

July 12, 2013

Ms. Caroll Mortensen, Director
Department of Resources Recycling and Recovery
1001 I Street
Sacramento, CA 95812

Subject: Draft Waste Sector Management Plan - Comments on the Composting and Anaerobic Digestion Technical Paper (June 18, 2013 Draft)

Thank you for providing Synagro Technologies, Inc. (Synagro) with the opportunity to comment on the CalRecycle/California Air Resources Board (CARB) Waste Sector Management Plan for Composting and Anaerobic Digestion. Synagro is the largest recycler of organic by-products in the United States. Providing essential environmental solutions to over 600 public and private water and wastewater treatment facilities in the municipal and industrial sectors, Synagro operates in every part of the nation employing over 800 people.

Synagro owns and operates two large biosolids and green waste composting facilities in the Central Valley of California. Synagro's compost is carefully blended, cured, and screened to create a stable and fertile compost product. Made from carbon-rich, organic feedstocks and biosolids, Synagro compost is the result of a natural and controlled biological heating process, which composts, stabilizes and sanitizes incoming feedstock materials. The end result is a high quality soil amendment used by professionals in agriculture, horticulture and landscape. Synagro takes pride in consistently recycling several hundred thousand tons of the State's green waste and biosolids through the production of compost at these facilities, thus providing important infrastructure to help achieve CalRecycle's goal of 75% recycling of California's waste stream and CARB's goal of greenhouse reduction. Without the service of such biosolids compost facilities, California's wastewater agencies would have extreme difficulty to meet their recycling and greenhouse gas reduction mandates.

Synagro has reviewed the June 18, 2013 version of the Draft Waste Sector Management Plan on Composting and Anaerobic Digestion (Plan) and shares the State's assessment that the composting of the "organic materials that are currently landfilled and putting this material to a more beneficial use as feedstock for composting and anaerobic digestion"... "is essential to ensure the success of meeting California's [AB 341] waste diversion and [AB 32] GHG reduction goals." Our main concern is that regulatory and economic barriers to the building of the additional necessary composting and anaerobic digestion infrastructure are insurmountable without a coordinated effort by the State to address the problem.

Synagro respectfully submits the following comments on the State's Plan:

II. GENERAL DESCRIPTION OF THE COMPOSTING AND ANAEROBIC PROCESSES

The Plan notes that composting is performed using aerated static piles (ASP) and biofilters, to meet air quality requirements in certain areas of the State. The use of ASP and biofilters in lieu of open air windrow composting has proven to be cost ineffective. As noted at the June 18, 2013 meeting, a University of California at Davis study showed that the species of VOCs that were emitted from composting did not contribute to the production of ground-level ozone. Synagro encourages the State to work with EPA to address this issue so that cost-effective composting facilities can be built in California.

III. CURRENT STATUS OF COMPOSTING AND ANAEROBIC FACILITIES IN CALIFORNIA

Synagro strongly concurs with the Plan's assessment that "[c]omposting infrastructure expansion has remained stagnant over the past 10 years because of increased costs of air quality and water quality requirements, feedstock competition due to low landfill tipping fees and alternative daily cover use..." That being said, Synagro has been very successful in marketing its compost products to the agricultural, landscape, and horticulture industries in California's Central Valley and can attest to the strong demand for and use of such compost products.

Synagro agrees with the Plan's assessment that "[t]he GHG emission reductions from these activities would occur due to avoided landfill emissions, displacement of fossil fuel with biogas, and reduction in synthetic fertilizer and water usage." Use of compost enables users to use less fertilizer, reduce irrigation, replenish depleted organic matter, and avoid soil compaction and erosion. "Instead of landfilling, using organic material as feedstock for composting and anaerobic digestion can result in reductions of GHG emissions.

http://faculty.washington.edu/slb/docs/slb_JEQ_08.pdf

Composting is an *aerobic process* that transforms a range of organic substrates into a stable, humus-like material through microbial decomposition without the formation of methane. Because the feedstocks used are part of the short-term C cycle, the CO₂ emissions from decomposing organic matter in compost piles are not considered as additional GHG emissions. Depending on the rate of decomposition and the quantity of CH₄ associated with the decomposition, it is possible that a high percentage of the CH₄ generation potential of the substrate will be exhausted before landfill gas capture systems are put into place.

http://faculty.washington.edu/slb/docs/slb_JEQ_08.pdf

Also see the issue paper "*Methane Avoidance from Composting*" by the Climate Action Reserve (http://faculty.washington.edu/slb/docs/CCAR_Composting_issue_paper.pdf). The objective of this issue paper was to reflect and summarize existing research, data, and quantification methodologies related to diverting organic waste from a landfill to a compost facility where it degrades aerobically rather than anaerobically, thus reducing or eliminating methane emissions.

