



BAY AREA
AIR QUALITY
MANAGEMENT
DISTRICT

Goods Movement Program Cargo Handling Equipment Projects Year 5/6 Program (2021/2022) Fact Sheet

The Proposition 1B: Goods Movement Emission Reduction Program (GMP, Program) is a partnership between the California Air Resources Board (CARB) and local agencies to quickly reduce diesel emissions and health risk from freight movement along California trade corridors. Projects funded under this Program must achieve early or extra emission reductions not otherwise required by law or regulation. The Bay Area Air Quality Management District (Air District) will solicit projects during 2021-2022 for the Year 5/6 Program.

When will applications be available?

The Air District is accepting applications for cargo handling equipment and fueling/charging infrastructure projects **through Monday, August 1, 2022.**

How much funding is available for cargo-handling projects?

CARB approved an allocation of up to \$20 million for the program. This total includes projects in the cargo handling project category.

How will projects be selected?

District staff will evaluate all applications received during the solicitation period and submit a single approved-projects list to CARB for competitive ranking based on estimated emission reductions and cost-effectiveness. Applicants may request a reduced funding amount to increase a proposed project's competitiveness.

What types of equipment is eligible for funding?

Eligible equipment includes rubber-tired gantry (RTG) cranes, yard trucks, forklifts (3,000-lb lift capacity or greater), and other lift equipment (12,000-lb lift capacity or greater) such as side handlers, stackers or top picks that are diesel-fueled and operate in ports, intermodal rail yards, or freight distribution facilities in these [California trade corridors](#). CHE equipment must be available for inspection in the Bay Area trade corridor.

What project types are available?

Eligible project types include upgrading diesel-powered RTG with zero-emissions RTG system (electric, fuel cell), converting existing yard truck with an electric drive train and control system, replacing yard trucks with electric- or fuel cell-powered yard trucks, replacing forklifts with Class 1 electric or fuel cell-powered forklifts, and replacing large-capacity lift equipment with electric- or fuel cell-powered lifts. With the replacement or conversion of at least one yard truck, applicants may also apply for a battery charger or hydrogen fueling unit.

How can I apply?

Complete the Cargo Handling Equipment Application Form from our website (see below) and contact Air District staff with any questions. Infrastructure projects require a written proposal and cost estimate (quotation). Applications and all supporting documentation **must be received by the Air District no later than 11:59 pm PDT on Monday, August 1, 2022.**

How to maintain eligibility if my project is approved

Owners must ensure their Project equipment meets the following at all times:

- Equipment and owner's fleet maintain and can document compliance with all CARB (air quality) regulations. Note that program-funded equipment cannot be used to comply with the regulatory requirement for replacing non-compliant equipment with electric or zero-emission equipment associated with obtaining third and/or fourth years of "No VDECS (Verified Diesel Emission Control Systems) Available" compliance extension. Program-funded equipment is not eligible to be counted towards compliance for a two-year period following post-inspection date.
- Equipment owners are required to notify the Air District as soon as possible if anything about the Project changes, as there may be circumstances that cause the Project to become ineligible.

Where can I find more information?

If you have questions or need additional information, please contact our John Del Arroz at jdelarroz@baaqmd.gov or 415-749-4760

Useful Resources:

- BAAQMD Goods Movement Program website: www.baaqmd.gov/goods
- CARB Goods Movement Program website: <https://ww2.arb.ca.gov/our-work/programs/proposition-1b-goods-movement-emission-reduction-program>
- Map of four major CA trade corridors: <http://www.arb.ca.gov/bonds/gmbond/docs/gmtradecorridors.jpg>
- CA Cargo Handling regulation: <https://ww2.arb.ca.gov/our-work/programs/cargo-handling-equipment>
- CA Off-Road Equipment regulation: <https://ww2.arb.ca.gov/our-work/programs/use-road-diesel-fueled-fleets-regulation>

** Below is a summary of the program requirements from the 2017 updates to the 2015 GMP Guidelines and not a complete list of requirements.*

