



December 8, 2022

California Energy Commission
715 P Street
Sacramento, CA 95814

Re: Climate Innovation Program

We, the undersigned sustainable agriculture organizations, respectfully recommend that the California Energy Commission (CEC) include agrivoltaic projects as a called out eligible activity to be funded by the Climate Innovation Program (CIP). Farmers and ranchers, in fact, need this program to help California combat climate change and minimize future impacts from droughts and extreme heat. If done responsibly it is possible to grow renewable energy while strengthening farm viability, reducing irrigation demand, providing necessary shade, and protecting healthy soil. In addition, we thank the CEC and the Legislature for making regenerative agriculture an eligible activity for funding and we would like to offer our expertise as a resource as to what specific practices should be included in the program. Many of our members have been implementing sustainable and regenerative practices for a long time.

Agriculture solar energy is a necessary tool in the fight against climate change. Yet without a thoughtful approach to the physical deployment of solar energy, American agriculture and the ability for California to most effectively achieve its laudable climate goals can suffer. The US Department of Energy¹ projects that 10.3 million acres of solar will be needed to decarbonize the nation's electrical grid by mid-century, with 90 percent of the utility-scale solar capacity likely to be installed in rural communities, given that solar developers often prefer flat, open, well-drained landscapes near existing electrical infrastructure for their arrays, some of our most productive and versatile farmland could be at risk. In California, planners have identified the San Joaquin Valley as a place with high potential to build more solar, with 3 gigawatts of solar already developed and substantial additional developments being constructed in places like Fresno, Kings, and Kern counties. SB 100 and related legislation is likely to spur an unprecedented build-out of solar (at least 70 gigawatts) at the same time frame that groundwater basins must achieve sustainability under the Sustainable Groundwater

¹ <https://www.energy.gov/eere/solar/solar-futures-study-multimedia>, September 8, 2021.

Management Act.² We recognize this potential conflict between deploying massive ground-mounted solar energy infrastructure and conserving productive farmland.

Agrivoltaic systems can bridge that tension and benefit clean energy, rural communities and agriculture. At its core, agrivoltaics enables agricultural and energy production on the same piece of land. By raising solar panels higher off the ground and spacing them further apart than in traditional arrays, agrivoltaic systems allow more sunlight to reach the ground. Farmers can grow certain crops which tolerate or benefit from some shade (which can have secondary benefits for crop quality, reduced irrigation demand, and extreme heat resilience) or raise livestock under the panels, as well as maneuver tractors and other equipment. Different from simple co-location, these systems are designed to enable farming activity throughout the life of the solar facility in a manner that is consistent with the productive capacity of the land. In addition to efficiently producing clean energy, agrivoltaics can offer important economic opportunities for farmers through the combination of solar lease payments and continued agricultural production. Additional benefits- for communities, for wildlife, for farmland conservation, and even for increased production for certain crops, grasses and livestock that are vulnerable to extreme heat and prefer some shade- are possible, too.

California is behind the curve when it comes to integrating renewable energy projects and agriculture. Across the country in states like Colorado, Arizona, Massachusetts, and Maine, clean energy associations, farm advocates, solar developers and researchers are partnering up with state governments to explore applications for dual use and novel agrivoltaic systems. Jack's Solar Garden in Colorado is the largest commercial research site for agrivoltaics in the US and a national model for governments, solar developers, and farmers for how to produce renewable energy while continuing agricultural production via agrivoltaics.. The CEC has the opportunity now to promote investments in agrivoltaic projects in the CIP. Agrivoltaics is an innovative approach to renewable energy development and should be piloted and studied to develop California-specific best practices. We strongly recommend the CEC help farmers and solar developers find innovative win-win solutions to provide food to Californians and deploy clean energy the state needs to meet its goals.

² [Solar Energy and Groundwater in the San Joaquin Valley](#). Public Policy Institute of CA, 2022.

Thank you for your consideration of our request. We welcome the opportunity to meet with you to discuss this and answer any questions.

Sincerely,

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CC: Secretary Karen Ross, California Department of Food & Agriculture
Director David Shabazian, California Department of Conservation