Title 13 California Air Resources Board

Notice of Public Hearing to Consider Proposed Zero-Emission Forklift Regulation

The California Air Resources Board (CARB or Board) will conduct a public hearing at the date and time noted below to consider the proposed Zero-Emission Forklift Regulation (Proposed Regulation).

Date: June 27, 2024

Time: 9:00 A.M.

In-Person Location:

Mary D. Nichols Campus, Southern California Headquarters
California Air Resources Board | Haagen-Smit Auditorium
4001 Iowa Avenue, Riverside, California 92507

Remote Option:

Zoom

This public meeting may continue at 9:00 a.m., on June 28, 2024. Please consult the public agenda, which will be posted ten days before the June 27, 2024 Board Meeting, for important details, including, but not limited to, the day on which this item will be considered, how to participate via Zoom, and any appropriate direction regarding a possible remote-only Board Meeting if needed.

Written Comment Period and Submittal of Comments

In accordance with the Administrative Procedure Act, interested members of the public may present comments orally or in writing during the hearing and may provide comments by postal mail or by electronic submittal before the hearing. The public comment period for this regulatory action will begin on November 10, 2023. Written comments not submitted during the hearing must be submitted on or after November 10, 2023, and received **no later than** December 26, 2023. Comments submitted outside that comment period are considered untimely. CARB may, but is not required to, respond to untimely comments, including those raising significant environmental issues. The Board also encourages members of the public to bring to the attention of staff in advance of the hearing any suggestions for modification of the proposed regulatory action. Comments submitted in advance of the hearing must be addressed to one of the following:

Postal mail: Clerks' Office, California Air Resources Board
1001 I Street, Sacramento, California 95814

Electronic submittal: *https://www.arb.ca.gov/lispub/comm/bclist.php*

Please note that under the California Public Records Act (Gov. Code, § 6250 et seq.), your written and oral comments, attachments, and associated contact information (e.g., your address, phone, email, etc.) become part of the public record and can be released to the public upon request.

Additionally, the Board requests but does not require that persons who submit written comments to the Board reference the title of the proposal in their comments to facilitate review.

Authority and Reference

This regulatory action is proposed under the authority granted in California Health and Safety Code, sections 39600, 39601, 43013, 43018, 43101, 43102, and 43104. This action is proposed to implement, interpret, and make specific sections 43013, 43017, 43018, 43101, 43102, 43104, 43105, 43150, 43151, 43152, 43153, 43154, 43205.5, 43211, and 43212.

Informative Digest of Proposed Action and Policy Statement Overview (Gov. Code, § 11346.5, subd. (a)(3))

Sections Affected:

CARB proposes to modify sections 2433 and 2775.1 of the California Code of Regulations (CCR), title 13 and add to the CCR, title 13, the following sections: 3000, 3001, 3002, 3003, 3004, 3005, 3006, 3007, 3008, 3009, 3010, and 3011.

Documents Incorporated by Reference (Cal. Code Regs., tit. 1, § 20, subd. (c)(3)):

The following documents, test methods, and model would be incorporated in the regulation by reference as specified by section:

- American National Standard Institute, "Safety Standard for Rough Terrain Forklift Trucks", 2021, ANSI B56.6-2021, incorporated by reference in CCR, title 13, section 3000.
- American National Standard Institute, "Safety Standard for Vehicle Mounted Forklifts", 2020, ANSI B56.14-2020, incorporated by reference in CCR, title 13, section 3000.
- Title 29, Code of Federal Regulations, Part 1910.147(b), last amended on July 25, 2011, incorporated by reference in CCR title 12, section 3000.

Background and Effect of the Proposed Regulatory Action:

CARB mobile source programs have made significant progress in improving air quality throughout California. However, many areas throughout the State still fail to attain the National Ambient Air Quality Standards (NAAQS) for ozone and fine particulate matter (PM) (i.e., PM2.5). About 26 million Californians live in areas exceeding the NAAQS, out of the total population of about 39 million. Consequently, about 67 percent of California's population live in areas exposed to concentrations above the federal ozone and PM2.5

standards[1]. In addition, climate change continues to impact California communities and the environment by increasing smog formation[2,3,4]; extending the pollen season; contributing to intense wildfires[5]; creating hotter temperatures that could cause heat-related health problems[6,7]; cause weather extremes, such as drought[8] and flooding[9,10]; and increase prevalence of infectious diseases[11,12]. Taking action to reduce criteria-pollutant and greenhouse gas (GHG) emissions is urgently needed to reduce the toll air pollution and climate change is taking on Californians.

Mobile sources and the fossil fuels that power them are the largest contributors to the formation of ozone, GHG emissions, fine PM (i.e., PM2.5), and toxic diesel PM. The combustion of fossil fuel by mobile sources accounts for approximately 80 percent of smog-forming nitrogen oxide (NOx) emissions, 90 percent of the diesel PM emissions, and

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[1] Based on 2021 monitored ozone design values contoured over population by census tract

[2] Reidmiller, D.R., et al., Impacts, Risks, and Adaptation in the United States: Fourth National Climate Assessment, Volume II, Chapter 14, Human Health, U.S. Global Change Research Program, 2018 (web link: *https://nca2018.globalchange.gov/chapter/14/*).

[3] McMichael, A.J. et al. (Eds.), Climate Change and Human Health: Risks and Responses, World Health Organization, page 12, 2003 (web link: *https://apps.who.int/iris/bitstream/handle/10665/42742/924156248X_eng.pdf?sequence=1&isAllowed=y*).

[4] NRDC, Issue Brief: Climate Change and Health in California, page 3, February 2019 (web link: *https://www.nrdc.org/sites/default/files/climate-change-health-impacts-california-ib.pdf*).

[5] Singleton, M.P. et al., Increasing Trends in High-Severity Fire in the Southwestern USA from 1984 to 2015, Forest Ecology and Management, Volume 433, 2019 (web link: *https://www.fs.usda.gov/rm/pubs_journals/2019/rmrs_2019_singleton_m001.pdf*).

[6] Kadir, T. et. al (Eds.), Indicators of Climate Change in California, Office of Environmental Health Hazard Assessment, August 2013 (web link: *https://oehha.ca.gov/media/downloads/climate-change/document/climatechangeindicatorsreport2013.pdf*).

[7] California Air Resources Board, Health & Air Pollution (web link: *https://ww2.arb.ca.gov/resources/health-air-pollution*, last accessed August 2023).

[8] Mann, M.E. and Gleick, P.H., Climate Change and California Drought in the 21st Century, Proceedings of the National Academy of Sciences of the United States of America, March 2015 (web link: *https://www.pnas.org/doi/epdf/10.1073/pnas.1503667112*).

[9] Swain, D.L. et al., Increasing Precipitation Volatility in Twenty-First-Century California, Nature, 2018 (web link: *https://www.sierraforestlegacy.org/Resources/Conservation/FireForestEcology/ThreatsForestHealth/Climate/CI_Swain_etal_2018_Increasing_Precip_Volatility.pdf*).

[10] Dettinger, M., Climate Change, Atmospheric Rivers, and Floods in California—a Multimodel Analysis of Storm Frequency and Magnitude Changes, Journal of the American Water Resources Association, June 2011 (web link: *https://ca.water.usgs.gov/pubs/2011/climate-change-atmospheric-rivers-floods-california-dettinger.pdf*).

