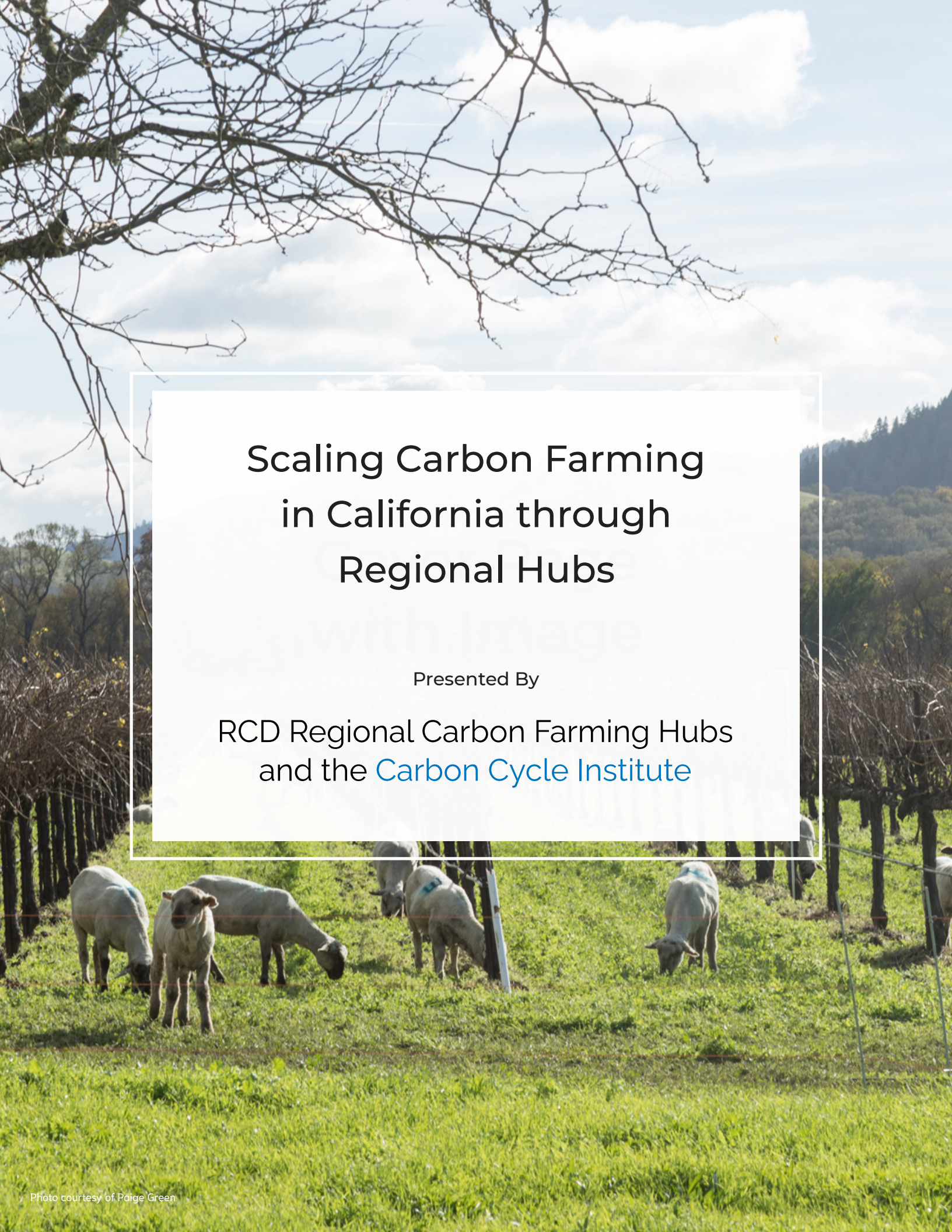

Scaling Carbon Farming in California through Regional Hubs

Presented By

RCD Regional Carbon Farming Hubs and the Carbon Cycle Institute

Photo courtesy of Paige Green

Summary: Scaling Carbon Farming in California through Regional Hubs

The Carbon Farming Network (CF Network), composed of **40 resource conservation districts (RCDs)** across California's diverse agroecological landscape and the Carbon Cycle Institute, seeks investment of $9.6 million over three years to build the capacity of its seven (7) Regional Carbon Farming Hubs (Hubs) to:

- Hire 7 regional hub coordinators to engage at least 1,000 new producers each year through 24 outreach and education events annually to further create demand for carbon farm planning and implementation of regenerative practices at scale.
- Train and support 40 carbon farm planners to develop 115 new carbon farm plans with an annual estimated GHG reduction benefit of over 1.5 MMT of CO_2e within 20 years.
- Submit 30 grant proposals to local, state, and federal agricultural conservation programs to fund implementation of carbon farm plans.
- Develop comprehensive five-year regional plans based on regional needs assessments, landscape-scale carbon sequestration analyses, strategic partnership engagement, producer outreach and education efforts, while leveraging emerging federal, state and local funding for regenerative agriculture and agricultural solutions to climate change.
- Create regional technical advisory bodies and partner with regional experts to ensure Hubs have the necessary levels of guidance and expertise to address the diversity of producers' needs and on-farm management knowledge.

Our Theory of Change to Scale Carbon Farming and Regenerative Agriculture

Our efforts to facilitate regenerative, climate beneficial changes in agricultural production systems focuses attention and investments at the scale where change needs to occur, at the local level. RCDs and their local partnerships are uniquely positioned as one of the earliest grassroots conservation organizations in the nation to step forward to assist farmers and ranchers adapt to the climate crisis. The history of RCDs began with the catastrophic soil losses witnessed during the Dust Bowl Era, which sparked national recognition that conserving American's abundant natural resources—in particular, its agricultural soils—would require the establishment of agricultural conservation agencies at all levels of government. In recognition of this need, the State of California passed enabling legislation in 1938 to establish local soil and water conservation districts.

RCDs in California are essential partners to the USDA Natural Resources Conservation Service (NRCS), helping to enroll farmers and ranchers in federal Farm Bill programs, leveraging state grant dollars for project implementation and targeted conservation activities and programs, and organizing workshops, field days, and demonstration projects. Although public sector entities, the vast majority of RCDs in California do not receive dedicated public funding support and must compete with non-profits and among themselves for general operating and program funding, making it incredibly difficult to consistently sustain and grow their public functions and services in support of natural resource conservation. This need not be the case. For example, in Washington State, conservation districts receive local parcel tax revenue and strong financial and technical support through the Washington State Conservation Commission and NRCS, totaling over $20M annually.

> "RCDs, working with farmers and ranchers in their districts, have completed **106 carbon farm plans** on approximately 59,000 acres of agricultural lands ..."

Despite their ongoing challenges, California RCDs, working closely with the Carbon Cycle Institute, have taken a leadership role in developing carbon farming programs across the state. RCDs, working with farmers and ranchers in their districts, have completed **106 carbon farm plans** on approximately 59,000 acres of agricultural lands, with a total estimated potential, if fully implemented, to sequester more than 1.5 million metric tons of carbon by year 20. The vision for regional Hub establishment is an outgrowth of the work of the Carbon Farming Network, initiated by the Carbon Cycle Institute and a handful of RCD partners in 2016, to support the agricultural community in taking an active role in responding to the climate crisis.

Lands within the Hubs encompass approximately 12.5 million acres of row crops, vineyards, orchards, pastures, dairy farms, and rangeland, including many of the state's organic operations. The farms and ranches we partner with are predominately small– and medium–sized, including those managed by BIPOC producers. An important assumption underlying our theory of change is that climate solutions must be **place–based and community driven**, reflecting California's diverse agricultural landscapes and communities. As an example, there is considerable synergy between organic management systems and carbon farming, particularly a foundational focus on building soil carbon content as an inherent driver of

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agroecosystem function and productivity. And while many carbon farmers are certified organic, the focus of our carbon farming framework prioritizes increasing on–farm carbon cycle literacy and maximizing carbon capture and storage. An important benefit of this approach is that it naturally supports any number of conservation agriculture models from certified organic to farming with nature.

California Regional Carbon Farming Hub Proposal, Theory of Change

Our Carbon Farming framework is supported by local, state, and federal natural resource agencies, and is providing a foundation for value-added direct marketing, climate-beneficial supply-chain creation, and other corporate sustainability initiatives. Most importantly, carbon farming makes sense to farmers and ranchers, and has been an excellent vehicle for increasing on-farm carbon cycle literacy and adoption of regenerative, climate beneficial management practices.

