point out that the length of time for approvals, CEQA issues, and local planning and acceptance slow the process of financing and constructing facilities. Such complex and lengthy permitting activities also discourage project development. We agree with the suggestions of model permits, programmatic EIRs, and

increased agency interaction to make the process less arduous and expensive, while maintaining high standards for community and environmental protection.

- Currently the priorities and principles are listed in a random order. We recommend identifying them in order of priority that reinforces a waste management hierarchy consistent with the overarching goals of the Plan. As you know the Task Force adopted a comprehensive integrated waste management hierarchy (enclosed) that encourages the highest and best use of materials, including recovering energy or producing fuels and/or chemicals from waste materials that would otherwise be disposed. We highly encourage CalRecycle and CARB to establish a similar hierarchy rather than focusing on source reduction, recycling and composting as the only options for diverting waste from landfill disposal.
- There are a number of inconsistencies in the terms used throughout the Plan. For example, throughout the technical papers there are references to “bioenergy projects,” “non-landfill alternatives,” “non-disposal alternatives,” “new waste treatment facilities,” “new technologies,” “emerging technologies,” “thermal technologies,” “combustion technologies,” “conversion technologies,” etc. None of these terms are defined and many of these terms can be used interchangeably with one another but have very different meanings to different stakeholders and possibly even different meanings between CARB and CalRecycle staff. It is critical to use fewer, clearly defined terms throughout the Plan.
- Although AB 32 and AB 341 both identified a 2020 horizon for meeting specified goals, the Plan establishes numerical goals for 2035 and 2050. The Plan should clarify that future year goals are developed based on executive order, rather than legislative authority.
- After years of appeals by local governments, the California Legislature passed and the Governor signed SB 1016 into law in 2008, moving California away from a system dependent on complex numerical accounting (aka “bean counting”) for measuring our success in reducing waste generation and landfill disposal. The new tracking system proposed in the Plan (described in Section 5 of the Overview document) would reverse the direction established by SB 1016 to minimize bean counting and focus more on the quality of programs. When coupled with CalRecycle’s proposals for establishing numerical standards for mixed waste processing facilities as well as similar standards for residual waste, the Task Force is very concerned that too many resources will once again be shifted to numerical accounting rather than program implementation to reduce waste generation and landfill disposal and there is no legally, scientifically supportable method to determine such numerical standards for the entire state of California.

Specific Comments

1. Recycling, Reuse, and Remanufacturing

We are concerned that the proposed Plan continues to perpetuate the “out of sight, out of mind” mindset that has contributed to extensive growth in the recyclables export market. Specifically, despite the stated goal of taking full ownership of the waste generated in the State, page 1 of the Plan certifies that the GHG impacts of materials will no longer be considered “when the material is no longer responsible for GHG emissions *in California*” (emphasis added). Put another way, as soon as recyclables are placed on a ship in the Port, they cease to generate GHG emissions under the Plan’s accounting system. This is particularly problematic given that only 2.3 million tons of materials are remanufactured within the State, or roughly 6% of the total volume of materials processed.

Since the passage of AB 939, the State has counted this out-of-state shipping as “recycling” without requiring verification that these materials were in fact recycled in a closed loop process that **reconstitutes** the materials into the marketplace, as established in State law (emphasis added). This practice is counterproductive to the goals of AB 32, given what we know about the destiny of these exported materials. *The Guardian* reports that China will have over 300 incineration facilities online by 2015. Waste is in high demand for these facilities; however, the emissions regulations are considerably looser than those for power plants. Legally, Chinese incinerators can emit nitrous oxide and sulfur dioxide at, respectively, four and five times the levels of power plants in China. Residents near these facilities are reporting disturbing medical conditions that they claim are related to the facilities’ emissions. This is concerning because air currents over the Pacific create the real possibility that emissions from China’s incineration facilities will travel across the ocean and impact California’s air quality.

This is just one example of why the emissions generated from the shipping and processing of California’s recyclables cannot be ignored – whether they take place in the State or in another country. We must consider the local impacts of criteria air pollutants as well as the global impacts of GHG emissions on the Earth’s atmosphere, which knows no jurisdictional boundaries. The basis for the Plan must begin with a meaningful accounting of what happens to “recyclables” exported outside of California, and what net impacts those materials have, particularly on GHG emissions, when they are transported and processed. It is our recommendation that when recyclables are exported out of California and no record or documentation exists to confirm materials have in fact been reconstituted, the assumption should be made that the materials were in fact disposed, rather than recycled.

2. Composting and Anaerobic Digestion

We appreciate the work CalRecycle has done to promote the use of anaerobic digestion in California through the *Guidance Document: How Anaerobic Digestion Fits Current Board Regulatory Structure* and the Programmatic EIR. As more facilities are coming online in California and throughout the Country, we are finding that this is an effective way to manage food scraps and extract valuable biogas that can be used for electricity and fuel production. Because of the negative carbon intensity value of biogas produced from a high solids anaerobic digester, the cleaned and processed end-product, biomethane, becomes a very attractive transportation fuel for meeting the State's Low Carbon Fuel Standard (LCFS).