[11] Lindgren, E. et al., Monitoring EU Emerging Infectious Disease Risk Due to Climate Change, Science, April 2012 (web link: *https://www.researchgate.net/publication/224856024_Monitoring_EU_Emerging_Infectious_Disease_Risk_Due_to_Climate_Change).*

[12] Solomon, G. et al., Airborne Mold and Endotoxin Concentrations in New Orleans, Louisiana, After Flooding, October through November 2005, Environmental Health Perspectives, September 2006 (web link: *https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1570051/*).

nearly 40 percent of statewide GHG emissions.[13] [14] [15] Of that, off-road equipment contributes to approximately 14 percent of the NOx emissions and seven percent of the PM emissions attributable to mobile sources.[16]

The Proposed Regulation has been identified in the 2016 State Strategy for the State Implementation Plan, the 2016 Mobile Source Strategy (MSS), the 2020 MSS, and the Sustainable Freight Action Plan as one of several measures necessary for California to achieve its established air-quality and climate goals.

Forklifts that use internal combustion engines can be spark-ignited (i.e., gasoline, propane, or natural gas) or compression-ignited (i.e., diesel). Large Spark-Ignition (LSI) forklifts are spark-ignited forklifts of 25 horsepower or greater.

The Proposed Regulation would reduce criteria-pollutant and GHG emissions within the State by accelerating the transition of LSI engine powered forklifts to zero-emission technology (i.e., battery-electric, fuel cell-electric, or other zero-emission technology as the only source of power for propulsion and work). Certain types of forklifts, such as rough-terrain forklifts and diesel forklifts, would not be addressed by the Proposed Regulation.

About half of the forklift population in California already uses zero-emission technology largely due to advantages that zero-emission technology can provide, such as reduced indoor air pollution and lower operating costs. The Proposed Regulation would target most existing LSI forklifts for use of zero-emission technology.

CARB may also consider other changes to the sections affected, as listed on page 2 of this notice, or other sections within the scope of this notice, during the course of this rulemaking process.

Objectives and Benefits of the Proposed Regulatory Action:

The primary objectives of the Proposed Regulation include the following:

- Accelerate the deployment of Zero-Emission Forklifts (ZEFs), which achieve the maximum emissions reduction possible to assist in the attainment of NAAQS for criteria air pollutants (Health & Safety Code Sections 43000.5(b) and 43018(a)).
- Decrease and eliminate emissions from petroleum and fossil-fuel use by forklifts by setting standards that eliminate exhaust emissions from forklifts. Emissions from petroleum use as an energy resource contribute substantially to the following public

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[13] California Air Resources Board, 2022 Scoping Plan for Achieving Carbon Neutrality, page 184, December 2022 (web link: *https://ww2.arb.ca.gov/sites/default/files/2023-04/2022-sp.pdf*).

[14] California Air Resources Board, *Mobile Source Strategy*, page 5, May 2016 (web link: *https://ww3.arb.ca.gov/planning/sip/2016sip/2016mobsrc.pdf*).

[15] California Air Resources Board, 2022 Scoping Plan for Achieving Carbon Neutrality, page 56, Figure 1-8: 2019 State GHG emission contributions by Scoping Plan sector, December 2022 (web link: *https://ww2.arb.ca.gov/sites/default/files/2023-04/2022-sp.pdf*).

[16] California Air Resources Board, Staff Report for the Proposed Amendments to the In-Use Off-Road Diesel-Fueled Fleets Regulation, page 35, September 2022 (web link: *https://ww2.arb.ca.gov/sites/default/files/barcu/regact/2022/off-roaddiesel/isor.pdf*).

health and environmental problems, among others: air pollution and its associated health impacts, acid rain, global warming, and the degradation of California's marine environment and fisheries (PRC Section 25000.5[b], [c]).

- Decrease GHG emissions in support of statewide GHG reduction goals by adopting strategies to deploy ZEFs in California to support the Scoping Plan, which was developed to reduce GHG emissions in California, as directed by Assembly Bill (AB) 32 (Nu?ez, Chapter 488, Statutes of 2006) and Executive Order S-3-05 (Ch. 249, Stats. 2016, Pavley).
- Develop a regulation that is consistent with and meets the goals of the State Implementation Plan (SIP), providing necessary emissions reductions for all of California's nonattainment areas to meet NAAQS (Health & Safety Code Sections 39002, 39003, 39602.5, 43000, 43000.5, 43013, and 43018).
- Maintain and continue reductions in emissions of GHGs beyond 2020, in accordance with Senate Bill (SB) 32 (Health & Safety Code Sections 38551(b), 38562, 38562.5, 38566); and pursue measures that implement reduction strategies covering the State's GHG emissions in furtherance of California's mandate to reduce GHG emissions to the 1990 level by 2020 and 40 percent below the 1990 level by December 31, 2030. In addition, target and achieve carbon neutrality in California as soon as possible, but no later than 2045, pursuant to SB 100 (De León, Chapter 312, Statutes of 2018) and AB 1279 (Muratsuchi, Chapter 337, Statutes of 2022), maintain net negative emissions thereafter in accordance with AB 1279 and Executive Order B-55-18, and to ensure that by 2045, statewide anthropogenic greenhouse gas emissions are reduced to at least 85 percent below the 1990 levels, pursuant to AB 1279.
- Lead the transition of California's off-road sector from internal combustion to zero-emission technology. Support ZEF sales and Executive Order N-79-20's goal to transition off-road operations to zero-emission by 2035.
- Complement existing programs and plans to ensure, to the extent feasible, that activities undertaken pursuant to the measures complement, and do not interfere with, existing planning efforts to reduce GHG emissions, criteria pollutants, petroleum-based transportation fuels, and toxic air contaminant emissions.
- Incentivize and support emerging zero-emission technology that will be needed to achieve CARB's SIP goals.
- Achieve emission reductions that are real, permanent, quantifiable, verifiable, and enforceable (Health & Safety Code Sections 38560, 38562(d)(1)).
- Provide market certainty for zero-emission technologies and charging and hydrogen-fueling infrastructure to guide the acceleration of the development of environmentally superior ZEFs that will continue to deliver performance, utility, and safety demanded by the market.
- Take steps to ensure all Californians can live, work, and play in a healthful environment free from harmful exposure to air pollution. Protect and preserve public health and

well-being, and prevent irritation to the senses, interference with visibility, and damage to vegetation and property (Health & Safety Code Section 43000(b)).

- Spur economic activity of zero-emission technologies in the off-road sectors. Incentivize innovation that will transition California's economy into greater use of clean and sustainable zero-emission technologies and promote increased economic and employment benefits that will accompany this transition (AB 1493, Section 1(g) (Pavley, Chapter 200, Statutes of 2002); Health & Safety Code Section 38501(e)).
- Establish a fair and level playing field among fleet operators, forklift manufacturers, forklift dealers, and forklift rental agencies.
- Craft requirements in a way that ensures institutional capacity for CARB to manage, implement, and enforce requirements.

