

Date of Hearing: April 17, 2023

ASSEMBLY COMMITTEE ON TRANSPORTATION

Laura Friedman, Chair

AB 1743 (Bennett) – As Amended April 10, 2023

SUBJECT: Lower Emissions Transition Program

SUMMARY: Creates the Lower Emissions Transition Program, administered by the California Air Resources Board (CARB), to approve projects that reduce cumulative emissions from cargo handling equipment sources at seaports during the transition period to zero-emission cargo handling equipment requirements. Specifically, **this bill:**

- 1) Prohibits CARB from approving a project after the compliance date required by any applicable statute, regulation, or rule that otherwise requires the change in equipment to a zero-emission standard.
- 2) Requires CARB to evaluate the quantity of surplus emissions reductions that demonstrate lower cumulative emissions under a project than from compliance with the applicable zero-emission equipment statute, regulation, or rule.
- 3) Lists eligible projects including, but not limited to:
 - a) Purchase of new lower emission or zero-emission covered equipment in operation at a seaport;
 - b) Emission-reducing retrofit of covered equipment, or replacement of old engines powering covered equipment with newer lower emission or zero-emission engines, motors, or drives; and,
 - c) Development and demonstration of lower emission and zero-emission retrofit technologies, repower options, and advanced technologies for covered equipment.
- 4) Prohibits a project from being deemed ineligible for approval solely on the basis that lower emission or zero-emission equipment is purchased with the use of any state or federal grant funding, funded or used for credit under any state or federal emissions averaging, banking, or trading program, or participates in any other voluntary emission reduction program.
- 5) Prohibits a project from being deemed ineligible for approval solely on the basis that the purchase of lower emission or zero-emission equipment is entered into pursuant to a corporate or a controlling board's policy, plan, tenancy agreement, port lease, or any other contract, so long as the project is otherwise approvable by CARB.
- 6) Establishes eligible applicants as any individual, company, or public agency that owns one or more pieces of cargo handling equipment that operate at a seaport in the state and that is not out of compliance with existing CARB regulations that cover cargo handling equipment.

- 7) Requires CARB to establish guidelines for determining project eligibility, including methodologies for:
 - a) Evaluating cumulative emissions reductions of nitrous oxides (NO_x), diesel particulate matter, and GHGs;
 - b) Determining the useful life of a piece of cargo handling equipment; and,
 - c) Evaluating the cumulative emission reductions for NO_x, diesel particulate matter, and GHGs for the repower of cargo handling equipment purchased through an approved project.
- 8) Requires the guidelines for project eligibility to include a baseline emissions profile for regulated emissions reductions of NO_x, diesel particulate matter, and GHGs based on the application of both the current applicable statutes, regulations, and rules regarding cargo handling equipment regulation and the future state compliance date for zero-emission cargo handling equipment established by CARB, or, if a date is not yet adopted, the 2037 target date for zero-emission cargo handling equipment established in the AB 32 scoping plan.
- 9) Exempts the establishment of guidelines from the rulemaking requirements of the Administrative Procedure Act (APA).
- 10) Requires CARB to approve projects if they meet all of the following:
 - a) The application was provided to CARB for approval prior to January 1, 2030.
 - b) Demonstrate cumulative emissions reductions of NO_x, diesel particulate matter, and GHGs greater than the regulatory baseline over the useful life of the cargo handling equipment identified in a project application.
- 11) At CARB's discretion, authorizes cumulative emissions reductions of GHGs to include a commitment of payment to purchase GHG offsets of at least 10% greater than the regulatory baseline over the useful life of the cargo handling equipment in the time, place, and manner established by CARB. Requires the full value of the offset amount, if required by CARB, to be paid or bonded as a condition of project approval.
- 12) Prohibits CARB from approving a project that fails to demonstrate emissions reductions of NO_x and diesel particulate matter that are at least 10% greater than the regulatory baseline at the time of project application.
- 13) Authorizes CARB to maintain discretion in approving the repower of cargo handling equipment.
- 14) Requires project applicants to submit all information required by CARB at the time of submission and upon request as necessary to process the application.
- 15) Requires CARB to establish an application fee, to be deposited in the Air Pollution Control Fund and made available upon appropriation, limited to an amount that will partially offset the administrative costs of processing project applications.

