

Impact from Drought and Tree Mortality on Availability of Alternatives to Open Burning

**Central Valley Summit On Alternatives
to Open Burning of Agricultural Waste
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Background

- 2011-2017 California Drought worst in recorded history
 - Governor declared statewide Drought Emergency
 - Entire Valley was under “exceptional” drought conditions
- Extreme drought has resulted in enormous increase in fallowed agricultural land
- Extreme drought and resulting bark beetle infestation have caused vast tree mortality epidemic across California

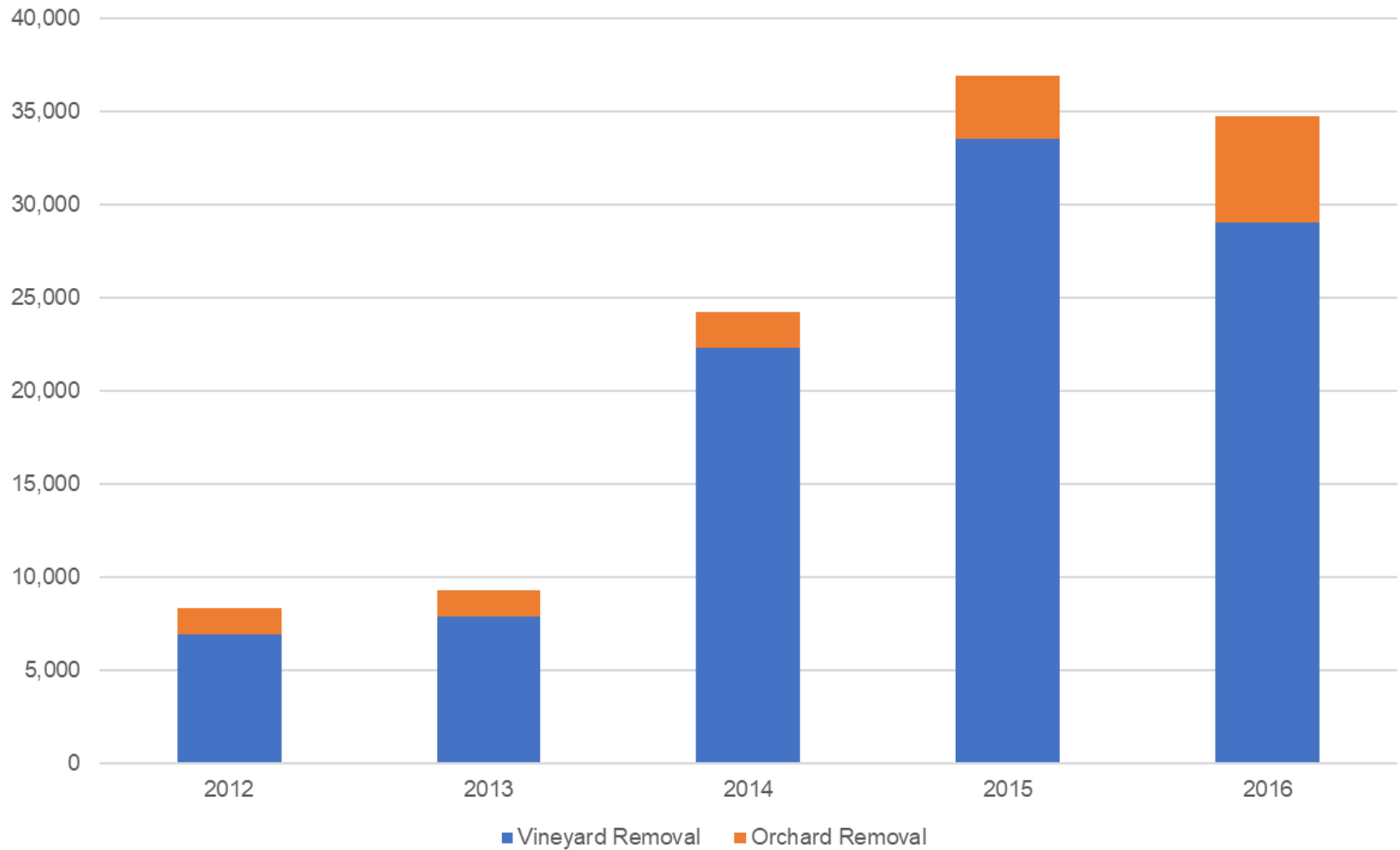


Dramatic Increase in Agricultural Waste

- Extreme drought has resulted in over 1 million acres of fallowed agricultural land and an increased need to dispose of agricultural waste
 - 2012 to 2016 burn data for vineyard and orchard removals reflects this increase on the amount of agricultural waste
- Hundreds of thousands of acres of orchards and vineyards have been or will be removed due to the drought and crop economics
 - Stressing already limited alternatives to open burning of agricultural waste



Acres Burned for Crops Currently Allowed under Rule 4103



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Tree Mortality Epidemic

- October 2015, Governor Brown issued state of emergency proclamation for the state's tree mortality epidemic
 - Includes provisions to expedite the removal of dead and dying trees
- Orders state and local agencies to take numerous actions to enable removal of trees in high hazard zones
- State Tree Mortality Task Force estimates over 102 million dead trees through the end of 2016
- Biomass from removal of trees can impact availability of alternatives for agricultural waste



Contracts for Bioenergy Facilities

- Governor's proclamation ordered CPUC and CEC to enter into contracts with existing bioenergy facilities to take feedstock from high hazard zones
- March 2016, CPUC issued Resolution E-4770 (BioRAM Resolution)
 - Directs biomass power procurement & orders utilities to procure at least 50 MW (PG&E: 20 MW, SoCal Edison: 20 MW & SDG&E: 10 MW)
 - Prescribes minimum fuel from hazard zones which increases from 40% in 2016 to 80% in 2019
- Mandated minimum high hazard fuel requirements will have the effect of reducing the already limited biomass capacity for agricultural waste



BioRAM Case Study

- One Valley biomass facility is currently operating under a BioRAM contract
- Historically, facility utilized 70% agricultural waste
- Under BioRAM, facility is now utilizing 25% agricultural waste in 2017.
 - Expected to be further reduced to 20% and 10% in 2018 and 2019, respectively
- Several BioRAM facilities have expressed concern about securing enough high hazard zone material to meet minimum consumption requirements included in BioRAM contracts
 - Facilities may be forced to close if unable to meet obligations under BioRAM



Opportunities

- California has a biomass waste disposal issue which spans from agricultural waste to urban waste to tree mortality waste from high hazard zones
- Solutions should not be singularly focused on one area to the detriment of others (like BioRAM)
- With the leveraging of resources and expertise, co-beneficial solutions should be the focus to address the state's biomass waste disposal issue