The Proposed Regulation is one of many regulatory measures that will be needed to achieve California's air-quality, climate, and zero-emission goals. The Proposed Regulation would establish phase-out requirements applicable to the most-common internal-combustion forklifts used in industrial and other applications across the State. Given operational constraints (such as indoor operation and forklift size) and the state of zero-emission forklift technology, phased-out LSI forklifts are expected to be ultimately replaced with zero-emission forklifts (battery-electric or fuel-cell powered).

Full implementation of the Proposed Regulation through calendar year 2043 is expected to result in the following emission reductions:

- 18,724 tons of NOx.
- 2,075 tons of PM2.5.
- 4,973 tons of reactive organic gases (ROG).
- 9.4 million metric tons (MMT) of carbon dioxide (CO_2).

Estimated cumulative health impacts of the Proposed Regulation through calendar year 2043 include the following:

- 544 avoided cardiopulmonary mortalities.
- 115 fewer hospital admissions for cardiovascular disease.
- 148 fewer cases of cardiovascular Emergency Department visits.
- 62 fewer cases of nonfatal acute myocardial infarction.
- 17 fewer hospitalizations for respiratory disease.
- 321 fewer cases of respiratory Emergency Department visits.
- 42 fewer cases of lung cancer incidence.
- 1,295 fewer cases of asthma onset.
- 109,800 fewer cases of asthma symptoms.
- 80,635 fewer cases of work loss days.
- 272 fewer hospitalizations for Alzheimer's disease.
- 39 fewer hospitalizations for Parkinson's disease.

Cumulative cost-savings from full implementation of the Proposed Regulation through calendar year 2043 are estimated as follows:

- $7.5 billion in health benefit savings.
- $0.25 to $1 billion in social cost of carbon savings.
- $2.7 billion in net fleet cost savings.

Without the Proposed Regulation, the ZEF population is expected to remain somewhat constant, at a population of about 79,000. The Proposed Regulation is projected to significantly increase the number of ZEFs in California. The estimated number of ZEFs would increase from about 79,000 to about 109,000 in 2031, and to about 168,000 ZEFs by 2038, when full implementation would be reached.

Summary of Proposed Regulation

The Proposed Regulation would require California fleets to phase out most LSI forklifts over time. The Proposed Regulation includes two primary components: a restriction on the sale and acquisition of LSI forklifts starting on January 1, 2026, and phase-out requirements starting on January 1, 2028, for existing LSI forklifts. The Proposed Regulation would also establish requirements for forklift manufacturers, forklift dealers, and forklift rental agencies. The following bullets provide more detailed information on each component of the Proposed Regulation.

A. Scope

- Applicable forklifts would fall into two categories, Class IV and Class V, based on the powered industrial truck classification system developed by the Occupational Safety and Health Administration[17].
    - A Class IV forklift is one that uses an internal-combustion engine, has cushion tires, and is typically used indoors on smooth surfaces.
    - A Class V forklift is one that uses an internal-combustion engine, has pneumatic tires (air-filled, foam-filled, or solid), and is typically used outdoors on uneven surfaces.
- The Proposed Regulation would apply to Class IV and Class V forklifts that use LSI engines (hereinafter "Class IV LSI Forklifts" and "Class V LSI Forklifts," respectively). However, certain types of forklifts, such as rough terrain forklifts, vehicle mounted forklifts, diesel forklifts, combat and tactical support equipment, and others would be excluded from the Proposed Regulation.
- The performance requirements of the Proposed Regulation (i.e., purchase restriction and phase-out requirements) would apply to Class IV LSI Forklifts of any lift capacity and Class V LSI Forklifts with a lift capacity of up to 12,000 pounds (hereinafter "Targeted Class IV forklifts" and "Targeted Class V forklifts," respectively, and

[17] Occupational Safety and Health Administration, Powered Industrial Trucks (Forklift) eTool (web link: *https://www.osha.gov/etools/powered-industrial-trucks/types-fundamentals/types/classes*, last accessed August 2023).

collectively as "Targeted Forklifts"). Although the performance requirements of the Proposed Regulation would not apply to Class V LSI Forklifts with a lift capacity greater than 12,000 pounds, reporting of said forklifts would be required.

B. Forklift Fleet Operators

- Beginning on January 1, 2026, fleets would not be allowed to acquire or take possession of a new Targeted Forklift.
- Beginning on January 1, 2026, fleets would not be allowed to acquire or take possession of a used 2026 or subsequent model year (MY) Targeted Forklift.
- MY Phase-Out Schedule: Beginning January 1, 2028, Targeted Forklifts in operation prior to January 1, 2026, would be required to be phased out of the California fleet in accordance with the MY schedule that is summarized as follows:
    - Class IV LSI forklifts with a lift capacity of 12,000 pounds or less:
        - For Large Fleets (26 or more forklifts), phase-out would begin on January 1, 2028, starting with 2018 and previous MY forklifts, and end on January 1, 2035, by which 2025 MY forklifts would be required to be phased out.
        - For Small Fleets (less than 26 forklifts) and Agricultural Operations, phase-out would begin on January 1, 2029, starting with 2016 and previous MY forklifts, and end on January 1, 2038, by which 2025 and previous MY forklifts would be required to be phased out.
    - Class IV LSI forklifts with a lift capacity of more than 12,000 pounds
        - For Large Fleets, phase-out of 2025 and previous MY forklifts would be required to occur by January 1, 2035.
        - For Small Fleets and Agricultural Operations, phase-out of 2025 and previous MY forklifts would be required to occur by January 1, 2038.
    - Class V LSI forklifts with a lift capacity of 12,000 pounds or less
        - For all fleets, phase-out would begin on January 1, 2030, starting with 2017 and previous MY forklifts, and end on January 1, 2038, by which 2025 MY forklifts would be required to be phased out.
- Forklift fleets would be expected to replace phased-out Targeted Forklifts with ZEFs, either battery-electric or fuel-cell electric.
- Until January 1, 2038, forklift fleets would still be able to purchase, lease, or rent used 2025 and previous MY Targeted Forklifts for use in California so long as said forklifts have not yet been phased out according to the applicable MY Phase-Out Schedule summarized above.

- Until January 1, 2038, forklift fleets would be able to rent 2026, 2027, and 2028 MY Targeted Class V Forklifts for use in California.

- The Proposed Regulation would include compliance exemptions for low usage, emergency operations, and temporary storage of Targeted Forklifts to be removed from the fleet as well as compliance extensions for infrastructure construction, ZEF delivery delays, and feasibility issues.

- The Proposed Regulation would allow a Fleet Operator to delay the phase-out of one Targeted Forklift until January 1, 2038, for each Class V LSI Forklift with a lift capacity greater than 12,000 pounds replaced with an equivalent ZEF.

- The Proposed Regulation includes annual reporting and recordkeeping requirements starting January 1, 2026, and labeling requirements in certain situations.

- Staff's proposal includes amendments to existing reporting and labeling requirements in the LSI Engine Fleet Requirements Regulation (LSI Fleet Regulation), set forth in Title 13, California Code of Regulations, Sections 2775, 2775.1, and 2775.2. The revisions would simplify that regulation's reporting requirements, which would reduce the compliance burden for operators as well as increase clarity of the annual reporting requirements, since many of the operators that would be subject to the Proposed Regulation are currently subject to the LSI Fleet Regulation.

- Beginning January 1, 2026, a commercial or governmental entity that hires a Fleet Operator would also be responsible for the operation of an LSI Forklift that does not comply with the provisions in the Proposed Regulation.

