

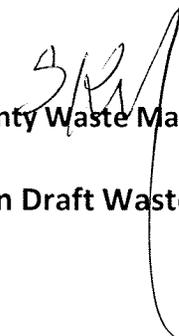


Riverside County
Waste Management Department

Hans W. Kernkamp, General Manager-Chief Engineer

July 18, 2013

To: Teri Wion
CalRecycle

From: Sung Key Ma 
Riverside County Waste Management Department

RE: Comments on Draft Waste Management Sector Plan

Hi Teri,

The Riverside County Waste Management Department (RCWMD) has reviewed the June 2013 version of the Waste Management Sector Plan (Plan). Provided below are our comments on the Overview paper and five Background Technical Issue papers that make up the Plan.

Overview

1. The primary goal of the Plan is to achieve a sustainable, low carbon waste management future for California. In other words, it is to achieve the State's greenhouse gas (GHG) and waste reduction/diversion goals established in, respectively, AB 32 and AB 341. Specifically, the Plan will address waste-related technologies and management strategies that align with the State's integrated energy, waste, and environmental policy objectives. In this context, we feel that CalRecycle needs to do some out-of-the-box thinking about new concept or definition of integrated waste management. The Integrated Waste Management and Resource Recovery Act (AB 939) established that waste is a resource and that it be treated according to a management hierarchy to capture the residual values of the resource according to its material type and 'recycling' properties. 'Integrated waste management' then was a strategy that emphasized on diversion of waste away from the landfills for purpose of resource recovery via reuse, recycling, composting, and safe transformation. Now, California envisions a waste management future that aims at sustainability, socially, economically, and environmentally. Therefore, 'integrated waste management' in this new vision should expand beyond the old narrow emphasis on waste diversion from landfills. Rather, it should mean truly integrating all these management methods such that they are designed, constructed, and operated synergistically, instead of hierarchically and separately, in an adaptive system that attracts and embraces new, integrative waste management technologies, including advanced landfill technologies, such as bioreactor landfill, and landfill-based reclaimable anaerobic composting technology, and is compatible to the dynamics of the social, economic, and physical environments. The State and CalRecycle, in particular, via this Plan, can create a regulatory environment conducive to the new integrated waste management paradigm.

2. As drafted, the Plan sets the 2020 goal on 20-30 MMTCO_{2e} GHG reduction via 75% waste diversion, 2020-2035 on net zero GHG emissions and associated waste reduction via further restriction on landfilling, and 2050 on 25% reduction in direct GHG emissions from 2035 level. All these goals are premised on the assumption that landfilling as a waste management method generates the most GHG emissions relative to other methods. In other words, the Plan perpetuates the current waste management hierarchy in the Waste Sector's GHG emission reduction planning and management arena to the extent that it equates waste diversion to GHG emissions reduction. However, this GHG emissions profiling within the Waste Sector is not supported with scientific lifecycle GHG emissions analyses, which are necessary and essential for getting the true GHG emissions pictures of today's Waste Sector, one that has evolved far from the AB 939 and federal Subtitle D eras along with waste technologies, best management practices (BMPs), and more stringent regulatory requirements and higher performance standards.

Landfilling of Waste

1. Regulatory Actions and Interagency Collaboration, page 7: This discussion indicates that BMPs for landfills may include *management of organic materials via composting or anaerobic digestion (AD)*. We would like the Plan to clarify whether or not this particular landfill BMP means specifically on-site management of organic waste via composting and AD. For example, there is a synergy between AD and landfill operations, as the AD operation can take advantage of the landfill's existing landfill gas (LFG) collection and conversion system and infrastructure for its biogas management. In other words, composting and, particularly, AD can be integrated into landfill operation as a BMP or an ancillary activity for handling the landfill's organic wastestream, instead of mandatory banning of organic wastes from landfills. This is an integrated landfill operation that combines the landfilling and composting/AD methods at one single facility. As such, organic wastes are not diverted from landfills, only from disposal.

