

September 27, 2021

California Air Resources Board

1001 I Street

Sacramento, CA 95814

[Informal Comment Docket](https://www.arb.ca.gov/lispub/comm2/bcsubform.php?listname=acf-comments-ws&comm_period=1)

**Re: Informal Public Comments on the Proposed Advanced Clean Fleets Rulemaking**

To Whom It May Concern:

The California Waste Haulers Council is an association of solid waste service providers. Our members range from small, privately owned enterprises to several of the world’s largest integrated waste management firms. Collectively, California Waste Haulers Council members serve an estimated 26 million residents or approximately two-thirds of the state’s population, and operate virtually every form of integrated solid waste management, recycling, composting, anerobic digestion, and landfill program, facility and service now in existence. Our members share in the state’s pollutant reduction and climate change goals, and though we may have different views on how best to accomplish these goals, we are committed to providing these essential services to ensure that California will realize all of its environmental objectives.

The California Waste Haulers Council is comprised of the California counties of Fresno, Imperial, Inyo, Kern, Kings, Los Angeles, Madera, Orange, Riverside, Santa Barbara, San Bernardino, San Diego, San Luis Obispo, Tulare, and Riverside. Our members have expended billions of dollars in delivering wastes collection and processing, recycling, and composting services along with other waste diversion activities to these communities.

The solid waste industry has been experiencing a paradigm shift in operations and the delivery of services brought about by current and emerging environmental and climate change policies. The solid waste system has become a multi-disciplinary field requiring information about the physical, environmental, social, and economic implications of a system focused on climate change, toxic properties of waste, Short-lived Climate Pollutant reductions, advanced clean fleet requirements, and associated health risks. Additionally, the solid waste industry understands its role as an essential public service and serving diverse populations and demographics including our important role of meeting the needs of the low-income disadvantaged communities.

Current environmental indicators alone for solid waste do not adequately inform decision-makers, stakeholders and the public about all of these attributes impacting the integrated waste management system.

To illustrate this conundrum, [SB 1383](https://ct3k1.capitoltrack.com/Bills/15Bills/sen/sb_1351-1400/sb_1383_bill_20160919_chaptered.pdf) (Lara, 2016) establishes methane emissions reduction targets in a statewide effort to reduce emissions of short-lived climate pollutants. SB 1383 establishes enforceable targets to achieve a 50 percent reduction in the level of the statewide disposal of organic waste from the 2014 level by 2020 and a 75 percent reduction by 2025. The law granted CalRecycle the regulatory authority required to achieve the organic waste disposal reduction targets and establishes an additional target that not less than 20 percent of currently disposed edible food is recovered for human consumption by 2025. Further this regulatory authority is passed on to local government and non-governmental agencies through enforceable standards and programs to achieve these reduction targets beginning January 1, 2022 with full implementation by jurisdictions and regional agencies completing their planning requirements by August 1, 2034 to cover January 1, 2035 through December 31, 2044.

Concurrent with the short lived climate pollutant regulation, CARB is developing a [medium- and heavy-duty zero-emission fleet regulation](https://ww2.arb.ca.gov/sites/default/files/2021-04/20-016%20Factsheet_ZE%20onroad%20strategies.pdf) with the goal of achieving a zero-emission truck and bus California fleet by 2045 everywhere feasible. The initial focus will be on high-priority fleets, including refuse trucks, with vehicles that are suitable for early electrification, their subhaulers, and entities that hire them. The goal of this effort is to accelerate the number of heavy-duty zero-emission vehicle purchases to achieve a full transition to zero-emission vehicles in California as soon as possible.

Local governments that serve disadvantaged communities must integrate environmental justice into their planning processes which includes air quality goals and policies to promote zero-emission fleet and technology deployment, including the use of zero emission refuse trucks, where feasible.

The California Air Resources Board is developing the Advanced Clean Fleets regulation as part of a comprehensive strategy to achieve a zero-emission truck and bus fleet by 2045 everywhere feasible and significantly earlier for market segments such as public fleets, high priority fleets and drayage applications.