In this framework, RCDs provide critical technical assistance to farmers and ranchers applying for funding, including programs such as California Department of Food and Agriculture (CDFA) Climate Smart Agriculture grants and conduct on-going project monitoring to meet program requirements. The majority of producer applicants to these grant programs have worked closely with RCDs and have participated in carbon farming planning efforts.

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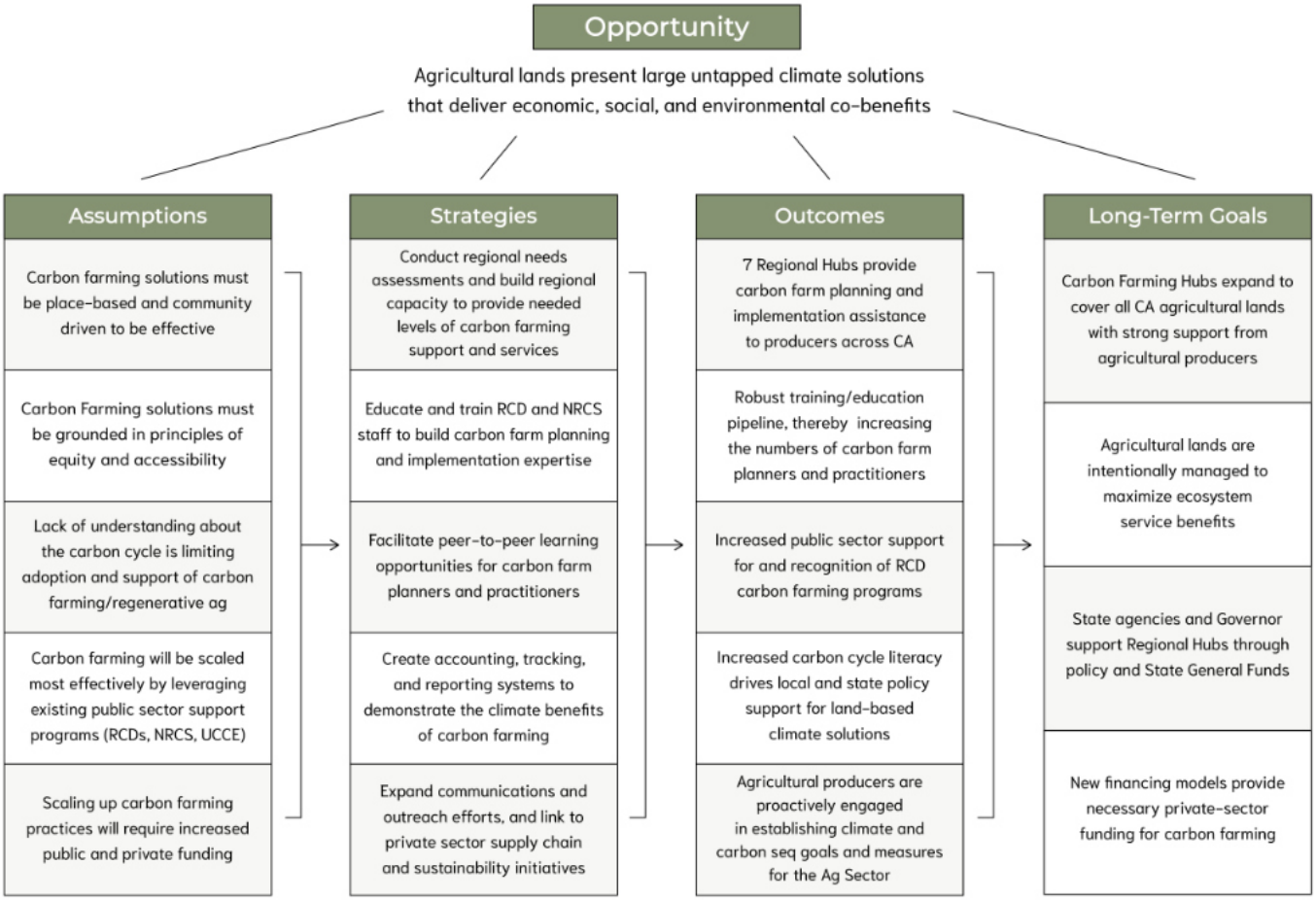
> "... climate solutions must be **place-based and community driven**, reflecting California's diverse agricultural landscapes and communities."

