

To: Richard W. Corey, Executive Officer, California Air Resources Board  
From: Sydney Vergis, Chief, Mobile Source Control Division *Sydney Vergis*  
Date: April 5, 2022  
Subject: Approval of Additional Project Categories in the Funding Agricultural Replacement Measures for Emission Reductions (FARMER) Program

The purpose of this memo is to request your concurrence with staff's recommendations for two additional project categories in the FARMER Program. The FARMER Program Guidelines were approved by the Board in March 2018. As part of the Guidelines, the Board granted the California Air Resources Board's (CARB) Executive Officer authority to approve additional project categories or make modifications to existing project categories as needed.

Staff have received public feedback and requests to include additional project categories for zero-emission agricultural equipment and a pilot project category for used agricultural equipment for small producers in the San Joaquin Valley. Staff held a public work group meeting in February 2022, to discuss additional project category proposals, as summarized below and described further in the attached document.

- **Zero-Emission Agricultural Equipment:** Zero-emission off-road equipment is becoming more readily available in the agricultural industry. Further, the FARMER Program Guidelines point to the Carl Moyer Program Guidelines, which require replacement equipment be certified or verified. Since certification standards or verification procedures for zero-emission off-road equipment currently do not exist, these projects must be approved on a case-by-case basis, which may present delays in funding such projects. Staff is proposing a new project category specifically for zero-emission agricultural equipment to increase and streamline opportunities for zero-emission equipment while promoting technology advancement in the agricultural sector.
- **Used Agricultural Equipment for Small Producers Pilot Project in the San Joaquin Valley:** Smaller farms typically have older equipment than larger farms, as well as increased emissions per acre and may not have the means to purchase new equipment even with incentives that are currently available. Staff is proposing a new pilot project category that provides funding opportunities for small producers within the San Joaquin Valley Air Pollution Control District to replace Tier 0 or 1 equipment with used Tier 3 or cleaner equipment, while providing CARB an opportunity to evaluate the feasibility of this new incentive model.

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Upon your approval of these project categories, staff will post the attached document on the FARMER Program website and districts will be able to begin funding the new project categories immediately. If you concur with these recommendations, please sign below, and return to me.



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Signature of Richard W. Corey  
Executive Officer

04.15.22

\_\_\_\_\_  
Date

Attachment: FARMER Program Additional Project Categories, April 2022

# **Funding Agricultural Replacement Measures for Emission Reductions (FARMER) Program Additional Project Categories April 2022**

The FARMER Program Guidelines were approved by the California Air Resources Board (CARB) in March 2018. As part of the Guidelines, the Board granted CARB's Executive Officer authority to approve additional project categories or make modifications to existing project categories as needed. Subsequently, CARB has added and modified project categories through this approval process in September 2018 and October 2019.

Most recently, CARB staff held a public work group meeting to gather input on two additional proposed project categories within the FARMER Program. These categories include (1) zero-emission agricultural equipment, and (2) a pilot project for used agricultural equipment for small growers within the San Joaquin Valley Air Pollution Control District. Public input was incorporated into the final project criteria described below, and once approved by CARB's Executive Officer, these project categories are available for funding by local air districts.

Please note that as with any of the project categories within the FARMER Program, local air districts have discretion to fund whichever project categories they choose and may apply more stringent administrative procedures in implementing their programs.

## **Zero-Emission Agricultural Equipment**

Zero-emission off-road equipment is becoming more readily available in the agricultural industry. Further, the FARMER Program Guidelines point to the Carl Moyer Program Guidelines, which require replacement equipment be certified or verified. Since certification standards or verification procedures for zero-emission off-road equipment currently do not exist, these projects must be approved on a case-by-case basis, which may present delays in funding such projects. To increase and streamline funding opportunities for zero-emission equipment while promoting technology advancements in the agricultural sector, CARB staff have developed an eligible project category specifically for zero-emission off-road agricultural equipment. The project criteria for this category are described below.

- Replacement equipment must be new, meaning the equipment must be constructed entirely from new parts that have never been the subject of retail sale.
- Replacement equipment in this project category is not required to be certified or verified by CARB. However, replacement equipment must emit zero tailpipe emissions from its onboard source of power (such as all-electric or hydrogen fuel cell vehicles) and may not undergo any modification that would allow propulsion by any other means.
- Replacement equipment must serve the same function and perform the same work as the baseline equipment.

- Maximum incentive level must be based on a cost-effectiveness limit of \$66,000 per weighted ton of emission reductions, up to 80 percent of the replacement equipment cost.
- Additional equipment critical for the operation of the zero-emission equipment, such as a level 2 charger and battery pack, may be included as an eligible project cost.
- Unless specified otherwise in the criteria above, projects funded through this category must meet all other requirements for Carl Moyer-eligible projects in Section 3.2.1 in the FARMER Program Guidelines

## **Used Agricultural Equipment for Small Producers Pilot Project in the San Joaquin Valley**

Smaller farms typically have older equipment than large farms as well as increased emissions per acre<sup>1</sup> and may not have the means to purchase new equipment even with incentives. This pilot provides funding opportunities for small producers in the San Joaquin Valley to replace Tier 0 or 1 equipment with used Tier 3 or cleaner equipment, while providing CARB an opportunity to evaluate the feasibility of a new incentive model.