C. Forklift Manufacturers

- The Proposed Regulation would establish a new zero-emission standard for engines and powertrains used in zero-emission forklifts.

- Manufacturers would no longer be allowed to produce for sale in California or offer for sale in California new Targeted Class IV Forklifts as of January 1, 2026, and no longer be allowed to produce for sale in California or offer for sale in California new Targeted Class V Forklifts January 1, 2029, unless the forklift engine meets the zero-emission standards set forth by the Proposed Regulation.

- Beginning January 1, 2026, manufacturers would be required to submit production and sales information to the Executive Officer annually for all LSI forklifts produced for sale or sold in California.

D. Forklift Dealers

- A dealer would not be allowed to possess the following:
    - 2026 and subsequent MY Targeted Class IV Forklifts starting January 1, 2026;

- New Targeted Class IV Forklifts starting January 1, 2026;
- 2025 and previous MY Targeted Class IV Forklifts that have already been phased out in accordance with the phase-out schedule for Class IV LSI Forklifts in Small Fleets and Agricultural Operations, summarized above, starting January 1, 2026;
- 2025 or previous MY Targeted Class V Forklifts that have already been phased out in accordance with the Class V LSI Forklift phase-out schedule summarized above, starting January 1, 2026;
- 2026 and subsequent MY Targeted Class V Forklifts starting January 1, 2029; and
- Any Targeted Forklift starting January 1, 2038.

- Starting January 1, 2026, a dealer would not be able sell, lease, offer for sale, offer for lease, or deliver to a fleet operator in California:
  - A new Targeted Forklift.
  - A used 2026 or subsequent MY Targeted Forklift.
  - A 2025 or previous MY Targeted Forklift if the MY of said forklift has already been phased out in accordance with the applicable schedule summarized above. For Targeted Class IV Forklifts, a dealer would use the phase-out schedule for Small Fleets and Agricultural Operations to determine whether or not a Forklift has been phased out.
- Starting January 1, 2026, a dealer would not be able to sell, lease, offer for sale, offer for lease, or deliver to a rental agency in California:
  - A new Targeted Class IV Forklift.
  - A used 2026 or subsequent MY Targeted Class IV Forklift.
  - A 2025 or previous MY Targeted Class IV Forklift if the MY of said forklift has already been phased out in accordance with the applicable schedule for Class IV Forklifts in Small Fleets and Agricultural Operations, as summarized above.
  - A 2025 or previous MY Targeted Class V Forklift if the MY of said forklift has already been phased out in accordance with the Class V Forklift phase-out schedule summarized above.
- Starting January 1, 2029, a dealer would not be able to sell, lease, offer for sale, offer for lease, or deliver to a rental agency in California:
  - A new Targeted Class V Forklift.
  - A used 2026 or subsequent MY Targeted Class V Forklift.

- The Proposed Regulation would include exemptions for dealers to sell and transport new Targeted Forklifts to out-of-state purchasers and to fleet operators that would operate such forklifts as dedicated emergency forklifts.
- The Proposed Regulation includes recordkeeping requirements on LSI forklift sales transactions starting January 1, 2026.

E. Forklift Rental Agencies

- Rental agencies would be subject to the same MY phase-out schedule as fleet operators.
- Unlike fleet operators, between January 1, 2026, and December 31, 2028, rental agencies would be allowed to acquire Targeted Class V Forklifts as forklifts they offer for rent. Such forklifts would be required to be phased out by January 1, 2038.
- The Proposed Regulation would allow a rental agency to delay the phase-out of one Targeted Forklift until January 1, 2038, for each Class V LSI Forklift with a lift capacity greater than 12,000 pounds replaced with an equivalent ZEF.
- The Proposed Regulation includes annual reporting and recordkeeping requirements starting January 1, 2026.

Comparable Federal Regulations:

The SIP acknowledges the need for emission reductions in the off-road vehicle sector and has included the Proposed Regulation as one of the measures that will support meeting the air quality standards established in the federal Clean Air Act (CAA).[18]

There are currently no federal requirements for fleets or rental agencies to phase out the purchase or use of Targeted LSI forklifts. There are also no federal requirements prohibiting manufacturers or dealers from selling Targeted LSI forklifts.

An Evaluation of Inconsistency or Incompatibility with Existing State Regulations (Gov. Code, § 11346.5, subd. (a)(3)(D)):

During the process of developing the proposed regulatory action, CARB conducted a search of any similar regulations on this topic and concluded these regulations are neither inconsistent nor incompatible with existing state regulations.

[18] The federal Clean Air Act sets out requirements for adoption of air quality standards, as well as the required elements of State Implementation Plans, which must demonstrate how a nonattainment area will meet the standards by the required attainment deadline.

Disclosure Regarding the Proposed Regulation

Fiscal Impact/Local Mandate Determination Regarding the Proposed Action (Gov. Code, § 11346.5, subds. (a)(5)&(6)):

The determinations of the Board's Executive Officer concerning the costs or savings incurred by public agencies and private persons and businesses in reasonable compliance with the proposed regulatory action are presented below.

Under Government Code sections 11346.5, subdivision (a)(5) and 11346.5, subdivision (a)(6), the Executive Officer has determined that the proposed regulatory action would create costs or savings to any State agency, would not create costs or savings in federal funding to the State, and would create costs or mandate to any local agency or school district, whether or not reimbursable by the State under Government Code, title 2, division 4, part 7 (commencing with section 17500), or other nondiscretionary cost or savings to State or local agencies.

Cost to any Local Agency or School District Requiring Reimbursement under section 17500 et seq.:

Pursuant to Government Code sections 11346.5, subdivision (a)(5) and 11346.5, subdivision (a)(6), this regulatory action will result in a mandate that would create costs and cost-savings to local agencies and school districts. However, these costs are not reimbursable by the State pursuant to Government Code, title 2, division 4, part 7 (commencing with section 17500), because this action neither compels local agencies to provide new governmental functions (i.e., it does not require such agencies to provide additional services to the public), nor imposes requirements that apply only on local agencies or school districts[19]. Instead, this regulatory action establishes requirements that would apply to all individuals and entities that own or operate regulated forklifts. This action also does not compel local agencies to increase the actual level or quality of services that they already provide the public[20]. For the foregoing reasons, any costs incurred by local agencies to comply with this regulatory action are not reimbursable[21].

Cost or Savings for State Agencies:

To implement the Proposed Regulation, CARB would need permanent staffing resources. This would be met through a combination of new staffing resources and redirecting existing staffing resources. In addition to staffing needs, the Proposed Regulation would require modifying and upgrading existing reporting systems.