However, we have concerns with the State's continued endorsement and advocacy of composting. Composting is not the optimum environmental or most economically feasible organics management option in many settings, specifically urban areas. As the "Composting and Anaerobic Digestion" technical paper points out, only 70% of available composting capacity in California is currently being utilized, however there is a lack of markets for compost products now. If we were to triple the amount of organics processed into compost, as proposed by CalRecycle, the market would be flooded and the value of compost would collapse, potentially having a devastating effect on the compost industry. Compost cannot simply be stockpiled, as a result much of this material may end up disposed in a landfill due to lack of markets.

There have been several instances where mismanaged facilities led to surface and ground water pollution, land contamination and spread of invasive species, odor and vector issues, and even employee deaths. No matter the project—composting, anaerobic digestion, or other conversion technology—public health and safety is paramount and there should be no exemption or circumvention of the CEQA or permitting processes that could undermine the public safety or environmental health. The Task Force has already conveyed our concerns with the regulatory revisions to Title 14 and 27 regarding compostable materials and processing facilities through the public stakeholder process.

The "Composting and Anaerobic Digestion" technical paper admits that "Additional research is needed to better quantify the benefits from avoided landfill emissions and anaerobic digestion" (page 5) and "To better understand the role composting and anaerobic digestion can play in meeting the GHG and waste reduction goals, the direct and avoided emissions from the use of these technologies need to be analyzed and quantified" (page 9). We concur. Despite the lack of accurate GHG measures, composting is positioned as being preferable to other non-landfill alternatives such as conversion technologies.

The Task Force strongly encourages CARB and CalRecycle to commit to continued research on the lifecycle emissions from recycling, composting, and conversion technologies facilities. The Plan's composting policies must address the public health and safety concerns and environmental issues related to surface and ground water pollution, odors, criteria air pollutant emissions, land constraints, and more. In addition, the evaluation of true lifecycle GHG emissions impacts must be equitable for all waste management options – for example, if avoided methane emissions from landfill disposal are accounted for with composting, it must be accounted for with conversion technologies as well.

3. Biomass Conversion

Biomass conversion is essentially the combustion of forest material, agricultural products, and urban wood waste. In California, biomass conversion facilities emit only biogenic-based emissions and are classified as renewable energy facilities under the Renewable Portfolio Standard (RPS). Despite the fact that Los Angeles County's two combustion facilities have extensive emission control systems in place, the biogenic materials processed at these facilities are not granted RPS credit. Parity for these facilities with biomass facilities would, among other things, stabilize utility rates for local residents and encourage continued production of energy from residual waste, including biogenic materials, that would otherwise be sent to landfills and contribute much higher levels of GHG emissions by generating methane.

4. Municipal Solid Waste Thermal Technologies

A balanced and complete analysis of non-combustion conversion technologies in this technical paper is unfortunately missing. In short, the analysis makes no distinction between combustion and non-combustion technologies; focuses exclusively on thermal technologies, primarily traditional mass burn incineration, which misses viable biological and chemical technologies and downplays the advantages of gasification technologies; and utterly fails to acknowledge the volumes of research and data available, including research conducted by CARB and CalRecycle in recent years regarding the environmental and GHG emission reduction benefits of these conversion technologies, their advantages for enhancing waste diversion from landfilling, for efficient energy production and for their flexibility to produce renewable fuels and chemicals from the synthesis gas.

Section II B briefly identifies three categories of technologies, including only a small subset of conversion technologies; however, the bulk of the data and analysis are only related to traditional combustion. In contrast, CalRecycle's Fall 2009 newsletter "*CalRECYCLE*" states, based on CalRecycle's studies into conversion technologies mandated by AB 2770 (Chapter 740, 2002 Statutes) and finally released in 2007, "...California is on the verge of making it [conversion technology] a major tool in the battle against climate change. Conversion technologies provide a source of clean

energy and new materials such as biofuels, chemical feedstocks or plastics, while reducing the flow of organic materials into landfills where the products decompose and generate methane, a potent greenhouse gas.” In a 2010 presentation, CARB stated that 24 bioenergy facilities are needed in California by 2020 to meet the State’s LCFS goal.

The *Conversion Technologies Report to the Legislature*, which was mandated by AB 2770 at a cost of \$1.5 million and completed in conjunction with the University of California at Riverside and Davis, indicates that “based on the results of the State’s peer reviewed lifecycle analyses, conversion technologies have many advantages over landfilling, composting, transformation, and recycling such as greater potential for energy production, fewer emissions of NO_x, and fewer carbon emissions which is important from a global warming perspective.” Due to political pressure, this Report was rescinded by CalRecycle’s predecessor agency, the California Integrated Waste Management Board, and key conclusions of the report were redacted. Nevertheless, the data from which the conclusions were established still exists and is complemented and reinforced by independent studies and research conducted by a host of agencies.