- Baseline equipment must be Tier 0 (uncontrolled) or Tier 1 off-road equipment.
- Replacement equipment must be Tier 3 or cleaner and must have a functional hour meter with less than 10,000 hours recorded on the hour meter.
- The air district must define a farm size limit for this category in their FARMER Policies and Procedures Manual.
- Maximum incentive level must be based on a cost-effectiveness limit of \$33,000 per weighted ton of emission reductions, up to 80 percent of the replacement equipment cost.
- Replacement equipment must be purchased through an original equipment manufacturer (OEM) dealer.
- Replacement equipment is not required to meet the warranty requirements for off-road replacement equipment within the Carl Moyer Program Guidelines. Instead, replacement equipment must pass an eligibility evaluation by the dealer. This evaluation must cover the components described below. If any components are found to be in critical condition, repairs must be made before the equipment is deemed eligible for funding.
- The OEM dealer must certify that they have evaluated the equipment to ensure that all emission control components are in working condition and have not been tampered with.
- Unless specified otherwise in the criteria above, projects funded through this category must meet all other requirements for Carl Moyer-eligible projects in Section 3.2.1 in the FARMER Program Guidelines.

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<sup>1</sup> 2021 Agricultural Equipment Emissions Inventory presentation, July 15, 2021, [ww2.arb.ca.gov/sites/default/files/2021-07/ag2021%20webinar%20july%2015%202021%20final%20ada.pdf](http://ww2.arb.ca.gov/sites/default/files/2021-07/ag2021%20webinar%20july%2015%202021%20final%20ada.pdf).

## Eligibility Evaluation Criteria for Used Agricultural Equipment

Status				Safety Equipment
A	B	C	S	
				Seat Belts
				Rollover Protection
				Warning/Flashing Lights
				Decals in Place (e.g., SMV)
				Other Audible Sounds
				Horn
				Brake Pedal Interlock
				PTO Shield in Place
				Reflectors
				Mirrors (if applicable)
				Other Equipment (if applicable)

Status				Engine
A	B	C	S	
				Engine Oil/Filter
				Clean DPF, Check for Exhaust Smoke
				Unusual Noise
				Turbo Charger (if applicable)
				Intake System
				Muffler/Exhaust System
				High & Low Idle Speed
				Fuel Pumps & Fuel Lines/Clamps
				Run Unit on Dyno for 2 Hours
				Fuel Shut Off System
				Fuel Throttle Linkage
				Fuel Tank
				Fuel Cap
				Belts/Tensioner
				Cold Starting Aids/Block Heater
				Check Fault Codes/History & Repair
				Other Components (if applicable)

Status				Electrical
A	B	C	S	
				Neutral Starting Switch
				Connections
				Battery Fluid
				Battery Hold Down
				Battery Voltage
				Battery Area Clear/Clean
				Starter
				Alternator
				Wipers
				Heat/AC Fan (if applicable)
				Turn Signals
				Lights
				Differential Lock
				Instrumentation/Warning Lights
				MFD Switch (if applicable)
				Other Components (if applicable)

Status				Steering System
A	B	C	S	
				Hoses
				Cylinder/Valves
				Tie Rods/Knuckles
				Operational
				Front Wheel Toe In
				Tilt & Telescope
				Other Components (if applicable)

Status				Power Train
A	B	C	S	
				Planetary Oil
				Differential Oil
				Check for All Gears
				Wheel Spacing (By Request)
				Wheel Lugs
				Tires/Pressure
				Hydrostatic Transmission
				Other Components (if applicable)

Status				Brake System
A	B	C	S	
				Manual & Power
				Linkage/Control
				Lines/Hoses
				Parking Brake/Lock
				Other Components (if applicable)

Status				Cooling System
A	B	C	S	
				Radiator Core
				Hoses/Clamps/Radiator Cap
				Water Pump
				Fan Assembly
				Coolant/_____°
				Coolant Recovery
				Other Components (if applicable)

Status	Definition
A	Good condition
B	Operational with signs of wear
C	Critical – must repair
S	Passed inspection – service provided

Status				Hydraulic
A	B	C	S	
				Oil Level
				Lines/Hoses
				Control/Linkage
				Oil Cooler
				Cylinders/Valves
				Reservoir
				Operational
				Proper Detent
				Quick Couplers
				Other Components (if applicable)

Status				Leaks
A	B	C	S	
				Oil
				Coolant
				Fuel

Status				Hitch/PTO Area
A	B	C	S	
				Inspect Hitch Members
				Upper Link Operational
				Proper Height
				Engage/Disengage

Status				Additional Maintenance
A	B	C	S	
				Lube Grease
				Engine Air Filters
				Engine Fuel Filters
				Hydraulic Filters
				Wheel Bearings
				Engine Valve Lash Adjustment
				Fuel Injectors
				Coolant/Filters
				Cab Filters
				Clean A/C Condenser
				A/C Check
				Other Components (if applicable)

Status				Miscellaneous
A	B	C	S	
				Welds/Frames
				Exterior Condition
				Seat Operates/Condition
				Fire Extinguisher (if equipped)

Status				Fluid Analysis
A	B	C	S	
				Engine
				Hydrostatic/Transmission
				MFD Front Differential
				MFD Outboard Planetaries
				Coolant

Status	Definition
A	Good condition
B	Operational with signs of wear
C	Critical – must repair
S	Passed inspection – service provided