- 16) Prohibits CARB from adopting a rule or regulation requiring the retirement, replacement, retrofit, or repower of cargo handling equipment until the end of the useful life of the equipment or January 1, 2045, whichever date is earlier.
- 17) Requires CARB, by January 1, 2027 and January 1, 2033, to hold at least one public workshop and evaluate the impact of the Lower-Emissions-Transition-Program on state and local clean air efforts to meet state and local clean air goals.
- 18) Defines “cargo handling equipment” or “covered equipment” as any off-road, self-propelled vehicle or equipment used at a port or intermodal rail yard to lift or move container, bulk, or liquid cargo carried by ship, train, or another vehicle, or used to perform maintenance and repair activities that are routinely scheduled or that are due to predictable process upsets. Cargo handling equipment includes, but is not limited to, rubber-tired gantry cranes, yard trucks, top handlers, side handlers, reach stackers, forklifts, loaders, aerial lifts, excavators, and dozers. Cargo handling equipment does not include a yard truck that is licensed as an on-road vehicle.
- 19) Defines “lower emission equipment” as any nondiesel or hybridized diesel equipment that incorporates other technologies that significantly reduce criteria pollutants, toxic air contaminants, or GHGs, utilizes zero-emission technologies, or enables technologies that provide a pathway to zero-emission operation.
- 20) Defines “zero-emission equipment” as any equipment that produces no emissions of criteria pollutants, toxic air contaminants, and GHGs when stationary or operating.
- 21) Defines “repower” as replacing an existing engine with a newer engine or power source.
- 22) Makes related findings and declarations and statements of legislative intent.
- 23) Is repealed by its own provisions on January 1, 2032.

EXISTING LAW:

- 1) Establishes CARB as the air pollution control agency in California and requires CARB, among other things, to control emissions from a wide array of mobile sources and coordinate with local air districts to control emission from stationary sources in order to implement the Federal Clean Air Act. (Health and Safety Code (HSC) 39602; HSC 39602.5)
- 2) Requires CARB, pursuant to California Global Warming Solutions Act of 2006 (AB 32 (Núñez) Chapter 488, Statutes of 2006) to adopt a statewide GHG emissions limit equivalent to 1990 levels by 2020 and to develop a scoping plan for achieving the maximum technologically feasible and cost effective reductions in GHGs. (HSC 38500)
- 3) Requires, pursuant to SB 32 (Pavley) Chapter 249, Statutes of 2016 that CARB ensure that statewide GHG emissions are reduced to at least 40% below 1990 levels by 2030. (HSC 38566)


- 4) Provides, pursuant to the California Climate Crisis Act (AB 1279 (Muratsuchi) Chapter 337, Statutes of 2022) that it is the policy of the state to do both of the following:
- a) Achieve net zero GHG emissions as soon as possible but no later than 2045; and,
 - b) Ensure that by 2045, GHG emissions are reduced to at least 85% below 1990 levels.





FISCAL EFFECT: Unknown

COMMENTS: A shipping containers is a large standardized container designed to be used across different modes of transport—from ship to rail to truck—without unloading or reloading the cargo. Container ports are facilities where cargo or shipping containers are transshipped between different vehicles and machinery to move goods, both containerized and bulk. Cargo handling equipment such as yard trucks (hostlers), rubber-tired gantry cranes, container handlers, and forklifts are central to port operations.

This bill defines “cargo handling equipment” as any off-road, self-propelled vehicle or equipment used at a port or intermodal rail yard to lift or move container, bulk, or liquid cargo carried by ship, train, or another vehicle; including, but not limited to, rubber-tired gantry cranes, yard trucks, top handlers, side handlers, reach stackers, forklifts, loaders, aerial lifts, excavators, and dozers as shown in the table below.