Currently, workshops are being held to discuss the initial draft Advanced Clean Fleets rule making language ([High Priority and Federal Fleet Requirements](https://ww2.arb.ca.gov/sites/default/files/2021-08/210909acfdraft_highpriofed_ADA.pdf), [Public Fleet Requirements](https://ww2.arb.ca.gov/sites/default/files/2021-08/210909acfdraftpub_ADA.pdf), [100% ZEV Sales Requirements](https://ww2.arb.ca.gov/sites/default/files/2021-08/210909draft100zev_ADA.pdf), [Drayage Truck Requirements](https://ww2.arb.ca.gov/sites/default/files/2021-08/210909acfdraftdrayage.pdf)) and updated cost assumptions. The draft regulation language includes proposed regulatory language for high-priority fleets. Additionally, updated assumptions are being used to develop the Standardized Regulatory Impact Assessments (SRIA).

**The Solid Waste Industry Dilemma**

As California Waste Haulers Council members focus on the development of [Total Cost of Ownership](https://ww2.arb.ca.gov/sites/default/files/2021-08/210909costdoc_ADA.pdf) and the Advanced Clean Fleets Regulation language for [High Priority and Federal Fleet Requirements](https://ww2.arb.ca.gov/sites/default/files/2021-08/210909acfdraft_highpriofed_ADA.pdf), it is becoming very apparent that a holistic approach is essential to properly evaluate the complexity of solid waste services impacts. A comparative focus on zero emission heavy-duty refuse vehicles must simultaneously assess Total Cost of Ownership for battery-electric, fuel cell electric, diesel, and natural gas-powered counterparts. As part of this assessment, comparative Total Cost of Services analysis must be included for High-Priority fleet vehicle modeling associated with the delivery of mandatory services required by SB 1383. The factors in modeling must provide findings of feasibility, considering equity, geography, the changing waste stream, demographics, and pollution loads to overcome disproportional impacts to communities our members serve.

These factors, along with the multi-disciplinary impacts, are of paramount importance for Climate Change and integrated waste management program development and services delivery. As a general note, it should be understood that the majority of costs associated with mandated local solid waste services are predicated on cost pass through fees for service rate setting subject to [Proposition 218](https://lao.ca.gov/1996/120196_prop_218/understanding_prop218_1296.html) and dedicated long-term services stability (short term higher rates- long term lower rate spread of costs).

**Areas of Concern and Significant Challenges**

We urge CARB staff to work with California Waste Haulers Council members to expand their engagement with solid waste industry stakeholders to address critical elements of the zero-emissions refuse vehicle requirements. We fully expect that zero-emissions refuse trucks will get to the point where they can be deployed in future years, and their prices will go down over time. However, they may not be cost competitive or satisfy Total Cost of Services mandated requirements for many years for some truck types. In the meantime, near-zero Optional Low NOx technologies offer feasible alternatives for the near future.

Solid waste stakeholders recognize the Standardized Regulatory Impact Analysis, Modeling, and Initial Statement of Reasons need considerable input from waste industry members to provide additional detail based on strategic thinking and scenario planning to demonstrate real world conditions for the following**\***:

***Drive Cycles and Duty Cycles*** – with the examination of variations over time for cold weather climates and warm regions and seasons. For example, fleet vehicles in the snow have totally different drive and duty cycles compared to duty cycle during warm weather.

This is hard to evaluate since we do not have adequate duty cycle history over a minimum of a five-year test period to assess. We do know that if the ZEV operating life decreases, we will have increased costs per hour and rates will have to be increased to our customers.

***Payload Capacity*** – We need to understand the comparable weight of the battery and assuming the battery is heavier in ZEV, it will decrease our payload for different refuse truck types. We have statutory weight limits, and this has to be analyzed in conjunction with any transition to ZEV.

***Power take-off*** (PTO), including packer power export load demand cycling (minimum, maximum, average, duration) must be examined carefully.

***Annual Mileage by type of services*** – We urge a comparison be done with ZEV, clean diesel and renewable natural gas, including types of services and trips.