State government is assumed to incur an incremental cost from the purchase of ZEFs, while also realizing operational savings from the use of ZEFs. State and local government fleets are estimated to make up about 3 percent of the California's affected forklift fleet. Assuming the number of forklifts owned by State and local governments is proportional to their share of

[19] County of Los Angeles v. State of California (1987) 43 Cal.3d 46, 56.
[20] San Diego Unified School Dist. v. Commission on State Mandates (2004) 33 Cal.4th 859, 877.
[21] County of Los Angeles v. State of California, 43 Cal.3d. 46, 58.

government employment, it is estimated that 2.2 percent and 0.8 percent of the statewide forklift cost and operational savings resulting from the Proposed Regulation would be realized by local government fleets and State government fleets, respectively.[22]

Annual net total fiscal impact to the State government is estimated to range between a net positive budgetary impact of $7.2 million in 2030, primarily due to increased sales tax revenue, to a net negative budgetary impact of $49.3 million in 2040. Through 2043, the cumulative total upfront cost to the State government is estimated to be $32.8 million, and the cumulative total fiscal impact is estimated to be a net negative budgetary impact of $159.7 million from 2024 through 2043. A negative net budgetary or fiscal impact results when revenue losses and costs exceed revenue gains and cost savings.

Other Non-Discretionary Costs or Savings on Local Agencies:

Local government fleets are estimated to make up roughly 2.2 percent of California's fleet. All local government fleets are subject to the Proposed Regulation with requirements beginning for most fleets in 2026.

Upfront costs would include the cost of purchasing new ZEFs as well as infrastructure costs for adding forklift battery chargers, facility improvements, and electrical upgrades. Local governments would also be expected to realize cost savings related to reduced ZEF energy cost, lower ZEF maintenance cost, and revenue from Low Carbon Fuel Standard (LCFS) credits. In addition, local governments would be impacted by reduced gasoline and use taxes due to reduced usage of gasoline and propane, respectively, and increased sales taxes due to the sale of ZEFs and associated equipment and utility user fees.

Accounting for both total upfront costs and total operational costs results in total costs of $157.9 million for local governments from 2026 through 2043. Over that same period, staff estimates total cost-savings of $220.2 million due to operational savings. In terms of tax and fee revenue, the Proposed Regulation would result in increases in Utility User fees revenue and sales tax revenue totaling $167.0 million and in decreases in gasoline tax revenue and use tax revenue totaling $398.1 million. Accounting for all costs and savings, the total fiscal impact is estimated to be a net negative budgetary impact (i.e., a cost) of $168.9 million from 2026 through 2043.

Cost or Savings in Federal Funding to the State:

The Proposed Regulation is not expected to impose any costs or savings in federal funding to the State.

Housing Costs (Gov. Code, § 11346.5, subd. (a)(12)):

The Executive Officer has also made the initial determination that the proposed regulatory action will not have a significant effect on housing costs.

[22] Based on REMI Policy Insight Plus (v3.0.0), Local governments' share of State and Local government employment is 77 percent.

Significant Statewide Adverse Economic Impact Directly Affecting Business, Including Ability to Compete (Gov. Code, §§ 11346.3, subd. (a), 11346.5, subd. (a)(7), 11346.5, subd. (a)(8)):

The Executive Officer has made an initial determination that the proposed regulatory action would not have a significant statewide adverse economic impact directly affecting businesses, including the ability of California businesses to compete with businesses in other states, or on representative private persons. In addition, as discussed further below, the Proposed Regulation would apply equally to all fleets operating forklifts in California whether they are California businesses or out-of-state businesses. Furthermore, forklifts are not generally transported from one state to another in order to perform work, so staff does not expect that California forklift fleets are competing for work with out-of-state forklift fleets. Finally, although the proposed forklift requirements could make it more expensive in the very short term to operate in California (due to the capital needed to purchase ZEFs), the Proposed Regulation is projected to result in overall net savings for fleets within the state.

Results of The Economic Impact Analysis/Assessment (Gov. Code, § 11346.5, subd. (a)(10)):

Major Regulation: Statement of the Results of the Standardized Regulatory Impact Analysis (SRIA) (Gov. Code, § 11346.3, subd. (c)):

In April 2023, CARB submitted a Standardized Regulation Impact Assessment (SRIA) to the Department of Finance (DOF) for its review. CARB has updated the Proposed Regulation since the original SRIA submittal and addressed DOF comments on the SRIA. Details are provided in Appendix B of the ISOR.

(A) The creation or elimination of jobs within the state.

The Proposed Regulation is estimated to result in an initial decrease in employment growth that is less than 0.01 percent of baseline employment and begins to diminish towards the end of the regulatory horizon. The job impacts represent the net change in employment across the economy, which is composed of positive impacts for some industries and negative impacts for others. In 2043, the Proposed Regulation is estimated to result in job gains of 8,047, primarily in construction, retail and wholesale, and services, and zero jobs foregone.

(B) The creation of new businesses or the elimination of existing businesses within the state.

The macroeconomic model used in this analysis cannot directly estimate the creation or elimination of businesses. However, changes in jobs and output for the California economy can be used to understand some potential impacts. The overall jobs and output impacts of the Proposed Regulation are small relative to the total California economy, representing changes of no greater than 0.02 percent; hence, the overall impact on creation and elimination of businesses is also expected to be small relative to the total California economy. However, impacts to some specific industries are relatively larger than this. The

industrial equipment repair industry is estimated to see negative impacts, as ZEFs become a greater portion of the fleet. This trend would suggest that the number of businesses providing those services may decrease along with the reduced demand.

Additionally, the decreasing trend in demand for propane and gasoline has the potential to result in the elimination of businesses downstream of refineries, such as propane wholesalers and merchants, if sustained over time, though the overall retail and wholesale sectors are projected to expand.

(C) The competitive advantages or disadvantages for businesses currently doing business within the state.

Staff does not believe the Proposed Regulation would advantage or disadvantage California fleets versus out-of-state fleets. The Proposed Regulation would apply equally to all fleets operating forklifts in California whether they are California businesses or out-of-state businesses. Furthermore, forklifts are not generally transported from one state to another to perform work, so staff do not expect that California forklift fleets are competing for work with out-of-state forklift fleets. Although the proposed forklift requirements could make it more expensive in the very short term to operate in California (due to the capital needed to purchase ZEFs), the Proposed Regulation is projected to result in overall net savings for fleets operating within the state.

The rental agencies near the state border could gain a competitive advantage over rental agencies out-of-state with limited zero-emission offerings. California rental agencies could potentially recapture the business of fleets that have historically rented forklifts from out-of-state rental agencies.

(D) The increase or decrease of investment in the state.

Private domestic investment consists of purchases of residential and nonresidential structures and of equipment and software by private businesses and nonprofit institutions. It is used as a proxy for impacts on investments in California because it provides an indicator of the future productive capacity of the economy.

The relative changes to growth in private investment for the Proposed Regulation are estimated to result in an increase of private investment of about $33 million in 2030, which trends towards an increase of $563 million by 2043. Overall, there is an estimated cumulative increase of about $1.75 billion for 2026-2043.

(E) The incentives for innovation in products, materials, or processes.

The Proposed Regulation would provide flexibility to fleets that replace Targeted Class IV and V Forklifts with ZEFs ahead of their phase-out deadlines. Forklifts replaced ahead of compliance deadlines would provide fleet owners with the ability to reduce compliance burden in future years. Furthermore, financial incentive programs are more likely to fund compliance actions that are early or over-and-above what is required. Considering these reasons, staff believes that some fleets could opt to comply ahead of phase-out deadlines to

access these incentives as well as to start reaping the operational benefits of zero-emission technology.