Historically, most port equipment has been powered by diesel or gasoline. Emissions from ports contribute to poor air quality that affects not only port workers, but also those who live and work in neighboring communities. Often these are low-income or disadvantaged communities. Diesel- and gasoline powered port equipment also produces GHGs, contributing to climate change. In recent years, several ports have set goals to become zero-emissions, or green, ports, including the Port of Hueneme in the author’s district, and the larger Ports of Long Beach and Los Angeles.

Equipment	Example	Description
Reach stacker		Reach stackers use an overhead attachment on a telescopic boom to move and stack loaded containers. They can reach over multiple rows to load containers.

<p>Rubber-tired gantry crane</p>		<p>Rubber-tired gantry (RTG) cranes use a cross-beam supported on vertical legs that move on rubber tires to move and stack loaded containers. A rail-mounted gantry (RMG) crane is similar to an RTG and typically used in larger operations.</p>
<p>Terminal Tractor</p>		<p>Terminal tractors are semi-tractors used to move containers on semi-trailers within a cargo yard, warehouse facility, or intermodal facility. Also known as shunt trucks, spotter trucks, spotting tractors, utility tractor rigs (UTRs), yard trucks, yard tractors, yard shifters, yard birds, yard dogs, yard goats, yard horses, yard jockeys, and mules.</p>
<p>Top Handler</p>		<p>Top handlers use an overhead attachment on a straight mast to move and stack loaded containers. They can be used in place of or in conjunction with RTGs to lift heavy containers within a terminal. Also known as top loaders, top picks, top lifts, and loaded container handlers.</p>
<p>Side Handler</p>		<p>Side handlers use an overhead telescopic boom to lift and move cargo containers sideways by “grabbing” the sides or top and bottom of the longest side of a container. They are used to move and stack empty containers. Also known as side loaders, side picks, or empty container handlers.</p>

Source: Argonne National Laboratory, Cargo Handling Equipment at Ports, March 2022

Increasingly, cargo handling equipment may be powered by cleaner, alternative fuels, such as electricity, hydrogen, compressed natural gas (CNG), liquefied natural gas (LNG), and liquefied petroleum gas (LPG). Grid-powered cargo handling equipment, principally cranes, are a commercially available, mature technology, for container handling. The table below shows the types of fuel that various types of power cargo handling equipment can use.

Equipment	Gas	Diesel	CNG	LNG	LPG	Hybrid	Electric	Fuel Cell
Automated Guided Vehicle							✓	
Chassis Rotator		✓						
Container Crane		✓					✓	
Forklift	✓	✓	✓		✓		✓	✓
Log Stacker		✓						
Material Handler		✓				✓	✓	
Mobile Crane		✓					✓	
Pallet Jack							✓	
Reach Stacker		✓					✓	
Rubber-Tired Gantry Crane		✓				✓	✓	
Side Handler		✓			✓		✓	
Straddle Carrier		✓				✓	✓	
Terminal Tractor	✓	✓	✓	✓			✓	
Top Handler		✓					✓	

Source: Argonne National Laboratory, Cargo Handling Equipment at Ports, March 2022

CARB adopted the Mobile Cargo Handling Equipment Regulation on December 8, 2005 to reduce toxic and criteria emissions to protect public health. The Regulation became effective on December 31, 2006 and was fully implemented by the end of 2017. The regulation requires cargo handling equipment to be the Best Available Control Technology and has achieved a 91% reduction in diesel particulate matter and a 74% reduction in oxides of nitrogen (NO_x). CARB staff are currently assessing the availability and performance of zero-emission technology as an alternative to all combustion-powered cargo equipment and evaluating additional solutions that may include efficiency improvements.

