

Funding Agricultural Replacement Measures for Emission Reductions (FARMER) Program

Work Group Meeting for Additional Project Categories

February 23, 2022, 1:30pm – 3:30pm

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.

CARB staff is holding this work group meeting to gather input on new, proposed project categories within the FARMER Program. Input from this meeting will be incorporated into the final project criteria before being approved by CARB's Executive Officer and made available for funding by local air districts.

Background

Staff are considering the inclusion of the following project categories:

- Zero-Emission Agricultural Equipment; and
- Used Agricultural Equipment for Small Growers.

Zero-Emission Agricultural Equipment

To increase and streamline funding opportunities for zero-emission equipment while promoting technology advancements in the agricultural sector, CARB staff is proposing a dedicated category for zero-emission agricultural equipment within the FARMER Program.

- Maximum incentive level would be based on a cost-effectiveness limit of \$66,000 per weighted ton of emission reductions, up to 80% of the replacement equipment cost.
- At the discretion of the air district, 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.
- Replacement equipment must serve the same function as the baseline equipment.
- Projects funded through this category would need to meet all other applicable requirements for off-road equipment in the FARMER Program Guidelines, 2017 Carl Moyer Program Guidelines and any future approved Guidelines, and current and future Program Advisories and Mail-outs.

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 acre¹ and may not have the means to purchase new equipment even with incentives. This pilot would provide funding opportunities for small producers in the San Joaquin Valley to purchase used Tier 3 or cleaner equipment through the FARMER Program, while providing CARB an opportunity to evaluate the feasibility of a new incentive model.

- Baseline equipment must be Tier 0 (uncontrolled) or Tier 1.
- Replacement equipment must be Tier 3 or cleaner and must have a working 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 based on their region in their FARMER Policies and Procedures Manual.
- Maximum incentive level would be based on a cost-effectiveness limit of \$33,000 per weighted ton of emission reductions, up to 80% of the replacement equipment cost.
- Replacement equipment must be purchased through an original equipment manufacturer (OEM) dealer.
- Replacement equipment must pass the eligibility evaluation by the dealer. At minimum, this evaluation must cover the components described in Attachment A. 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.
- Projects funded through this category must meet all other applicable requirements for off-road equipment in the FARMER Program Guidelines, 2017 Carl Moyer Program Guidelines and any future approved Guidelines, and current and future Program Advisories and Mail-outs.

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

Attachment A – Proposed 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 |