Staff anticipates growth in industries that manufacture or support ZEFs, including ZEF and ZEF-component manufacturers and suppliers, infrastructure installers, electrical powertrain technicians, and others. This growth is, in turn, expected to strengthen the ZEF supply chain, generate greater technology awareness, and foster a greater ZE market. In addition, because the Proposed Regulation would provide a strong signal of California's continued commitment to zero-emission technology, staff believes it would spur greater private investment, and accelerate technology innovation and market growth.

(F) The benefits of the regulations, including, but not limited to, benefits to the health, safety, and welfare of California residents, worker safety, and the state's environment and quality of life, among any other benefits identified by the agency.

The Proposed Regulation would improve air quality by reducing statewide NOx, PM2.5, and ROG emissions. The Proposed Regulation would also achieve GHG emission reductions needed to combat climate change and its impacts. From 2026 to 2043, the Proposed Regulation is estimated to result in 18,724 tons reduction in NOx, 2,075 tons reduction in PM2.5, 4,973 tons reduction in ROG, and 9.4 MMT reduction of CO_2, relative to business-as-usual.

The Proposed Regulation will lead to an estimated 544 fewer cardiopulmonary deaths; 115 fewer hospital admissions for cardiovascular disease; 148 fewer cases of cardiovascular Emergency Department visits; 62 fewer cases of nonfatal acute myocardial infarction; 17 fewer hospitalizations for respiratory disease; 321 fewer cases of respiratory Emergency Department visits; 42 fewer cases of lung cancer incidence; 1295 fewer cases of asthma onset; 109,800 fewer cases of asthma symptoms; 80,635 fewer cases of work loss days; 272 fewer hospitalizations for Alzheimer's disease; and 39 fewer hospitalizations for Parkinson's disease. These health outcomes result in a total cost savings of $7.5 billion. The avoided social cost of carbon ranges from about $0.25 to $1 billion over this same timeframe

Although not quantified, the Proposed Regulation would also reduce occupational exposure to carbon monoxide (CO), a pollutant that can cause fatigue, headaches, confusion, and dizziness, especially in indoor environments where forklifts commonly operate[23]. The emission reductions expected from the Proposed Regulation would benefit California residents by reducing their exposure to harmful air pollutants associated with adverse health impacts. In particular, individuals who operate Class IV and V forklifts, those who work at facilities where said forklifts operate, and those who live within communities that are disproportionately impacted by air pollution would benefit most from the Proposed Regulation.

[23] CARB, Carbon Monoxide and Health (web link: *https://ww2.arb.ca.gov/resources/carbon-monoxide-and-health#:~:text=Carbon%20monoxide%20is%20harmful%20because,oxygen%20delivery%20to%20the%20brain*, last accessed on August 2023).

The Proposed Regulation could decrease the occupational exposure to air pollution of forklift operators and other people who work around forklifts in California. These individuals are likely at higher risk of developing cardiovascular and respiratory issues as a result of forklift PM emissions. Although CARB staff cannot quantify the potential effect on occupational exposure, the Proposed Regulation is expected to provide larger health benefits for these individuals.

Targeted Class IV and Class V Forklifts are well-suited to transition to zero-emission technology. As more fleets convert to ZEFs due to the Proposed Regulation, forklift manufacturers would be expected to maintain or possibly even increase their investments in developing zero-emission technologies and expand their zero-emission product lines. Such investments could contribute to break-through technologies and broader acceptance of zero-emission technologies in off-road vehicle applications.

The increased use of electric charging infrastructure by off-road electric vehicles would decrease the amount of fossil fuel consumed in California, helping the State meet the goals of SB 350[24]. Furthermore, SB 350 directs investor-owned utilities (IOU) to implement programs to accelerate widespread transportation electrification, including the deployment of charging infrastructure. SB 350 goals include increasing the sales of zero-emission vehicles, reducing air pollutant emissions to help meet air quality standards, and reduce GHGs. As a result of SB 350, the States' three large IOUs (PG&E, SDG&E, and SCE) are establishing or have established commercial electricity rate programs that reduce battery charging rates at specified times of the day. Some publicly-owned utilities have developed similar transportation electrification rate programs as the IOUs. By increasing the number of ZEFs in the State, the Proposed Regulation would support the utilities programs and help meet SB 350 goals.

(G) Department of Finance Comments and Responses.

1. SRIA needs to identify any changes in the amount of operating income received by state and local agencies.

DOF Comment: The SRIA must identify any changes in the amount of operating income received by state and local agencies. The SRIA estimates that the impact on state personal income will exceed $1 billion in several years. State income tax revenue is typically equal to about 4 percent of state personal income, thus, a $1 billion change in income could cause income tax revenue to change by about $40 million. The SRIA should provide estimates for the regulation's expected impact on income tax revenue in each year of the analysis.

Response: The model used to estimate the macroeconomic impacts of the Proposed Regulation on the California economy includes impacts to personal income. Changes in personal income in California may change the amount of revenue the State of California collects in personal income tax. From 2026 to 2043, the average change in California State Personal Income and Personal Income Tax Revenue are estimated at $168.1 million and $6.7 million (2021$), respectively. A table detailing the estimated change in personal income and

[24] *https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201520160SB350*

personal income tax revenue over the regulatory horizon can be found in Chapter VIII, Section E.2.f of the ISOR. The change in personal income tax is estimated based on a statewide average tax rate of about four percent.[25]

2. SRIA needs to explain the rationale, use a distribution of forklift lifespans, or conduct a sensitivity analysis for assuming 15-year lifespans for new forklifts without a corresponding distribution of forklift lifespans.

DOF Comment: The SRIA must explain the rationale of any assumption material to the impact estimate. It assumes that capital expenditures on new forklifts will spike in 2041 as all the forklifts purchased in 2026 reach the end of their expected 15-year lifespans and will need to be replaced. The SRIA should explain why this is the most plausible assumption for the analysis or use a distribution of forklift lifespans (or possibly a sensitivity analysis with several plausible distributions) that is more typical for vehicles.

Response: The Proposed Regulation, at the time the SRIA was finalized, required retirement of existing LSI forklifts from 2026 to 2038 (with exceptions based on lift capacity). CARB staff assumed each retired LSI forklift would be replaced with an electric forklift. CARB staff modeled a 15-year life for each of the electric forklifts purchased under the regulation. The 15-year life for electric forklifts leads to replacement purchases for each forklift that mirror the original regulatory schedule exactly 15 years later. For example, all electric forklifts purchased in 2026 to comply with the Proposed Regulation are replaced in 2041, etc. The 15-year life was based on the age distribution of the electric forklifts reported to CARB in the online reporting database, DOORS. Fifteen years represents the median useful life of forklifts, or the age where 50 percent of the electric forklifts appear to be retired from service.

Based on the comments from DOF, CARB staff modeled two additional scenarios where the replacement of electric forklifts was spread over a range of years rather than all being replaced exactly at 15 years. Under the first scenario, purchases were spread over the 3-year range from age 14 to 16, and under the second scenario, purchases were spread even further over an 11-year range from age of 10 to 20.