APPENDIX E Cargo Handling Equipment

A. Equipment Project Specifications

<p>Eligible Equipment</p> <p>General Requirements (applicable to all project options)</p>	<p>Existing diesel-powered rubber-tired gantry (RTG) crane or existing diesel yard truck, lift (forklift, side handler top pick or reach stacker) operating at a seaport (port), intermodal railyard, or freight facility in the four California trade corridors.</p> <ul style="list-style-type: none"> • Agree to equipment inspections. • Comply with record-keeping, reporting, and Program review or fiscal audit requirements. • Sign a legally binding contract with the local agency including project milestones and completion deadlines. • Properly maintain upgraded equipment in good operating condition and according to manufacturer’s recommendations. • Demonstrate proof of equipment warranty and insurance on upgraded equipment that covers the replacement of the equipment. • Certify that there are no outstanding ARB violations or non-compliance with ARB regulations associated with the equipment or the owner.
<p>Option (1) RTG Crane Conversion/ Replacement</p> <p>Requirements</p>	<p>Partial funding of up to the lower of 50% of the eligible cost or \$500,000/crane to upgrade existing diesel powered RTG cranes with a zero emission power system.</p> <p>Eligible costs may include the purchase of a new crane or installation of a zero emission engine, necessary parts for an existing RTG crane including directly related vehicle modifications, and infrastructure to supply electrical power, utility construction, and costs associated with increasing the capacity of electrical power to the crane.</p> <p>Ineligible costs include design, engineering, consulting, environmental review, legal fees, permits, licenses and associated fees, taxes, metered costs, insurance, operation, maintenance, and repair.</p> <p>Projects utilizing regulatory extensions are not eligible for funding.</p> <p>Equipment owner shall:</p> <ul style="list-style-type: none"> • Commit to 15 years of 100% California operation in a port, or intermodal railyard, or freight facility service in the four trade corridors. • Be permitted to keep the existing diesel engine installed and operational for a limited number of hours each year and do the following at their own expense: (1) install an hour meter on the existing diesel engine and (2) provide activity reports when requested by the local agency or ARB, in a format defined by ARB staff. • Commit to a maximum limit of diesel engine usage to 30 hours annually based on a rolling 3 year average. • Comply with all local permitting requirements. • Demonstrate proof of equipment warranty for 5 years.

Cargo Handling Equipment (cont.)

<p>Option (2) Yard Truck Conversion</p>	<p>Partial funding up to the lower of 80 percent of the eligible cost or \$80,000/truck for conversion of an existing diesel powered yard truck to an electric powered yard truck.</p> <p>Eligible costs may include the purchase of the vehicle drive train and control system.</p> <p>Ineligible costs include license, registration, taxes (other than federal excise and sales tax), insurance, operation, maintenance, and repair.</p>
<p>Requirements</p>	<p>Equipment owner shall:</p> <ul style="list-style-type: none"> • Agree to accept an on-board electronic monitoring unit at any time during the project life. • Commit to 5 years of 100% California operation in a port, or intermodal railyard, or freight facility service in the four trade corridors. • Demonstrate proof of equipment warranty for the project life and insurance on upgraded equipment.
<p>Option (3) Yard Truck Replacement Electric</p>	<p>Partial funding of up to the lower of 80 percent of the eligible cost or \$100,000/truck to replace an existing diesel powered yard truck with an electric powered yard truck.</p> <p>Eligible costs may include the purchase of an electric yard truck.</p> <p>Ineligible costs include license, registration, taxes (other than federal excise and sales tax), insurance, operation, maintenance, and repair.</p>
<p>Requirements</p>	<p>Equipment owner shall:</p> <ul style="list-style-type: none"> • Agree to accept an on-board electronic monitoring unit at any time during the project life. • Commit to 5 years of 100% California operation in a port, or intermodal railyard, or freight facility service in the four trade corridors. • Demonstrate proof of equipment warranty for the project life and insurance on upgraded equipment.
<p>Option (4) Yard Truck Replacement Fuel Cell</p>	<p>Partial funding up to the lower of 80 percent of eligible cost or \$200,000 to replace an existing diesel powered yard truck with a fuel cell powered yard truck.</p> <p>Eligible costs may include the purchase of a fuel cell yard truck.</p> <p>Ineligible costs include license, registration, taxes (other than federal excise and sales tax), insurance, operation, maintenance, and repair.</p>
<p>Requirements</p>	<p>Equipment owner shall:</p> <ul style="list-style-type: none"> • Agree to accept an on-board electronic monitoring unit at any time during the project life. • Commit to 5 years of 100% California operation in a port, or intermodal railyard, or freight facility service in the four trade corridors. • Demonstrate proof of equipment warranty for the project life and insurance on upgraded equipment that covers the replacement of the equipment.

