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April 8, 2021

Sent via email

Chris Burford, P.E.  
ZEE lead

Dorothy Fibiger, Ph.D.  
SORE lead

Christopher Dilbeck, Ph.D.  
Manager, Testing and Certification Section

Manisha Singh, Ph.D.  
Chief, Quality Management Branch

California Air Resources Board  
1001 I Street  
Sacramento, CA 95814

Dear Mr. Burford, Ms. Fibiger, Mr. Dilbeck and Ms. Singh:

CLCA supports opportunities to study potential SORE sector emissions reductions. Small off-road engines are currently in their third stage of federal and California emissions reductions since the 1990s, reducing some product emissions as much as 90% from pre-regulated days[1]. There is no one-size-fits-all zero-emissions equipment approach. The outdoor power equipment industry has led zero-emissions adoption by example, with large-scale development and adoption of zero-emissions equipment, when feasible. Additional development is needed for zero-emissions equipment to satisfy professional users' cost, run-time, and performance needs.

Current zero-emissions equipment is not widely adopted for high-use needs, such as those of our licensed landscape contractor members, due to challenges with performance. The ability to work all day without recharging, coupled with the up-front cost difference, presents significant challenges to professional users. The most considerable challenges are felt for those small, single owner-operator businesses, which are the majority of California landscape maintenance operators. Many of these operators are minorities and/or lower-income individuals and perform regular maintenance tasks that do not require a C-27 landscape contractors license from the Contractors State License Board.

CARB's survey data suggests an adoption rate of zero-emissions landscape professional equipment at just 0.5%. The low adoption rates are because the upfront cost of zero-emissions outdoor power equipment is several times that of the gas-powered counterparts, often with less power and more frequent battery changes/recharges needed than fuel refills. For example, commercial-grade zero-emission zero-turn riding mowers range from \$15,500 to more than \$37,000; in most cases, this is more than double the upfront cost of comparable gas-powered equipment.

Commercial-grade handheld products have similar cost concerns. One popular manufacturer's zero-emission string trimmer retails for \$400, similar to the same manufacturer's gas-powered unit. However, to use this string trimmer for an entire workday requires the purchase of extra batteries and chargers thus, driving the up-front

cost to exceed \$1,000. Once the cost of gas vs. electricity is factored in, even for those who can afford the initial increased cost, these costs are currently not recoverable over the life of most commercial-grade equipment.

It appears that the current proposal offers a gas-powered equipment compliance path through accrued credits for manufacturers. In speaking with manufacturers, we understand they have limited credits. Furthermore, the current CARB program does not offer opportunities to generate credits needed to continue to offer gas-powered equipment beyond model year 2023. Thus, the proposed regulation would be a ban on most SORE gas-powered equipment starting with model year 2024. Landscape professionals relying on outdoor power equipment for their business needs will likely be forced to purchase electric-powered units to fulfill any new equipment needs starting with model year 2024.


As it stands now, there are insufficient product offerings to support the commercial-scale transition to commercial-grade zero-emissions equipment that would be needed based on CARB's proposal and modeling.

In addition, significant infrastructure is needed to address battery production needs and recycling of the products, even at the current organic transition pace.

CARB's SORE2020 model estimates more than 1.25 million pieces of lawn and garden equipment will need to shift from gas-powered to electric annually, starting with model year 2024. Of that, nearly 300,000 of that is commercial use equipment (landscape professionals and general business). Industry estimates show that the rate of product production for zero-emissions equipment is not sufficient to meet this estimated annual need.

Landscape professionals care about our environment and our communities; we dedicate our work to creating and maintaining beautiful and beneficial landscapes. CARB's current proposal needs to be revised to allow the continued sales of SORE equipment in California until manufacturing, performance, economic, and recycling challenges of lower-emission alternatives are resolved.

Sincerely,

A handwritten signature in black ink that reads "Sandra Giarde". The signature is fluid and cursive, with the first name "Sandra" being more prominent than the last name "Giarde".

Sandra Giarde, CAE  
Executive Director

[1] US EPA 40 CFR Parts 90, 1054, 1060, 1065 and 1068. See US EPA-HQ-OAR-2004-0008 0930 Regulatory Impact Analysis and Regulatory Support Document, Control of Air Pollution; Emission Standards for New Nonroad Spark-Ignition Engines at or Below 18 kW and EPA Final Regulatory Impact Analysis, Phase 2 Final Rule: Emission Standards for New Nonroad Handheld Spark-Ignition Engines At or Below 19 kW. See EPA Annual Certification Data for Vehicles, Engines and Equipment, <https://www.epa.gov/compliance-and-fuel-economydata/annual-certification-data-vehicles-engines-and-equipment>.