



CALIFORNIA METALS COALITION

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California Air Resources Board (CARB)
1001 I Street
Sacramento, CA 95814

David Eiges, Air Resources Engineer Staff Lead: david.eiges@arb.ca.gov
David Chen, Advanced Emission Control Strategies Section Manager: david.chen@arb.ca.gov

RE: Comments on July 6, 2022 Draft Order for CARB Zero-Emission Forklift Regulation

Dear Mr. Eiges and Chen:

The California Metals Coalition (“CMC”) appreciates the opportunity to comment on the *Zero Emission Forklifts Rulemaking*, and working group proceedings, led by the California Air Resources Board (“CARB”).

SUMMARY

This comment letter addresses the proposed draft language for “Zero-Emission Forklift Fleet Requirements Regulation” released July 6, 2022. It may also reference the “Proposed Zero-Emission Forklift Regulation Summary of Recent Changes” released July 6, 2002.

ABOUT ADVANCED METALS INDUSTRY IN CALIFORNIA:

California metal manufacturers utilize recycled metal (ex: aluminum, brass, iron, steel) to manufacture new metal parts installed in clean energy technologies, electric cars, medical devices, agriculture, infrastructure, aerospace, defense, food processing, movement of water, and millions of other products demanded by Californians.

Statistics about the state’s metal sector:

- Metalworking jobs in California pay \$80,000/year, on average, in wages and benefits.
- Metalworking jobs benefit working class communities and continue to be the only path to the middle-class for many disadvantaged Californians.
- The metals industry in California is comprised of approximately 4,000 businesses, most of which are family-owned small businesses.
- The metals industry in California generates over 350,000 total jobs.

- The metals industry in California accounts for \$87 billion in total annual economic activity.
- The metals industry in California generates \$28 billion in total annual wages.
- The metals industry in California accounts for \$8.6 billion in total annual state and federal taxes.

ENVIRONMENTAL BENEFITS OF MANUFACTURING METAL PRODUCTS IN CALIFORNIA:

Californians discard more metal than any other state in the US. In fact, Californians generate enough aluminum scrap each day to build 5 commercial aircrafts. Fortunately, recycled metal is the choice material consumed by California's metals industry.

As metal can be recycled and reused indefinitely without losing its physical properties, metal recycling allows us to preserve the finite resources we have on earth. The Institute of Scrap Recycling Industries (ISRI) reports that recycling one ton of aluminium saves up to 8 tons of bauxite; and recycling one ton of steel conserves 1,115 kg of iron ore, 625kg of coal and 25kg of limestone. In addition, using scrap metal instead of virgin ore generates 97 percent less mining waste and reduces 40% water pollution. In total, the process of recycling discarded metal and manufacturing new metal parts can cut greenhouse gas emissions by 300 million to 500 million tons.

A healthy metals sector also has a big impact on energy conservation. Recycling discarded metal into new metal parts requires drastically less energy than manufacturing new metal parts from virgin material. The estimated yield in energy saving by using recycled metals is: 95% for aluminum; 85% for copper and 75% for iron and steel.

Finally, the environmental footprint of the metal products we all consume starts with manufacturing. Local metal recycling and manufacturing reduces overall emissions as California's metals industry adheres to the world's most stringent environmental standards. Shipping metals out of California—only to have the finished product shipped back into the state—can result in significant localized transportation emissions, as well as increased global greenhouse gas emissions.

COMMENTS ON PRELIMINARY DRAFT LANGUAGE DISCUSSIONS

Item #1: CARB should add zero-emission forklifts to its menu of incentivized programs.

It is well documented that the California Air Resources Board (CARB) has provided billions of dollars in incentives to move California towards a cleaner future. Trucks, off-road equipment, buses, cars, and other vehicles are allocated millions of dollars every year in incentive programs.

As part of the current rulemaking discussions, CMC expects CARB to describe how it can provide incentives for zero-emission forklifts. This can include financing programs, vouchers, rebates, credits, and point-of-sale support.

Item #2: Rulemaking should account for higher electricity rates, interruptible rates, and electricity curtailment experienced by energy intensive sectors (ex: metal manufacturing).

Utility rate programs offered to California's metalworking sector are consistently more restrictive than other non-energy intensive businesses. Due to current utility rate structures, the metals

sector can be penalized for electricity usage during certain hours of the day, be interrupted by the utility before other consumers, and can expect to curtail—or cease—operations during emergency situations (ex: local wildfires).