***Fueling times*** – What has been analyzed to determine the fueling times for the vehicles as we have to meet contractual obligations and route schedules?

***TCO and TCS analysis***

* ***Cost projections outlined by CARB to date are significantly lower than actual costs*** for the customized vehicles utilized in our industry. With current comparisons we anticipate ZEV to be almost double the cost of a CNG vehicle for residential vehicles and front loaders
* ***Concern over the shorter time period in the payback period*** – Considering there is not a ‘refuse’ life cycle experience, battery performance research is needed to evaluate a payback period. A full life cycle analysis of the battery and components needs to be considered. Additionally, rational long terms and conditions of services, rates stability, payback, and return on investments must be included.
* ***Infrastructure and electricity factors remain a huge factor and vary by operation.***
* ***Refuse is an “essential public service”*** with public health consequences, and as such “outages” are a real hazard that need to be evaluated prior to changes to the infrastructure.
* We are concerned with ***shorter duty cycles*** – we may need more vehicles, and this would have consequential impacts in terms of infrastructure, real estate and fiscal considerations.
* ***Diverse fleets*** – Refuse Packer truck distinguished by type, i.e., side-loader, front-loader, rear-loader, etc. All of these meet separate performance criteria and need to be evaluated separately.
* ***What does “where feasible” mean?***  This is a highly subjective term, and a clear process needs to be incorporated to provide exceptions or a waiver.
* ***There has not been an evaluation of the diverse geography*** we cover in our routes and our performance needs vary. Rural/urban/desert/high population/multi-family dwellings/commercial, etc.

*\*Please note the issues listed above are not exhaustive, but are areas of importance identified in our early review.*

**Conclusion**

In reviewing the Draft Advanced Clean Fleets [Total Cost of Ownership Document](https://ww2.arb.ca.gov/sites/default/files/2021-08/210909costdoc_ADA.pdf) and Draft [High Priority and Federal Fleets Requirements](https://ww2.arb.ca.gov/sites/default/files/2021-08/210909acfdraft_highpriofed_ADA.pdf), our members find that there are ambiguities in the Draft documents language that will lead to misleading or erroneous conclusions on the feasibility of the wide use of heavy-duty zero emission refuse trucks in all communities, including the many low-income disadvantage communities we serve.

Other problems identified by our membership are that operation and facility categories, contracting practices, fleet mix, fueling and power infrastructure and service delivery are internally inconsistent and do not match cross-entity policies and mandates. This lack of consistency and clarity will interfere with compliance obligations of our members with [CalRecycle](https://ww2.arb.ca.gov/sites/default/files/2021-08/210909acfdraft_highpriofed_ADA.pdf), [CDFA](https://www.cdfa.ca.gov/), [OPR](https://opr.ca.gov/), [SWRCB](https://www.waterboards.ca.gov/), [local air districts](https://ww2.arb.ca.gov/california-air-districts), etc. There needs to be a coordinated effort undertaken with other agencies to align the goals and objectives and to consider the cost impacts to the communities we serve.

It should be noted that it is of concern that we have not seen a commercially-viable electric-battery truck available in anything but “beta” form, and the performance has not been viable to date. We believe there is a real question about whether we will need two ZEV vehicles to replace our one current vehicle due to payload and duty cycle considerations.

We would encourage consideration of the other cap-and-trade programs underway in our sector and a practical phased in approach for ACF’s once those other important environmental initiatives have been fully implemented. In addition to all the considerations above, we also need to allow time to evaluate the new and emerging waste streams developing from these initiatives, such as SB 1383. The full implementation of these programs will bring changes to our waste stream which will greatly influence fleet considerations in the future.

Thank you for the opportunity to comment on the proposed documents. Please contact any of the undersigned if you have questions or to request further information. We stand ready to assist you in achieving the goals of Climate Change and Pollution Reduction, and we urge consideration of a separate discussion with the waste industry to better delineate the challenges and needs of the sector.

Sincerely yours,



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California Waste Haulers Council