The Regional Carbon Farming Hub proposal seeks to support and build on these efforts by capitalizing on the strong institutional relationships that exist between RCDs, their historic collaborative partnership with the NRCS, and the trust they hold with local agricultural communities.

Retooling and strengthening these historic partnerships is foundational to our efforts to scale up carbon farming in California. It is also important to ensure that RCDs have the organizational capacity, in terms of staffing and resources, to deepen and expand the technical and funding assistance they provide to California's farmers and ranchers.



Solving the Climate and Agriculture Crises Through Regenerative Carbon Management

Avoiding the worst effects of global climate change will require not only dramatic reductions in greenhouse gas emissions but also the large-scale removal of CO_2 from the atmosphere. There is growing consensus that agricultural and natural lands are our most valuable tool in scaling up rates of carbon sequestration across the globe while also building climate resilience and ecological health.

An analysis conducted by the Carbon Cycle Institute in 2019 estimating carbon sequestration opportunities on California's farms and ranches yielded a potential to reach and exceed carbon neutrality in the agricultural sector over the next two decades, if deployment of agricultural carbon sequestration practices are initiated at scale in the near-term. As an example, increasing organic matter content on California's arable farmlands by just 1% through carbon farming practices such as compost application, cover cropping, and reduced tillage would drawdown an estimated **334 million metric tons of CO_2** from the atmosphere to the soil, vastly offsetting all greenhouse gas emissions from the State's agricultural sector.

Achieving USDA NRCS's suggested 5% soil organic matter (SOM) for heathy soils on all of California's roughly 20 million arable acres, from a current estimated average of 2% SOM, would represent over **1.3 billion metric tons** of CO_2 transferred from the atmosphere to the soil organic carbon pool.

Our vision of agricultural lands intentionally managed for increased carbon sequestration and the associated optimization of a full range of ecosystem services, in addition to food and fiber production, will require a significant investment in technical and funding assistance programs for the agricultural community, as well as capacity building investments for training and deploying technical service providers and carbon farm planners to meet current and growing demand.

> "Our vision of agricultural lands intentionally management for increased carbon sequestration … will require a significant investment in technical and funding assistance programs for the agricultural community …"

Carbon farming has to date been supported by a web of federal and state programs and policies focused on increasing on-farm conservation. At the federal level, NRCS' Environmental Quality Incentives Program (EQIP) has served as the central funding mechanism for on-farm conservation projects. With the passage of California Assembly Bill 32 (AB 32) and the inclusion of carbon sequestration on natural and working lands as a central pillar in achieving its climate goals, the State has created a number of new policies and programs that support climate mitigation and adaptation for the agricultural sector, funded largely by the Greenhouse Gas Reduction Fund (GGRF).

CDFA's Climate Smart Agriculture programs—e.g., Healthy Soils Program (HSP), State Water Enhancement & Efficiency Program (SWEEP) and Alternative Manure Management Program (AMMP)—provide technical assistance and incentive payments to farmers and ranchers and are most effective when leveraged with federal Farm Bill programs and supply chain investments.

Unlike the other climate sectors, AB 32 and supporting climate change legislation has not created any mandates or guidance, and very limited technical support, to regional and local governments to advance climate mitigation in the agricultural sector. This has meant that local governments have limited resources, planning and decision-making tools about how agriculture can participate in reaching the State's climate goals. The Carbon Cycle Institute and RCDs have taken a leadership role in filling this gap,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> "While the carbon finance landscape and public sector investments are rapidly evolving, one constant is the important role of RCDs and other technical assistance providers ..."

but currently lack the full capacity—though not the willingness—to work in partnership with local governments on integrating agriculture into climate action plans and regional emergency response planning at the necessary scale.

With an accelerating number of private corporations making commitments to achieving climate neutrality, the private sector represents significant financial potential to support the scaling of carbon farming. Additionally, an increasing array of certification initiatives related to soil carbon and regenerative agriculture are creating opportunities for producers to receive premium prices for their products, providing additional on-going revenue in exchange for their practices. While the carbon finance landscape and public sector investments are rapidly evolving, one constant is the important role of RCDs and other technical assistance providers in advising producers about public and private funding opportunities, promoting equity in access to funding, and providing planning and design guidance to advance the adoption of impactful carbon farming practices at scale.