As part of current the rulemaking discussions, CMC expects CARB to address how volatile electricity rates will impact the implementation costs of a battery-powered forklift fleet.

As an example, if a metal facility is operating the forklift during off-peak working hours, how does it avoid charging the forklift during peak hours? What is the cost impact if the facility is penalized, or experiences much higher electricity rates, during peak hour usage when forklift charging is most practical? What is the cost impact if the facility is interrupted during a blackout or an emergency and the forklifts cannot be recharged—this can have serious cost impacts on the operations.

Overall, energy-intensive industrial sectors that have volatile electricity rates should be analyzed separately as part of the rulemaking.

Item #3: Worker safety issues due to puncturing or burning lithium powered forklifts.

Metal facilities, especially those handling scrap metal, can experience metal puncturing or damage to the undercarriage of their current forklifts. In addition, facilities that melt metal can have small amounts of molten metal on the floor around production. Punctured or burned lithium batteries are a major safety risk due to fire, leaks, and/or explosion.

As part of the current rulemaking discussions, CMC expects CARB to address safety issues at metal facilities that could have puncture or burn risks.

As an example, if a metal facility was to convert all their forklifts to lithium batteries, how do we protect our workers—both operating the forklift and around the lithium battery powered forklift if there is a punctured battery or burn accident? Similarly, if a metal facility was to convert all their forklifts to lithium batteries, what are the options (and costs) for effectively protecting the undercarriage of a lithium powered forklift to prevent battery puncture or burn?

Item #4: Industry survey and accounting for the increased costs of lithium battery forklifts.

CMC recently surveyed its members to understand what percentage of California metal companies have already adopted electric forklifts. 75 metal companies responded to the survey.

24% (18/75) of the respondents noted that they have at least 1 electric forklift. All 18 metal facilities with electric forklifts utilized lithium batteries (due to their ability to charge quicker, last longer, and handle the heavy loads). Only 1 of the 18 facilities has converted its entire fleet (2 total units) to electric; the other facilities still predominantly use propane-powered forklifts.

The cost of the lithium battery powered forklift was over \$30,000/forklift. More importantly, the cost to maintain the lithium battery powered forklifts was significantly higher when compared to a traditional forklift. This was exacerbated by the fact that the on-site maintenance team at a metal facility cannot maintain—or fix—a lithium powered forklift.

At the next working group meeting, CMC expects CARB to provide specific details regarding the cost of lithium powered forklifts, the cost to maintain lithium powered forklifts, and the costs association with not having multiple lithium powered forklifts available for production. All of this information is readily available and will directly impact current rulemaking discussions.

Item #5: Accounting for the life of a forklift when a business owns, maintains and repairs on-site.

Metal manufacturing facilities employ a highly-capable, on-site maintenance team. This maintenance team will work on various pieces of manufacturing equipment, as well as forklifts. Because they own the equipment, it is not uncommon to have a well-maintained forklift operate for decades. Moreover, regular maintenance means that the forklifts are optimally tuned up and can result in reduced overall emissions.

As part of the rulemaking discussions, CMC expects CARB to address forklift life when they are maintained on-site versus operations that rely on third parties. A singular timeline for all forklift product life does not account for real-world differences in how they are purchased and maintained.

Item #6: Retrofitting forklifts to reduce emissions while pursuing zero-emission alternatives.

There shouldn't be one single solution to effectively lowering forklift emissions. Technologies may change, environmental standards for batteries may change, and material shortages for batteries are unpredictable. Overall, it takes a combination of precautions and best practices to achieve emission reductions and peak business performance.

As part of the rulemaking discussions, CMC expects CARB to describe the options and benefits of installing catalytic converters to forklifts. A catalytic converter can help reduce the CO levels in the raw exhaust gas. It does this by converting the harmful emission gases such as carbon monoxide, hydrocarbons, and nitrogen oxide into less harmful emissions such as nitrogen, water vapor and carbon dioxide.

At the next working group meeting, CMC expects CARB to provide an overview of what technologies are available, including catalytic converters? How much can the technology reduce emissions? Lastly, if batteries are considered "zero-emission," what is the emission reduction percentage when employing a catalytic converter or similar technology. Overall, all options for emission reductions should be discussed.

CONCLUSION

Thank you for your time, and for allowing CMC to participate and comment on CARB's *Zero Emission Forklifts Rulemaking*. Please do not hesitate to contact me with questions: james@metalscoalition.com.

Sincerely,


James Simonelli
Executive Director