CARB plans to amend this regulation in 2024 to transition cargo handling equipment to zero-emission. According to CARB, “The existing regulation sets in-use requirements for diesel cargo handling equipment at ports and rail yards, including but not limited to: yard trucks (hostlers), rubber-tired gantry cranes, container handlers, and forklifts. Staff would assess the availability and performance of zero-emission technology as an alternative to all combustion-powered cargo equipment and evaluate additional solutions that may include efficiency improvements. The regulatory amendments would propose an implementation schedule for new equipment and facility infrastructure requirements, with effective dates beginning in 2026. In this potential action, all mobile equipment at ports and rail yards, including but not limited to: diesel, gasoline, natural gas, and propane-fueled equipment, would be subject to new requirements. CARB staff would also consider opportunities to prioritize the earliest implementation in or adjacent to the communities most impacted by air pollution.”¹

This bill would create the Lower Emissions Transition Program to guide the replacement of cargo handling equipment that are not current subject to any regulation requiring declining emissions standards. This bill would require CARB to establish guidelines for eligibility and

¹ CARB. Freight & Goods Movement. Cargo Handling Equipment Information. <https://ww2.arb.ca.gov/resources/documents/cargo-handling-equipment-regulation-transition-zero-emissions>. Accessed April 10, 2023.

methodologies for determining emissions reductions of project applications. This bill, in return for terminal operators upgrading to newer, cleaner cargo handling equipment that has lower cumulative emissions of NO_x, diesel particulate matter, and GHGs, it would provide a useful life reassurance on the purchase and use of said equipment.

This bill would prohibit CARB from adopting a rule or regulation requiring the retirement, replacement, retrofit, or repower of cargo handling equipment until the end of the useful life of the equipment. As shown in the table below, the average useful life of cargo handling equipment ages range from 7 to 22 years. Additionally, all types of equipment, with the exception of yard trucks, have lives longer than 10 years. Average hours of operation are also shown in this table.

Equipment Type	Numbers of Pieces of Equipment (2013)	Average Annual Activity (Hours)	Average Age of Equipment (Years)
Yard Trucks	2497	2830	7
Forklifts	809	720	20.5
Top picks, etc.	569	1860	11
RTGs	354	2220	12
Bulk Handling	229	970	22
Other	188	800	22
Total	4646		

Source: Technology Assessment: Mobile Cargo Handling Equipment. CARB November 2015.

The sponsors of this bill, the Pacific Merchant Shipping Association (PMSA), represent marine terminal operators of West Coast ports. Marine terminal operators are private entities that provide wharfage, dock warehouse, or other marine terminal facilities to ocean common carriers moving cargo in ocean-borne commerce. Marine terminal operators are responsible for cargo handling activities (loading, unloading, and storage of goods) in seaports.

According to the author, “California’s eleven publicly owned ports, and our one privately owned port, are a crucial portion of the nation’s supply chain and goods movement. That also means that they serve as high sources of GHG emissions and harmful pollutants, including NO_x and particulate matter, often from diesel emissions. Cleaning up our ports offers California a big return on investment, and creates an opportunity to utilize innovative technologies to clean up a hard to electrify sector. The Port of Hueneme, in my district, is working towards becoming a 100% green port, but faces a number of challenges, including providing enough electricity to port equipment and ships. While we should hold our ports to high standard, we should also allow them the opportunity to use creative solutions.

Ports could significantly clean up emissions now with new equipment. We should not wait and allow dirty equipment to continue to be used because ports are concerned the improved equipment may not meet future standards set during the useful life of the new equipment.

[This bill] would allow ports flexibility in replacing existing, dirtier, equipment with cleaner technologies today, but only if they meet very high evidentiary standards. The key is to be sure there is truly a significant net reduction in emissions over the life of the equipment including comparing it to likely new emissions standards. Ports need certainty that their investment is not a stranded asset, and the public needs certainty that there is a certifiably significant overall long-term decrease in emissions that would not take place if the ports wait. This bill would require ports to prove, to the satisfaction of CARB, that the equipment they are purchasing would offer greater emissions reductions, over the lifetime of the equipment, than what would occur if they simply comply with regulatory mandates. This bill does not weaken current standards, but it can accelerate the greening of port equipment if the port meets a high evidentiary bar. The sooner we reduce emissions at the port, the sooner we will be able provide disadvantaged port communities with better air quality and make progress on meeting our climate goals.”