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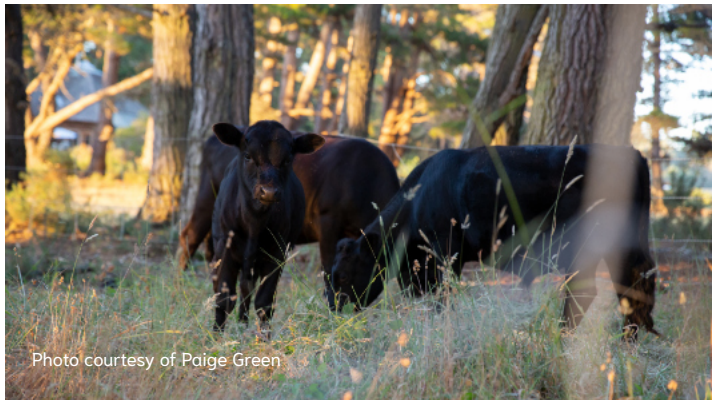
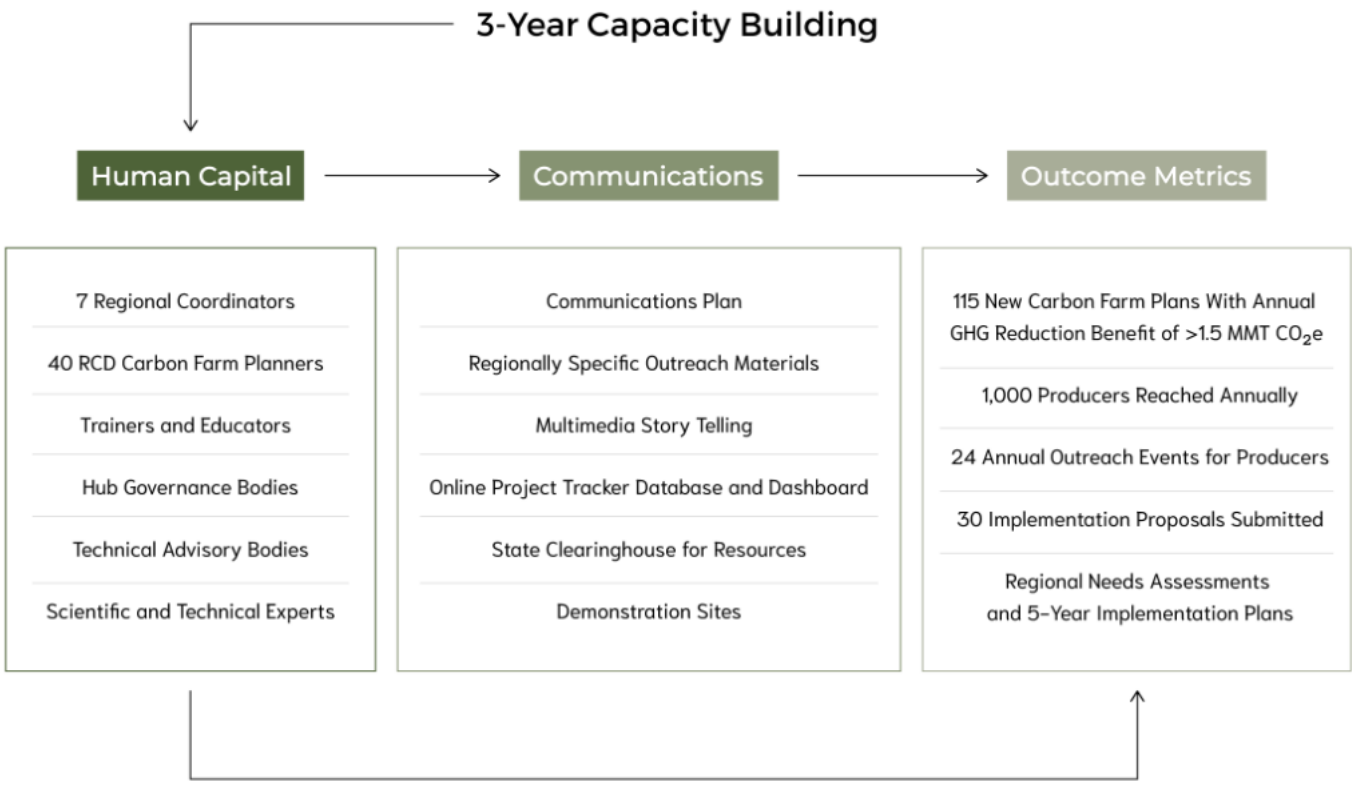


Photo courtesy of Paige Green

Hub Strategies and Outcomes

Agricultural producer demand for technical assistance generated by carbon farming programs and Climate Smart Agriculture programs—coupled with growing market demand for climate beneficial agricultural products and a proliferation of industry-specific certification, tracking, and reporting processes—is **outpacing current capacity** to assist producers and support private sector sustainability initiatives.