2. Promote the Beneficial Use of Landfill Gas (as a challenge), page 7: This discussion reveals CalRecycle's ambivalent position toward LFG as an energy conversion resource and a GHG. On one hand, LFG is recognized as a resource and its beneficial uses as such are being promoted. On the other hand, diversion of organic waste from the landfills as a means to reduce GHG emissions is also being promoted, although CalRecycle understands that this will jeopardize the economic viability of LFG-to-energy (G2E) projects. This position, however, may be resolved when: (i) the true GHG emissions pictures of the Waste Sector from GHG lifecycle analyses are available; (ii) the new paradigm of integrated waste management is put to practice, as illustrated in the above example of AD and other technologies, such as Reclaimable In-situ Anaerobic Composting, bioreactor landfill, gasification systems, etc.

3. Uncertainty in Landfill Emissions, page 9: The AB 32 Scoping Plan Landfill Measure may help improve the estimations of LFG emissions from existing waste in landfills over time; however, without GHG lifecycle analyses, it alone will not give the true landfill emissions picture. Likewise, new and updated GHG emissions reduction factors, especially with respect to avoided GHG emissions for organics shifted to non-landfill alternatives, cannot be developed

without GHG lifecycle analyses. In other words, current estimates to avoid GHG emissions from non-landfill management of organics are not fact-based and remain to be proven true.

4. Promote the Beneficial Use of Landfill Gas (as a potential solution), page 9: Here in this discussion CalRecycle is concerned that incentives for G2E projects may promote landfilling of organic waste in lieu of diversion of the waste to non-landfill alternatives, thus jeopardizing the AB 341 75% diversion goal. Again, this illustrates the current perception of 'diversion equals GHG reduction,' which is not necessary true until proven with GHG lifecycle analyses.

5. Greater Diversion of Readily Recyclable Materials, page 9: The State is considering putting landfilling under the Cap-and-Trade Program as a means to effect GHG emission reduction from landfills. We question if this is even necessary since landfills have been and will further be regulated to accept less and less waste by means of diversion mandates. Likewise, their capacity to emit fugitive GHG is rendered less and less by increasingly stringent air rules and performance standards. In addition, we are concerned that the Cap-and-Trade Program may cause landfills already operating with diminishing waste quantity and rising costs to require purchasing of GHG credits to continue operation. This would be a double financial impact to landfill operators and jeopardize the viability of the landfill industry.

Composting and Anaerobic Digestion

1. GHG Emissions, page 4: CalRecycle is already treating as a fact that composting and AD can result in GHG emissions reduction, without verification from GHG lifecycle analyses. How are the Emissions Reduction Factors (ERFs) for organics diversion in Table 2 derived? How valid are they if they are not derived from GHG lifecycle analyses?

2. Table 3, Additional Programs That Provide Incentives for Composting and AD: CalRecycle lists ARB's Landfill Methane Control Measure as an incentive for composting and AD, while the measure is supposed to reduce LFG emissions by requiring installation of equipment and good operating practices at landfills, active and closed. This begs the question of the real intent of the ARB measure: to reduce fugitive LFG emissions for air quality benefits or to increase costs of landfill operation for the benefits of composting and AD?

The table contains an extensive list of incentives and funding programs for composting and AD, particularly for the beneficial use of biogas from these operations. In contrast, the discussion of beneficial use of LFG, or biogas from landfills, did not receive the same treatment, as none of the relevant incentives and funding programs were mentioned. This is a biased view against the environmental benefit/merit of landfills versus the same benefit from composting/AD.

3. Public Acceptance (of composting/AD facilities), page 9: CalRecycle is concerned that the push for siting more of these facilities in proximity to urban centers will meet serious public opposition, which is probably true. That makes the idea of integrating composting/AD operations and other appropriate technologies into existing landfill operations even more

attractive and necessary, because these waste facilities are compatible with landfilling. Although public acceptance is never guaranteed for any waste-related facilities in our society, it would make a stronger case for siting a composting/AD facility at an existing landfill site that is already “accepted” by its neighbors.

4. GHG Emissions Reduction Quantification (as a potential solution for meeting short-term goals), page 10: CalRecycle hopes that by updating compost ERF and development new ERF for AD would help realize the State’s GHG emissions and waste reduction goals. We recommend that the ERFs be developed only from GHG lifecycle analyses and not from computer modeling or other non-conclusive methods.