Cargo Handling Equipment (cont.)

<p>Option (5) Battery Charger or Hydrogen Fueling Unit</p> <p>Requirements</p>	<p>Partial funding up to the lower of 50 percent or \$15,000 for a single unit battery charger or \$35,000 for a multi-unit battery charger when equipment owner replaces or converts existing yard truck(s) with an electric powered yard truck.</p> <p>Partial funding up to the lower of 50% or \$30,000 for the purchase of a hydrogen fueling unit when the equipment owner replaces an existing yard truck(s) with a fuel cell powered yard truck.</p> <p>Funding is in addition to the funding of one or more yard truck conversion(s) or replacement(s). See Options 2, 3, and 4 (page E-2) for eligibility, funding options, and requirements.</p> <p>This funding option is only available if the equipment owner replaces or converts a yard truck(s) through the Program (Options 2, 3, and 4). The number of chargers or units cannot exceed the number of yard trucks replaced or converted. For multi-unit battery chargers, the unit must charge multiple equipment simultaneously.</p> <p>In addition to the General Requirements listed previously, equipment owner shall:</p> <ul style="list-style-type: none"> • Commit to 5 years of 100% California operation in a port, or intermodal railyard, or freight facility service in the four trade corridors. • Demonstrate proof of equipment warranty of at least 3 years. • Meet all requirements for project Option 2, 3, or 4. • Install a battery charger that is capable of 480V/250 amps/3 Phase power (may be capable of other voltages in addition to meeting the 480V requirement).
<p>Option (6) Forklift Replacement Electric</p> <p>Requirements</p>	<p>Lift capacity of 3,000 lbs to 8,000 lbs: Partial funding up to the lower of 50 percent or \$15,000 to replace an existing diesel forklift with a Class I electric powered forklift including battery and charger.</p> <p>Lift capacity of 8,001 lbs to 12,000 lbs: Partial funding up to the lower of 50 percent or \$18,000 to replace an existing diesel forklift with a Class I electric powered forklift including battery and charger.</p> <p>Eligible equipment must include the purchase of an electric powered forklift, one battery for each forklift purchased, and one California Energy Commission (CEC) compliant charger. Single unit or multi-unit chargers may be purchased given the number of available charging units does not exceed the number of newly purchased forklifts.</p> <p>Equipment owner shall:</p> <ul style="list-style-type: none"> • Not replace existing zero emission equipment with new electric powered equipment. • Commit to 5 years of 100% California operation in a port, or intermodal railyard, or freight facility service in the four trade corridors. • Demonstrate proof of equipment warranty for one year or 1,600 hours, whichever comes first. <p>The replacement equipment must serve the same function as the existing equipment. The equipment engine must be greater than 25 horsepower.</p>

Cargo Handling Equipment (cont.)