In fact, as far back as 1980, CalRecycle has been supportive of using municipal solid waste as an energy source. Known at that time as the California Solid Waste Management Board, the *Evaluation of Alcohols Produced from Wood, Municipal Solid Waste, or Agricultural Waste Bulletin No. 10* points out that “Municipal wastes, wood waste, or agricultural wastes can be used most effectively as an energy source for generation of heat and power, thus allowing a decrease in the amount of oil and gas now used for these purposes. In effect, this would be a revision of our energy use strategy in a way which would maximize the value to society of our municipal, wood, and agricultural wastes.”

Considering these numerous endorsements of conversion technology as a “major tool” in California’s efforts to lower GHG emissions, reduce reliance on landfills, reduce waste transportation, increase the creation of renewable energy and green fuels, create green-collar jobs, among other benefits, one would expect to find an extensive analysis of these technologies both in the Plan Overview and among the technical papers. Instead, the Plan does not reflect the wealth of knowledge CalRecycle and CARB have developed on this topic, in addition to the growing volumes of reports and data already developed or being developed by other public and private entities. This is particularly unexpected at a time when commercial scale waste-to-biofuel conversion technology facilities are beginning operation here in the United States, or are currently in construction or advanced stages of project development in the United States and Canada, and their track record has been thoroughly established in other countries for many years with many successfully operating reference facilities. A statement in the Technical Report regarding thermal CT technology (“That there are applications outside the U.S. handling relative

homogeneous waste. However, it is uncertain whether the technology is feasible for unseparated MSW.”) is not accurate. There are commercial facilities successfully operating outside the U.S. that handle mixed MSW. Further, many thermal gasification processes benefit from removal of recyclables and organics, such as green and food scraps, prior to gasification.

It should be noted that Massachusetts has recently updated its State Solid Waste Master Plan in April 2013, lifting the ban that had prevented thermal conversion technologies from being permitted. The zero waste plan developed by Massachusetts allows waste to be sent to a non-combustion conversion technology process after preprocessing for recyclables, recognizing these technologies are a means to reduce landfill disposal of residual wastes and produce needed renewable energy and fuels. This is the same approach the Task Force has advocated for over a decade, ensuring recyclables are collected up front while reducing our dependence on landfills.

As development of the Plan proceeds and stakeholder feedback is incorporated into the technical papers, we encourage CalRecycle and CARB to review the numerous reports and studies, including those completed by State agencies and others, on the topic of non-combustion conversion technologies. Enclosed is a partial listing of municipal, environmental, industry, and academic conversion technology studies and reports. In these reports you will find substantial evidence of the capabilities of conversion technologies to help achieve the State’s energy, landfill reduction, and GHG emission reduction goals. Therefore, conversion technologies must be incorporated into the Plan, not merely a “major” but an *essential* tool.

5. Landfilling of Waste

There appear to be inconsistencies regarding how landfills are evaluated in the Plan in contrast to other waste management options such as conversion technologies. For example, although even under the most conservative estimates, conversion technologies reduce net GHG emissions when compared to landfilling, and would process a very modest percentage of residual solid waste when compared to landfills (which currently handle 99% of residual waste), the goals for conversion technologies focus on research and additional regulation such as requiring them to be subject to the Cap and Trade program, while landfills have been exempted from the Cap and Trade program and including them in the program is quickly dismissed due to “uncertainties” in the total GHG emissions generated from landfills.

The regulations being developed under AB 1900 (Chapter 602, 2012 Statutes) offer another example, where despite concerns regarding public health and safety, yearly testing of potentially toxic materials has been flagged as potentially too onerous a requirement for landfills attempting to inject landfill gas into the common carrier pipeline. A lifecycle and economic analysis of GHG emissions from all solid waste

management options, including landfills, should facilitate a balanced approach to establishing incentives for measures and developments that will reduce GHG emissions while protecting public health and safety and the environment.