In support, PMSA writes, “[This bill] would create pathways to maximize investments in temporary alternative fuel and cleaner equipment which exceed California’s already strict regulatory baselines prior to zero-emissions mandates. These incentives would create a stable environment thereby incentivizing the use and purchase of cleaner technologies during the zero-emissions transition, estimated by CARB to occur on an as-yet to be determined trajectory between now and 2037. These investments are consistent with the State’s goals and the Ports’ goals to prioritize investments in clean and alternative fueling infrastructure and in heavy-duty vehicles with alternative fuels and zero-emissions equivalency. [This bill] is a modest step in support of these efforts in light of the massive and unprecedented scale of investments which will be necessary to transform the freight sector in the near future. Under this program, short-term investments in hybrids and alternative fuels will be encouraged and protected if CARB determines that they will result in significant improvements in short-term environmental quality and they will not compromise the ultimate regulatory timetables for an orderly transition to future zero-emissions.”

In opposition, Sierra Club California writes, “California set a goal of reducing emissions from port operations by requiring 100% of cargo handling equipment be zero-emission by 2037. [This bill] would extend the life of aging polluting equipment, thereby allowing air pollution to continue beyond this target and undermining efforts to scale and adopt zero emission alternatives. [We] generally support efforts to reduce air pollution and the rapid transition to renewable energy alternatives in order to respond to the climate crisis and reduce GHG emissions. However, to meet our air quality and climate goals, California must prioritize zero-emission technologies, not incentivize short term measures that prolong reliance on fossil fuels and continue to contribute to air quality pollution.”

Committee comments: Ports transition to zero-emission facilities has been complicated by the difficulty of providing enough electricity to power port equipment and ships. This bill proposes to address that challenge by providing a useful life reassurance on new cargo handling equipment that would cumulatively decrease emissions over the regulatory baseline. As an alternative to the bill, CARB could consider incorporating useful life provisions into the future zero-emission cargo handling regulation.

The useful life of cargo handling equipment can be up to 22 years, so this bill will likely result in front loading the purchases of ‘not quite zero’ emission cargo equipment that would then be in service for up to 22 years.

With the next cargo handling equipment amendment looming on the horizon, this bill may pose a complicated endeavor for only a short-term window of opportunity. This bill would require additional staff and workload for CARB to develop the methodologies for the guidelines. It is possible that by the time CARB establishes guidelines, there will be a zero-emission cargo handling regulation in development and soon to be implemented.

In addition, this bill could have secondary impacts on ports’ efforts to upgrade their infrastructure in preparation for cleaner technologies. Specifically, because hybrid technologies allow for equipment to partially continue to operate as it always has, these technologies may not necessitate ports to completely upgrade their infrastructure in preparation for mostly electric and/or hydrogen equipment. Allowing for “transitional technologies” to operate at the ports could delay necessary utility upgrades and delay ports’ transition to zero-emission technologies.

This bill would exempt the establishment of guidelines from the rulemaking requirements of the APA. CARB’s two part board meeting process, in which the board hears an item at a preliminary meeting and votes on the item at a later meeting, allows time for public input and stakeholder feedback.

Double referral: This bill is double referred to the Assembly Natural Resources Committee and will be heard by that Committee as it relates to issues under its jurisdiction.

SB 1 (Beall) Chapter 5, Statutes of 2017, in addition to increasing taxes and fees to raise \$50 billion over ten years in new transportation revenues, provides owners of commercial motor vehicles certainty about the useful life of engines certified by CARB and other applicable agencies to meet required environmental standards for sale in the state.

REGISTERED SUPPORT / OPPOSITION:

Support

Pacific Merchant Shipping Association (sponsor)
Elders Climate Action, NorCal Chapter
Elders Climate Action, SoCal Chapter

Opposition

Sierra Club California

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