If electric forklifts are replaced from age 14 to 16, the peak replacement purchases would occur in 2042, and would be 26 percent lower than the previous peak in 2041. If electric

[25] The statewide average income tax rate varies over time. It averaged about four percent over the period of 2015-2022 based on historical personal income data. Specifically, statewide average income tax rate was calculated by dividing annual personal income tax revenue projections obtained from the May Revision of the California Governor's Proposed Budget for fiscal years 2017-2018 through 2023-2024, which are available through *https://ebudget.ca.gov/*, last accessed October 2023, and dividing by total personal income provided in the California Economic Forecast spreadsheet prepared by the California Department of Finance (web link: *https://dof.ca.gov/wp-content/uploads/sites/352/Forecasting/Economics/Documents/California-Economic-Forecast-MR-2023-24.xlsx*); the California Economic Forecast spreadsheet is also available through the Department of Finance's Economic Forecasts webpage at *https://dof.ca.gov/forecasting/Economics/economic-forecasts-u-s-and-california/*, last accessed October 2023.

forklifts are replaced from age 10 to 20, the peak replacement year would not occur until 2046, and would be 35 percent below the previous 2041 peak replacement purchases.

Ultimately, the total purchases during the period from 2036 to 2050 would vary by less than half of one percent. However, peak year costs would be significantly reduced in either of the scenarios explored.

The 15-year life was selected as a typical lifespan for an electric forklift. Realistically, the exact behavior and replacement of electric forklifts will depend on use, owner preferences, economic conditions, and additional details specific to the forklift and owner. This analysis demonstrates that peak year costs may vary but the overall number of forklifts replaced during the period (and therefore overall costs) is consistent across various retirement assumptions and modeling.

Business Report (Gov. Code, §§ 11346.5, subd. (a)(11); 11346.3, subd. (d)):

In accordance with Government Code sections 11346.5, subdivisions (a)(11) and 11346.3, subdivision (d), the Executive Officer finds the reporting requirements of the proposed regulatory action which apply to businesses are necessary for the health, safety, and welfare of the people of the State of California.

Cost Impacts on Representative Private Persons or Businesses (Gov. Code, § 11346.5, subd. (a)(9)):

In developing this regulatory proposal, CARB staff evaluated the potential economic impacts on representative private persons or businesses.

CARB staff expects that there would not be direct costs to individuals as a result of this Proposed Regulation. Individuals would realize health benefits, as described in the Health Benefits section of the ISOR, from statewide, regional, and local emission benefits due to ZEFs displacing LSI forklifts. However, individuals could be impacted by indirect costs and savings realized by fleet operators, rental agencies, and manufacturers, which are further discussed in the Macroeconomic Impacts chapter of the ISOR.

A typical business that currently owns and/or operates Class IV or Class V forklifts would incur upfront capital costs and on-going operating costs due to the Proposed Regulation. These costs would include, as applicable, the purchase cost of ZEFs, ZEF batteries, and ZEF chargers; costs associated with installing chargers and/or upgrading facility-side electrical or fueling infrastructure; electricity or fuel costs; maintenance costs; finance charges; and taxes. In addition, a typical business would also incur compliance costs, such as recordkeeping and reporting costs. A typical business would also be expected to realize cost savings that offset costs; such savings would include reduced fuel and maintenance costs and potential LCFS credit revenue.

Effect on Small Business (Cal. Code Regs., tit. 1, § 4, subds. (a) and (b)):

The Executive Officer has also determined under California Code of Regulations, title 1, section 4, that the proposed regulatory action would affect small businesses. The methodology and full details for estimating the cost impact to an example small business is provided in Chapter VIII of the ISOR.

Consideration of Alternatives (Gov. Code, § 11346.5, subd. (a)(13)):

Before taking final action on the proposed regulatory action, the Board must determine that no reasonable alternative considered by the Board, or that has otherwise been identified and brought to the attention of the Board would be more effective in carrying out the purpose for which the action is proposed, would be as effective and less burdensome to affected private persons than the proposed action, or would be more cost-effective to affected private persons and equally effective in implementing the statutory policy or other provisions of law. As explained in the accompanying Chapter IX of the ISOR, the Proposed Regulation is the most effective and least burdensome means of achieving the purposes of the proposal.

The Executive Officer analyzed several alternatives to the Proposed Regulation and summarized the findings of this analysis in Chapter IX of the ISOR, and the rationale behind rejecting them in favor of the Proposed Regulation. The following is a brief summary of the major alternatives proposed and the rationale for rejecting such major alternatives.

Alternative 1 (more stringent) would accelerate the phase-out of both Targeted Class IV Forklifts and Targeted Class V Forklifts. As discussed in the Summary of Proposed Rulemaking, the Proposed Regulation would phase out Targeted Class IV Forklifts between 2028 and 2038 and Targeted Class V Forklifts between 2030 and 2038. Alternative 1 would phase out both Targeted Class IV and Class V Forklifts between 2028 and 2032.

Although Alternative 1 would achieve greater emission benefits and greater cumulative net savings due to the accelerated turnover of Targeted Class IV and Class V Forklifts to ZEFs, it was rejected for the following reasons:

- The turnover rate of Targeted Forklifts under Alternative 1 would create a significantly greater cost burden for fleets during the first five years of the regulation. While using ZEFs is expected to result in cost savings over time, the upfront cost of Alternative 1 could be too challenging to overcome for fleets that are more constrained with respect to available capital. Alternative 1 has an estimated cumulative net cost of approximately $593 million from 2026 through 2030 whereas the Proposed Regulation has an estimated cumulative net savings of approximately $116 million over that same period (a difference of about $709 million). From 2026 to 2043, the estimated upfront costs (forklift purchases, sales tax, and infrastructure installation) for Alternative 1 are $5.5 billion, whereas the estimated upfront costs over the same period for the Proposed Regulation are $5.1 billion. From 2026 to 2043, the present value[26] upfront costs for Alternative 1 and the Proposed Regulation are approximately $3.9 billion and

[26] Present value accounts for the time value of money. For the purpose of this analysis, the present value is based on a five percent rate of return.

$2.7 billion, respectively. Consequently, the present value upfront costs of Alternative 1 are roughly $1.2 billion (or 44 percent) higher than the Proposed Regulation.

- In addition, Alternative 1's turnover rate could also pose a challenge for manufacturers to build sufficient numbers of ZEF products in the proposed timeframe. Under the baseline scenario, an estimated 9,250 ZEF and 18,470 LSI Forklift purchases (due to natural turnover) are expected during the first three years of the phase-out schedule. Under Alternative 1, in addition to the estimated 9,250 ZEF purchases needed to maintain the existing ZEF baseline population, 52,280 ZEFs would be purchased within the first three years of the phase-out schedule. By contrast, under the Proposed Regulation, 18,810 ZEFs (surplus to baseline) would be purchased during the same timeframe. Consequently, during the first three years of the phase-out schedule, Alternative 1 would require added purchases of almost three times more ZEFs than the Proposed Regulation and five times more ZEFs than the baseline scenario.
- Furthermore, based on stakeholder feedback, manufacturer supply chain delays are responsible for current forklift delivery delays of an additional one to one-and-a-half years, relative to pre-pandemic delivery timelines. Especially for Alternative 1, which has a more-accelerated turnover rate, the anticipated growth in demand for certain components used in ZEFs could exacerbate delays in manufacturing and supply chain disruptions, which could further impact delivery dates of ZEFs. Difficulty in procuring necessary components could also place manufacturers in difficult competitive and financial positions in market segments where they could be required to redesign their products and retool their operations earlier than planned to accommodate parts that are available.