6. Implementation Plan

- The Plan proposes to revise emission reduction factors (ERF) to promote composting by including avoided landfill emissions in the short term. As discussed above, actual emissions reduction for composting in comparison to conversion technologies should be documented and set the basis for ERFs. Further, such an ERF revision must substantiate protection of public health and safety as well as the environment.
- Given the goal of taking responsibility for waste generated in California, there are insufficient incentives and market signals proposed to facilitate the development of in-state facilities that can reconstitute collected and processed materials. The Plan should establish firm numerical goals and timelines related to this goal.
- A number of proposals under the Funding/Incentives section appear to focus on composting or anaerobic digestion, such as AB 118 funding; however, the focus should be on projects that can demonstrate a reduction in landfill disposal and GHG emissions in the most cost-effective manner. Also, it is unclear what is meant by “high-GHG commodities.”
- The discussion of source reduction, product stewardship and extended producer responsibility is very minimal. Since this is the highest priority in the waste management hierarchy it should be a larger focus throughout the Plan and particularly in the implementation plan.
- Under the “Sustainability” section, there is a proposal to “establish front-end processing standards for waste sent to MSW-thermal plants” in order to “**protect** recycling, composting, and AD programs” (emphasis added). It is a bewildering sign of an apparent bias in the Plan that no such “protections” are considered for materials sent to landfills, although landfills process 99% of the residual waste in California and receive a host of incentives, such as RPS credit, not available to conversion technologies.

Dr. Howard Levenson
July 11, 2013
Page 10

We appreciate the opportunity to comment on the proposed Waste Management Sector Plan. We want to reiterate our commitment to working with CalRecycle and CARB staff in a transparent and collaborative fashion to revise the Plan so it has the best chance of realizing the State's ambitious energy, waste, and environmental goals. Should you or a member of your staff have any question regarding this matter, please contact Mr. Mike Mohajer of the Task Force at MikeMohajer@yahoo.com or (909) 592-1147.

Sincerely,



Margaret Clark, Vice-Chair
Los Angeles County Solid Waste Management Committee/
Integrated Waste Management Task Force and
Council Member, City of Rosemead

TM/DD/CJS:

Enc. 2

cc: Ms. Caroll Mortensen, CalRecycle Director
CalRecycle (Ken DaRosa, Scott Smithline, Teri Wion)
California Air Resources Board (Mike Tollstrup, Eddie Chang, Mei Fong)
Each Member of the Los Angeles County Board of Supervisors
California State Association of Counties
League of California Cities
League of California Cities, Los Angeles County Division
Southern California Association of Governments
San Gabriel Valley Council of Governments
South Bay Cities Council of Governments
Gateway Cities Council of Governments
Each City Mayor & City Manager in Los Angeles County
Each Recycling Coordinator in Los Angeles County
Each Member of the Los Angeles County Integrated Waste Management Task Force
Each Member of the Alternative Technology Advisory Subcommittee



ENCLOSURE

Conversion Technology Studies and Reports

A partial listing of municipal, environmental, industry, and academic studies and reports

Evaluation of New and Emerging Solid Waste Management Technologies

Prepared for New York City Economic Development Corporation and New York City Department of Sanitation by Alternative Resources Inc (September 16, 2004)

Conversion Technologies Report to the Legislature

The California Integrated Waste Management Board (February 2005)

Conversion Technology Evaluation Report

Prepared for the County of Los Angeles by URS Corporation (August 18, 2005)

Summary Report: Evaluation of Alternative Solid Waste Processing Technologies

Prepared for the City of Los Angeles by URS Corporation (September 2005)

Focused Verification and Validation of Advanced Solid Waste Management

Conversion Technologies: Phase II Report

Prepared for New York City Economic Development Corporation and New York City Department of Sanitation by Alternative Resources Inc (March 2006)

Commercial Assessment: Anaerobic Digestion Technology for Biomass Projects

Prepared for Renewables East by Juniper (June 2007)

Los Angeles County Conversion Technology Evaluation Report Phase II Assessment

Prepared for Los Angeles County by Alternative Resources Inc (October 2007)

Guidance Document: How Conversion Technologies Fit Current Board Regulatory Structure

The California Integrated Waste Management Board (December 2007)

Evaluation of Municipal Solid Waste Conversion Technologies

Prepared for City and County of Santa Barbara by Alternative Resources Inc (April 4, 2008)

Evaluation of Emissions from Thermal Conversion Technologies Processing Municipal Solid Waste and Biomass

Prepared for BioEnergy Producers Association by UC Riverside (June 21, 2009)

Smart Choices for Biofuels

Sierra Club and Worldwatch Institute (January 2009)

Conversion Technology Study and Report

Prepared for OC Waste and Recycling by Clements Environmental (August 2009)

Guidance Document: How Anaerobic Digestion Fits Current Board Regulatory Structure

The California Integrated Waste Management Board (September 2009)

Pb Isotopes as an Indicator of the Asian Contribution to Particulate Air Pollution in Urban California

Department of Earth and Planetary Science, University of California, Berkeley, Earth Sciences Division, Lawrence Berkeley National Laboratory, Research Division, California Air Resources Board, Sacramento, California, and Department of Applied Science, University of California, Davis (2010)

Energy-Compost Feasibility Study and Environmental Impact Initial Study

Prepared for the City of Palo Alto by Alternative Resources Inc (August 30, 2010)