CALIFORNIA STRATEGIC GROWTH COUNCIL

CLIMATE CHANGE RESEARCH PROGRAM
GRANT AWARD

CALIFORNIA CLIMATE INVESTMENTS — Cap and Trade Dollars at Work

UNIVERSITY OF CALIFORNIA, OFFICE OF THE PRESIDENT

CALIFORNIA COLLABORATIVE ON CLIMATE CHANGE SOLUTIONS: WORKING LANDS INNOVATION CENTER—CATALYZING NEGATIVE CARBON EMISSIONS

PRINCIPAL INVESTIGATOR: Benjamin Z. Houlton, Director and Professor, UC Davis Muir Institute

INNOVATION CENTER RESEARCH GRANT
$ 4,691,395.80
Duration: 36 Months

RESEARCH INNOVATION FIELD

- ☑ Carbon Dioxide Removal
- ☐ Methane Reduction
- ☐ Heating, Cooling, and Thermal Storage

The Working Lands Innovation Center's objective is to scale and sustain CO_2 capture and GHG emissions reductions by deploying a suite of cutting-edge soil amendment technologies, driving substantial co-benefits for California growers, ranchers, Tribes, communities, the economy, and environment. This project will increase understanding of the mechanisms and potential for carbon sequestration in soil.

PARTNERS:	➢ **University of California, Berkeley** ➢ **California State University, East Bay** ➢ **Lawrence Berkeley National Laboratory** ➢ **University of California, Merced**
RESEARCH ACTIVITIES	➢ WLIC's research is focused on three technologies to capture CO_2 with co-benefits: rock amendments in cropland and rangelands, compost applications to cropland and rangeland soil, and demonstration of combined CO_2 capture technologies (combinations of compost, rocks and biochar). WLIC will also conduct geo-spatial model analysis to identify best practices for scaling carbon removal statewide. These soil amendment technologies have not yet been tested together across the state.
FACILITATES GREENHOUSE GAS EMISSIONS REDUCTIONS:	➢ When combined, the soil amendment technologies could capture 36-82 or more metric tons of California's carbon dioxide emissions each year, with several billion tons of carbon dioxide sequestration potential worldwide. WLIC will use models and other tools to examine the total land resources available to achieve this level of scaling, and work with the California Collaborative for Climate Change Solutions (C4S) to scale outside of the state.
BENEFITS DISADVANTAGED AND LOW INCOME COMMUNITIES:	➢ WLIC's demonstrations will: (i) maintain and protect agricultural economy in rural areas; (ii) promote opportunities for Tribal Nations to take advantage of our technologies and research through collaborative partnerships; (iii) create cleaner air and water in the Central Valley and Imperial Valley by improving fertilizer use efficiency; (iv) redesign organic waste streams converting problems into solutions; (v) restore soil health and protect the environment; (vi) enhance agricultural workforce development by demonstrating how amendments can improve yields with less water, helping with climate adaptation; (vii) increase the affordability of healthy food options by promoting soil health, crop resilience, and aiding in agriculture resilience; (viii) create opportunities for ranchers and farmers to financially benefit from cap-and-trade offsets through soil restoration practices and GHG reductions; (ix) develop new business opportunities in the area of soil amendment production, distribution, and innovation.
ENGAGEMENT ACTIVITES:	➢ Work with commercial partners (Almond Board of California, Compost and Biochar producers), land owners across CA (commercial and family farmers and ranchers), the USDA, UC Agricultural and Natural Resources, and small business development, Tribes and the American Carbon Registry to translate science findings into action, and scale technologies within and outside of California. Annual and sub-annual farmer showcase events will highlight opportunities for farmers and ranchers to engage in research and deploy technologies.