Alternative 2 (less stringent) would only apply to Targeted Class IV and Class V Forklifts with a lift capacity of 8,000 pounds or less. That is, unlike the Proposed Regulation, Alternative 2 would not require the phase-out of Targeted Class IV and Class V Forklifts with a lift capacity greater than 8,000 pounds. The phase-out schedules for Alternative 2 would be the same as those in the Proposed Regulation for both forklift classes.

The projected upfront cost for Alternative 2 is lower than the Proposed Regulation, and its benefit-cost ratio is higher than for the Proposed Regulation (2.72 versus 2.26). However, Alternative 2 would also result in lower NOx, PM2.5, ROG, and CO_2 emission benefits and fewer ZEFs deployed. Although CARB's 2016 SIP commitment for ROG reductions of 0.2 tons per day (TPD) by 2031 would be met through Alternative 2, the commitment for NOx reductions of 2 TPD by 2031 would not be met. Alternative 2 would obtain only 0.81 TPD NOx by 2031.

The deployment of zero-emission vehicles and equipment is a key component of California's long-term strategy to meet its aggressive air quality, climate, and zero-emission goals. Alternative 2 was rejected because it would not be as effective as the Proposed Regulation at improving air quality and protecting public health, combating climate change, and accelerating the adoption of ZE technology.

State Implementation Plan Revision

If adopted by CARB, CARB plans to submit the proposed regulatory action to the United States Environmental Protection Agency (U.S. EPA) for approval as a revision to the California SIP required by the federal CAA. The adopted regulatory action would be submitted as a SIP revision because it adopts regulations intended to reduce emissions of air pollutants in order to attain and maintain the NAAQS promulgated by U.S. EPA pursuant to the CAA.

Environmental Analysis

CARB, as the lead agency for the Proposed Regulation, has prepared a draft environmental impact analysis (EIA) under its certified regulatory program (CCR, title 17, §§ 60000 through 60008) to comply with the requirements of the California Environmental Quality Act (CEQA) (Public Res. Code § 21080.5). The EIA concluded implementation of the Proposed Regulation could result in: beneficial impacts to air quality (long-term operational-related), greenhouse gas emission (short-term construction and long-term operational-related); less than significant impacts to energy (short-term construction-related and long-term operational-related), mineral resources, population and housing, public services, recreation, and wildfire; and potentially significant [indirect/secondary] adverse impacts to aesthetics, agriculture and forestry resources, air quality (short-term construction-related), odors, biological resources, cultural resources, geology and soils, hazards and hazardous materials, hydrology and water quality, land use planning, noise and vibration, transportation, tribal cultural resources, and utilities and service systems. The Draft EIA is included as Appendix C the ISOR. Written comments on the Draft EIA will be accepted during a 45-day public review period starting on October 20, 2023, and ending on December 4, 2023.

Special Accommodation Request

Consistent with California Government Code section 7296.2, special accommodation or language needs may be provided for any of the following:

- An interpreter to be available at the hearing;
- Documents made available in an alternate format or another language; and
- A disability-related reasonable accommodation.

To request these special accommodations or language needs, please contact the Clerks' Office at *cotb@arb.ca.gov* or (916) 322-5594 as soon as possible, but no later than ten business days before the scheduled Board hearing. TTY/TDD/Speech to Speech users may dial 711 for the California Relay Service.

Consecuente con la sección 7296.2 del Código de Gobierno de California, una acomodación especial o necesidades lingüísticas pueden ser suministradas para cualquiera de los siguientes:

- Un intérprete que esté disponible en la audiencia;
- Documentos disponibles en un formato alterno u otro idioma; y
- Una acomodación razonable relacionados con una incapacidad.

Para solicitar estas comodidades especiales o necesidades de otro idioma, por favor llame a la oficina del Consejo al *cotb@arb.ca.gov* o (916) 322-5594 lo m?s pronto posible, pero no menos de 10 d?as de trabajo antes del d?a programado para la audiencia del Consejo. TTY/TDD/Personas que necesiten este servicio pueden marcar el 711 para el Servicio de Retransmisión de Mensajes de California.

Agency Contact Persons

Inquiries concerning the substance of the proposed regulatory action may be directed to the agency representative Keith Roderick, Air Resources Engineer, Staff Lead, Advanced Emission Control Strategies Section, at 279-208-7768 or Lori Berard, Air Pollution Specialist, Cost Analysis Lead, Advanced Emission Control Strategies Section, at 951-542-3083.

Availability of Documents

CARB staff has prepared an ISOR for the proposed regulatory action, which includes a summary of the economic and environmental impacts of the proposal. The report is entitled: *Public Hearing to Consider the Proposed Zero-Emission Forklift Regulation*

Copies of the ISOR and the full text of the proposed regulatory language, [in underline and strikeout format to allow for comparison with the existing regulations (if applicable), may be accessed on CARB's website listed below, on October 17, 2023. Please contact Bradley Bechtold: Regulations Coordinator, at Bradley.Bechtold@arb.ca.gov or (279) 208-7266 if you need physical copies of the documents. Because of current travel, facility, and staffing restrictions, the California Air Resources Board's offices have limited public access. Pursuant to Government Code section 11346.5, subdivision (b), upon request to the aforementioned Regulations Coordinator, physical copies would be obtained from the Public Information Office, California Air Resources Board, 1001 I Street, Visitors and Environmental Services Center, First Floor, Sacramento, California, 95814.

Further, the agency representative to whom nonsubstantive inquiries concerning the proposed administrative action may be directed is Bradley Bechtold, Regulations Coordinator, (279) 208-7266. The Board staff has compiled a record for this rulemaking action, which includes all the information upon which the proposal is based. This material is available for inspection upon request to the contact persons.

Hearing Procedures

The public hearing will be conducted in accordance with the California Administrative Procedure Act, Government Code, title 2, division 3, part 1, chapter 3.5 (commencing with section 11340).

Following the public hearing, the Board may take action to approve for adoption the regulatory language as originally proposed, or with non-substantial or grammatical modifications. The Board may also approve for adoption the proposed regulatory language with other modifications if the text as modified is sufficiently related to the originally

proposed text that the public was adequately placed on notice and that the regulatory language as modified could result from the proposed regulatory action. If this occurs, the full regulatory text, with the modifications clearly indicated, will be made available to the public, for written comment, at least 15-days before final adoption.

The public may request a copy of the modified regulatory text from CARB's Public Information Office, Air Resources Board, 1001 I Street, Visitors and Environmental Services Center, First Floor, Sacramento, California, 95814.

Final Statement of Reasons Availability

Upon its completion, the Final Statement of Reasons (FSOR) will be available, and copies may be requested from the agency contact persons in this notice or may be accessed on CARB's website listed below.

Internet Access

This notice, the ISOR and all subsequent regulatory documents, including the FSOR, when completed, are available on CARB's website for this rulemaking at *https://ww2.arb.ca.gov/rulemaking/2023/zeforkliftsregulation*

California Air Resources Board

Steven Cliff
Executive Officer

Date: October 3, 2023

The energy challenge facing California is real. Every Californian needs to take immediate action to reduce energy consumption. For a list of simple ways you can reduce demand and cut your energy costs, see CARB's website (www.arb.ca.gov).