

DOCKETED

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AG SECTOR LOAD GROWTH

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Existing Problem - Already Constrained!

- San Joaquin County
 - Almond processor can't expand or install solar - "substation already 15% over rated capacity"
- Madera County
 - Almond processor built using microgrid in business park due to lack of grid capacity (2 natural gas engines and solar)
- Fresno County
 - Small farm shop waiting 6 years for hookup
 - Large citrus packing house informed PG&E substations in the area are already "maxed out"

Existing Problem - Already Constrained!

- Tehama County
 - Walnut processor cannot expand any further due to area capacity will not be able to meet new regulatory requirements for electric trucks and forklifts
- Fresno County
 - Farmers wants to electrify 4 natural gas powered wells - PG&E informed farmer “we are not able to bring customers new load only for several years due to significant capacity constraints across our entire service territory?”

On the Horizon - CARB regulations

- Advanced Clean Fleets (ACF) and Advanced Clean Truck (ACT) Rules
- Zero Emission Vehicle (ZEV) Forklift Regulation
- Scoping Plan
 - Food Products
 - Ag Energy

Advanced Clean Fleets

- Applies to companies with \$50 million or more in gross sales or to fleets of 50 or more trucks
 - GVWR >8,500 pounds
 - Manufacturers can only sell ZEV trucks beginning in 2036
 - Any new truck purchase must be ZEV beginning in 2025
 - Replace existing trucks after 18 years or 800,000 miles
- Applies to all drayage trucks
 - Must be 100% ZEV by 2035
- 2nd phase to capture all other trucks to be developed in 2025 or 2026

Advanced Clean Fleets

- # of trucks to be converted to electric by date
 - 2035 - 510,000
 - 2045 - 1,350,000
 - 2050 - 1,690,000
- Electricity Demand
 - DC Fast Charger - 1 MW each
 - Overnight Charger - 250 kW to 500 kW

ZEV Forklift Regulation

- Regulation
 - Applies to all forklifts
 - Begins in 2026
 - Replace at 13 years old
- Estimated 95,000 forklifts to be converted to electric
- 6,000 lb LI forklift requires 30kW charger
- Ag begins in 2029
 - Problem is ag fleet is old
 - Majority to be replaced in 2029 or 2031

Scoping Plan

- Food products
 - 7.5% of energy demand must be electric by 2030
 - 75% of energy demand must be electric by 2045
 - Industries affected by drying or heating products
 - Tomato processors (> 100 MMBtu)
 - Cotton gins (15 to 20 MMBTU)
 - Walnut dehydrators (12 to 24 MMBtu)
 - Pistachio hullers (150 MMBtu to 250 MMBtu)

Scoping Plan

- Agriculture Energy Use
 - Electrify 25% of energy demand by 2030
 - Electrify 75% of energy demand by 2045
- Equipment affected
 - Tractors
 - Pump engines
 - UTVs

Issues

- Demand
 - How much?
 - Where?
 - When?
- Electric or hydrogen?
- Costs of equipment
 - Conventional vs. Electric or Hydrogen
- Affordability, affordability, affordability

Unforeseen Issues

- Value Added equipment
 - Roasters
 - Pasteurization
- Solar no longer attractive
 - Removal of incentives
 - Removal of aggregation

Necessary actions

- Follow through on comprehensive agricultural survey
 - Need to understand:
 - Time frames for implementation
 - Load demands
 - Geographic and spatial assessment
- Consider delay in implementation if infrastructure deficiencies cannot be overcome