

San Joaquin Valley Electric Tractor Development & Demonstration

Project Clean Air, Inc., as the lead applicant, has partnered with HummingbirdEV, Moonlight Companies, Fresno State Transportation Institute, Fresno State Ag Farm, Ranch Management, and Kings River Tractor to create the San Joaquin Valley Electric Tractor Development and Demonstration project. Through this project, four zero-emission, all electric battery 50 HP tractors and one zero-emission, all electric battery Class 6 truck will be delivered to the main demonstration site, Moonlight Companies in Reedley, CA. Moonlight will work with the secondary demonstration sites to test uses in various terrains and functions. The central San Joaquin Valley is a prime location for an eTractor deployment – fixed route project, wide range socioeconomics, and the availability of and access to recharging/fueling stations for zero-emissions vehicles.



PROJECT CLEAN AIR

Dates: June 5, 2018 – November 2020
Grantee: Project Clean Air, Inc.
Partners: Hummingbird EV, Moonlight Companies, Fresno State Transportation Institute, Fresno State AG Farm, Ranch Management, Kings River Tractor

Grant Amount:
CARB Contribution: \$1,500,000
Matching Funds: \$792,054
Project Total: \$2,292,054

The SJV Electric Tractor Development and Demonstration has been conceived and developed by all of the Project Partners, with a great amount of support from the agriculture industry, public health officials, educators and clean air advocates. While Project Clean Air is the lead applicant, each partner plays a crucial role in the success of the project. These Project Partners have a great amount of advanced technology experience to oversee and ensure the success of this demonstration.



Vehicles/Equipment Funded

The demonstrated technologies include the electrification of off-road agriculture equipment; specifically 50 HP tractor (4 total) and a Class 6 medium-duty truck. The eTruck is a vital component to the project; the truck will serve as the Vehicle-to-Vehicle Fuel Tender recharging the electric tractors in the orchards and farm fields where they will be operating.

- Four 50 HP Electric Farm Tractors of 25 kWh or greater
- One Class 6 Electric Truck with V2V Recharger system for in-field eTractor recharge
- Demonstration to occur in Reedley at Moonlight, Cantua Creek at Ranch Management & on CSU Fresno AG Farm

The Project Goals Include

- Design, customize, develop, and test the first all-electric agriculture tractors with supporting electric Class 6 truck in California
- Demonstrate the functionality and GHG Emissions Reductions of the electric fleet (including eTractors and eTruck)
- Create a market for electric agriculture and freight equipment

Status Updates

- Design and development of the eTractor began in June 2018
- Installed electric drive system and V2V for first eTractor & eTruck thru Jan. 2020 with lab testing thru March 2020
- Public unveiling at World Ag Expo 1st eTractor and Mobile Charging Class 6 eTruck Feb. 2020
- Field Testing/Validation/Data collection on the Farm began April 2020 with first two eTractors
- 3rd & 4th eTractor shipped in April, final assembly and energized began field testing in May/June 2020.