<p>Option (7) Forklift Replacement Fuel Cell</p> <p>Requirements</p>	<p>Lift capacity of 3,000 lbs to 8,000 lbs Partial funding up to the lower of 50 percent or \$25,000 to replace an existing diesel powered, forklift with a Class I fuel cell powered forklift.</p> <p>Lift capacity of 8,001 lbs to 12,000 lbs Partial funding up to the lower of 50 percent or \$30,000 to replace an existing diesel forklifts with a Class I fuel cell powered forklift.</p> <p>Equipment owner shall:</p> <ul style="list-style-type: none"> • Not replace existing zero emission forklift with new fuel cell powered equipment. • Commit to 5 years of 100% California operation in a port, or intermodal railyard, or freight facility service in the four trade corridors. • Demonstrate proof of equipment warranty for one year or 1,600 hours, whichever comes first, and insurance that covers the replacement of the equipment. <p>The replacement equipment must serve the same function as the existing equipment. The equipment engine must be greater than 25 horsepower.</p>
<p>Option (8) Lift Replacement* Electric</p> <p>Requirements</p>	<p>Lift capacity greater than 12,000 lbs Partial funding up to the lower of 50 percent or \$50,000 to replace an existing diesel powered lift with a Class I electric lift. *</p> <p>*Lift includes top pick, side handler, reach stacker, or forklift.</p> <p>Eligible cost must include the purchase of electric powered lift, battery, and CEC compliant charger.</p> <p>Equipment owner shall:</p> <ul style="list-style-type: none"> • Not replace existing zero emission equipment with new electric powered equipment. • Commit to 5 years of 100% California operation in a port, or intermodal railyard, or freight facility service in the four trade corridors. • Demonstrate proof of equipment warranty for one year or 1,600 hours, whichever comes first and insurance that covers the replacement of the equipment. <p>The replacement equipment must serve the same function as the existing equipment.</p>
<p>Option (9) Lift Replacement* Fuel cell</p> <p>Requirements</p>	<p>Lift capacity greater than 12,000 lbs Partial funding up to the lower of 50 percent or \$80,000 to replace an existing diesel powered lift with a fuel cell powered lift.*</p> <p>*Lift includes top pick, side handler, reach stacker, or forklift.</p> <p>Equipment owner shall:</p> <ul style="list-style-type: none"> • Not replace existing zero emission equipment with new fuel cell powered equipment • Commit to 5 years of 100% California operation in a port, or intermodal railyard, or freight facility service in the four trade corridors. • Demonstrate proof of equipment warranty for one year or 1,600 hours, whichever comes first and insurance that covers the replacement of the equipment. <p>The replacement equipment must serve the same function as the existing equipment.</p>

Cargo Handling Equipment (cont.)

Project Cost Assumptions	<ul style="list-style-type: none"> • Total estimated cost of converting an existing RTG crane with a zero emission power system and modification of the port space to electrify the crane is approximately \$600,000/crane. • Total estimated cost of a zero emission powered RTG crane is approximately \$1.5 million. • Total estimated cost of a zero emission power system for yard trucks is approximately \$250,000. • Total estimated cost for a single through multi-unit battery charger for yard trucks is approximately \$30,000 to \$70,000. • Total estimated cost of a 5,000 lb capacity electric forklift with a battery and charger is approximately \$40,000. • Total estimated cost of a zero emission forklift is approximately \$20,000 to \$275,000. • Total estimated cost of a zero emission lift (except for forklift), greater than 12,000 lb. capacity, is approximately \$340,000 to \$660,000.
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B. Major Milestones for Project Completion

- Equipment order.
- Equipment acquisition/installation.
- Submittal of invoice to local agency for reimbursement.
- Scrappage of old yard truck/equipment, when applicable.

C. Application Information

Equipment owners shall provide the following information and documentation in addition to the requirements described in these guidelines, and other information ARB or local agencies may request on the equipment project applications.

The following sections apply to all equipment project options.

1. General information

- Name of applicant.
- Organization/agency/company name.
- Mailing address.
- Primary contact name and phone number.
- Person with equipment contract signing authority (owner) for companies with multiple employees.
- Proof of identity of equipment owner.
- Number of pieces of diesel cargo handling equipment.
- Submit documentation with application showing compliance with ARB regulations.
- Business information.
 - Fleet size.
 - Number of employees.

2. Current equipment and activity information

a) Rubber-tired gantry crane

- Rubber-tired gantry crane (RTG) data.
 - Port, railyard or freight facility center where RTG crane operates.
 - Specific location.
 - Equipment make, model, model year.
 - RTG crane identification number or vehicle identification number (VIN).
 - Engine data (per engine).
 - Engine make, model, engine year, type (off-road or on-road).
 - Serial number.
 - Horsepower and fuel type.
- Activity data for the past 2 years.
 - Annual hours of operation.