5. Offsets (GHG and Criteria Emissions) (as a potential solution for meeting short-term goals), page 10: Emission offset credits should be strictly technology-based. For example, a composting facility using traditional windrow technology should not receive any or as many emission offset credits as a composting facility using Aerated Static Pile (ASP), Extended ASP, or as a facility using AD or MSW Thermal Technologies with effective air emissions control devices.

6. Market & Regulatory Development (as a potential solution for meeting short-term goals), page 11: CalRecycle/ARB is considering disallowing greenwaste ADC beneficial use at landfills and complete banning organics at landfills as incentives to move organics over to the composting and AD markets. It is recommended that CalRecycle/ARB also considers the use of compost produced at an integrated landfill operation for ADC and erosion control purposes as a self-sustained compost market mechanism that facilitates organics diversion from disposal and not landfills.

Municipal Solid Waste (MSW) Thermal Technologies

1. Potential Conflicts with Recycling Goals, page 8: As CalRecycle has already decided (without GHG lifecycle analyses) that recycling, composting, and AD yield greater GHG emission reduction than MSW Thermal technologies, providing incentives for these thermal technologies is considered to have the potential of increased use of feedstock that could otherwise be recycled or composted or digested. It is true that the potential exists, but it may not be bad at all that these facilities’ feedstock may include recyclables, because that would, at least, help realize the overarching principle of taking full ownership of California’s own waste that the Plan promotes. In contrast, recycling markets are more volatile and dynamic as they are subject to complex global competitions and influences. It is much more difficult to take and maintain full ownership of all recyclables generated in the State by means of in-state recycling/remanufacturing. MSW Thermal facilities can play a role in achieving this principle. Notwithstanding its role in assisting the full ownership principle, rules and regulations or financial incentives should be devised to facilitate diversion of recyclables from these thermal facilities, as warranted.

2. Renewable Energy Credits (as a short term solution), page 10: We agree that statutory definitions for conversion technologies need to be revisited to clarify their qualification for renewable energy credits (ERC), which are becoming increasingly crucial to the commercialization of these technologies in California as 2020 approaches. But this statutory process may not be objective and likely influenced by CalRecycle's priority to protect recycling and composting programs from feedstock competition from these thermal technologies. Perhaps this is a good opportunity for the State to take a more basic energy efficiency perspective when it compares the environmental merits of different waste management methods. Since energy is the most basic metric for all material processes, total destruction of material forms by thermal conversion technologies is not necessarily a bad thing if it is energy efficient. In comparison, maintenance of material forms by recycling/remanufacturing is not automatically a good thing if it is not energy efficient.

Recycling, Reuse, and Remanufacturing

1. Goals for Recycling/Remanufacturing & Achieving GHG Benefits, page 4: The discussion opens with the statement '*using recycled commodities as feedstock for remanufacturing and energy production will achieve significant GHG reductions.*' This is a generic statement not backed up with scientific data and proofs, which will require GHG lifecycle analyses to generate. The discussion also provides a numerical estimate for the GHG benefit (20-30 MMTCO₂e reduction) of achieving AB 341's 75% recycling goal. Once again, this estimate is based on the presumption that recycling will achieve significant GHG reductions and preliminary ERFs that are not based on GHG lifecycle analyses.

On page 5 the discussion does acknowledge that future lifecycle analyses are needed to evaluate the impacts of waste reduction activities on GHG emissions. But before the impacts are known, ARB has already come up with ERFs for recycling and remanufacturing and other non-landfill processes, and more important, the State is designing this Plan, setting Waste Sector goals (2020, 2035, and 2050), and developing waste management/GHG reduction programs that are based on perceptions in lieu of facts and on ERFs that are preliminary and skewed.

2. GHG Emissions Reduction Quantification (as a potential solution for meeting short-term goals), page 10: CalRecycle hopes that by updating existing ERFs and developing new ERFs for alternative waste processing pathways and materials would help reap GHG benefits via recycling, reuse, and remanufacturing. We recommend that the ERFs be developed only from GHG lifecycle analyses and not from computer modeling or other non-conclusive methods.

We appreciate the opportunity to review and comment on the draft Plan and are looking forward to working with your agency throughout this planning process.