As for permitting, the Plan captures the surprisingly numerous permits from federal, state and local agencies that proposed compost facilities are required to obtain. The most beneficial action that the State can perform as part of this Plan is to streamline the permitting process into a reasonable and attainable effort. Without such permit streamlining, the State will not create the composting capacity to meet their AB 341 75% diversion and AB 32 greenhouse gas reduction targets.

IV. GOALS FOR INCREASING COMPOSTING AND ANAEROBIC DIGESTION AND ACHIEVING GHG BENEFITS

Synagro strongly agrees that the "use of composting and anaerobic digestion processes can play a significant role in achieving California's goals for reducing GHG emissions [AB 32] and reducing the volume of material deposited in landfills by 75% [AB 341]. The GHG emission reductions from these activities would occur due to avoided landfill emissions, displacement of fossil fuel with biogas, reduction in synthetic fertilizer and herbicide usage, decreases in soil erosion, and less water usage."

Synagro suggest that this section should also include targeting cap-and-trade auction proceeds for the funding programs for increasing Composting and Anaerobic Digestion and Achieving GHG benefits. Synagro strongly supports CARB's efforts to invest cap and trade proceeds into programs regarding Natural Resources and Waste Diversion, with the diversion of organic waste being done via composting, and by encouraging the processing of organic waste via anaerobic digestion to produce carbon negative fuels. Anaerobic digestion and composting are at the nexus of the AB 32 Scoping Plan adopted measures where organic wastes are diverted from landfilling to generate renewable energy and negative carbon fuel, resulting in quality compost that is returned to sustainable agriculture.

V. CHALLENGES TO MEETING GOALS

Synagro concurs and stresses that the major barriers to “[b]uilding new and up-grading existing composting and anaerobic digestion facilities” are the onerous and costly process to obtain multiple permits and regulatory compliance requirements, the length of time for approval processes, CEQA issues, and local community and regional planning and acceptance, including environmental justice concerns, along with the relatively low cost of landfilling and the lack of financial incentives for non-landfilling alternatives that impedes increases in composting and anaerobic digestion development. These barriers need to be eliminated if the goals desired to be achieved by the Plan are to be obtained.

Long-Term – Beyond 2020

- *Quality of Organic Material needs to be standardized and accepted by the industry and public*

This statement should be removed from the Plan in that biosolids compost quality has been standardized by EPA's 40 CFR Part 503 regulations and Title 14 ([Composting Regulations - Title 14 CCR, Division 7, Chapter 3.1](#)) and in today's market, compost is accepted by the industry and the public.

- *Future research*

Much compost-related research has already been identified and should be referenced and cited in the Plan. Additional future research should target:

- Water efficiency/savings of using compost products
- Erosion control for SWPPP Caltrans projects
- Increase yields in crops
- Utilization of the UC Davis VOC research to influence EPA to change ambient air quality standards that will help develop cost-effective compost facilities
- Additional GHG reduction from compost production/use studies

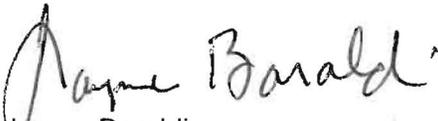
VI. POTENTIAL SOLUTIONS FOR MEETING GOALS

As stated before, Synagro concurs that the most effective and immediate method to encourage the development of composting and anaerobic digestion facilities would be to “[w]ork with other agencies, districts, and jurisdictions to identify and address conflicting permitting and regulatory requirements for composting and anaerobic digestion facilities/operators

Synagro supports the revision of the compost emission reduction factor to include avoided landfill emissions. As for offsets, the inclusion of the CAR Organic Waste Digestion Protocol and the Organic Waste Composting Protocol as CARB's compliance off-sets in order to provide an incentive to expand food waste diversion from landfills for treatment at anaerobic digestion (AD) and composting facilities. These efforts will help to meet the emission reduction goals of the Scoping Plan, which call for a 2 MMTCO₂e reduction from anaerobic digestion of waste and another 2 MMTCO₂e reduction from "Increase Production and Markets for Organics Products". Meeting these two explicit goals requires increasing the capacity of these two organic treatment processes.

With the proper incentives and support, compost use in agriculture can play an important role in the State's climate change adaptation efforts. As stated before, the increased use of compost can provide many societal and environmental benefits, including a being an important component of soil moisture management and reducing water consumption. Since agriculture uses about 80% of California's water supply, and water conveyance uses approximately 20% of the state's energy, a small decrease in water demand by agriculture can create a significant source for other sectors and help the State's distressed farmers adjust to decreasing water availability and increasing costs.

Thank you again for this opportunity to comment. Synagro appreciates the progress made on this issue through the ongoing collaborative efforts. Please let me know if you have questions or need further clarification on these comments. Synagro looks forward to continued work toward resolution of this important recyclable material and greenhouse gas management issue.



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