Additional documentation may be requested by the local agency to verify information reported on the application.

b) Yard truck

- Yard truck data.
 - Port, railyard, or freight facility where yard truck operates.
 - Truck make, model, model year.
 - Yard truck identification number or vehicle identification number (VIN).
 - Diesel engine data (per engine).
 - Engine make, model, engine year, type (off-road or on-road).
 - Serial number.
 - Horsepower and fuel type.
- Activity data for the past 2 years.
 - Annual hours of operation.
 - Identify the trade corridors in which the equipment is routinely operated.

c) Forklift, top pick, side handler, or reach stacker

- Forklift, top pick, side handler, or reach stacker data.
 - Port, railyard, or freight facility where yard truck operates.
 - Equipment make, model, model year.
 - Identification number or serial number.
 - Equipment lift capacity.
 - Diesel engine data.
 - Engine make, model, engine year.
 - Serial number.
 - Horsepower and fuel type.
 - Engine emission certification standard or retrofit verification level (include Emission Control Group name).
 - Engine Family Name.

- Activity data for the past 2 years.
 - Annual hours of operation.
 - Identify the trade corridors in which the equipment is routinely operated.

Additional documentation may be requested by the local agency to verify information reported on the application.

3. Proposed equipment project information

a) *Rubber-tired gantry crane*

- Zero emission RTG data.
 - Equipment make, model, model year.
 - Equipment power rating.
- Estimated cost information for eligible expenses.
- New equipment information to calculate emission reductions, as determined by ARB.
- Equipment project funding demonstration.
 - Program funds requested.
 - Funding sources and amounts of other funding (private, local, other State, federal).
 - Total project cost (Program funds requested plus other match funding).
 - Documentation of match funding availability, if requested by the local agency.

b) *Yard truck*

- Zero emission yard truck data.
 - Truck make, model, model year.
 - Equipment power rating.
- Estimated cost information for eligible expenses.
- New equipment information to calculate emission reductions, if needed.
- Equipment project funding demonstration.
 - Total project cost.
 - Program funds requested.
 - Source and amounts of other funding (private, local, other State, federal).
 - Total project cost (Program funds requested plus other match funding).
 - Documentation of match funding availability, if requested by the local agency.

c) *Battery charger/hydrogen fueling units*

Battery charger/fueling unit.

- Equipment manufacturer
- Equipment power rating for electric charger only (voltage, amperage, wattage, efficiency).
- Equipment serial number.
- Number of charging ports.
- Equipment recharge rate for electric battery charger only.

- Anticipated cost of eligible equipment.
- Location of equipment.
- Description of usage monitoring system.
- Predicted activity rate with new equipment.
 - Estimated annual truck connections to charger/fueling units and average connection time.

Plus information for yard trucks.

- Zero emission yard truck data.
 - Truck make, model, model year.
 - Equipment power rating.
- Estimated cost information for eligible expenses.
- New equipment information to calculate emission reductions, as determined by ARB.
- Equipment project funding demonstration.
 - Program funds requested.
 - Source and amounts of other funding (private, local, other State, federal).
 - Total project cost (Program funds requested plus other match funding).
 - Documentation of match funding availability, if requested by the local agency.

d) Forklift, top pick, side handler, or reach stacker

- Forklift, top pick side handler or reach stacker data.
 - Port, railyard, or freight facility where yard truck operates.
 - Equipment make, model, model year.
 - Identification number or vehicle identification number (VIN).
 - Equipment lift capacity.
 - Diesel engine data.
 - Engine make, model, engine year.
 - New equipment information to calculate emission reductions, as determined by ARB.
 - Serial number.
 - Horsepower and fuel type.
 - Engine emission certification standard or retrofit verification level (include Emission Control Group name).
 - Engine Family Name.
 - Estimated cost for each eligible expense.
- Equipment project funding demonstration.
 - Program funds requested.
 - Source and amounts of other funding (private, local, other State, federal).
 - Total project cost (Program funds requested plus other match funding).
 - Documentation of match funding availability, if requested by the local agency.