A primary impetus for establishing the Hubs is to increase the number of trained carbon farmers and carbon farm planners within our agricultural support agencies, and to build support for and participation in carbon farming and regenerative agriculture through broad-based communications and outreach strategies.



> "A **primary impetus** for establishing the Hubs is to increase the number of trained carbon farmers and carbon farm planners within our agricultural support agencies ..."

Regional Needs Assessments

Foundational to our approach for scaling up carbon farming will be completion of comprehensive regional needs assessments. Needs assessments will document existing programs, resources, and staffing capacities that can support carbon farming efforts, and identify gaps in technical knowledge and expertise, resources and/or services needed to develop and implement carbon farm plans at scale. Extensive outreach to producer groups and industry leaders, along with local and regional food systems organizers, local government, resource agencies and other stakeholders, will be conducted to identify current and emerging needs, innovations, and climate initiatives that can be leveraged to support carbon farm planning and implementation. Needs assessment will then inform development and implementation of 5-year regional plans.

Regional Plans

The urgency, scale, and complexity of issues surrounding agriculture and the climate crisis necessitates working across agencies, jurisdictions, and land ownerships. Identifying and integrating all available opportunities to scale transformations in our food and agricultural systems from the ground up will require a tremendous amount of organizing, planning, and coordination. To address this need, each Hub will develop a 5-year regional plan setting out comprehensive strategies to ensure collective actions to scale carbon farming are targeted, effective, and deploy resources in an equitable and cost-effective manner. A central component of these plans will include a landscape-scale carbon farming analysis coupled with extensive producer engagement to quantify carbon sequestration potential with detailed information on associated conservation practice types, potential adoption rates, implementation timescales and costs to better inform local and state climate action planning.

Education and Training

Our approach to scaling up carbon farming across California will depend on increasing the number of trained carbon farm planners and carbon farmers with increased levels of agroecological knowledge and carbon cycle literacy. This will require working with university partners, state agencies, NRCS, and other conservation organizations to expand carbon farm planning education and training opportunities, including new academic and professional training programs, deployment of accessible online curricula, and increased peer-to-peer education and mentoring programs for planners and producers.

> "Agricultural producer demand for technical assistance … is **outpacing current capacity** to assist producers and support private sector sustainability initiatives."

Education and Training Cont.

Targeted education and training will be provided annually to a minimum of 40 RCD carbon farm planners, regional coordinators, agricultural producers and producer groups, and partnering agency and organization staff.

Communications and Outreach

Regional Hubs will greatly expand outreach and education programs to producers through workshops, field days, farmer-to-farmer demonstration events, and creation of regionally specific outreach and education materials. Twenty-four (24) producer outreach events will be conducted annually with a goal of reaching 1,000 producers each year. Outreach to broader constituencies will employ multimedia communication strategies, including press briefings, articles in the popular press (both electronic and print), social media, StoryMaps, videos showcasing innovative carbon farming operations, and through RCD and Hub websites. A statewide communications committee will be formed to design regionally appropriate communications strategies and to identify and target key constituencies.

CFP Implementation, Tracking, and Reporting

The ability to estimate, track, and communicate the benefits of carbon farming is foundational to our capacity building efforts. The RCD Project Tracker (www.rcdprojects.org), an open-source platform, was created for this purpose. The system will be upgraded to meet the needs of regional planning efforts and to aggregate the climate, soil health, ecosystem services, and carbon sequestration benefits associated with on-farm projects and local, regional, and state climate action planning measures and goals. A minimum of 30 implementation proposals will be developed, submitted for funding, and entered into the RCD Project Tracker.

Photo courtesy of Paige Green

Hub Leadership

Each of the Hubs will be led by a governing body established through binding agreements establishing a charter, vision, guiding principles, roles and responsibilities, and decision-making processes ensuring fair representation, informed decision-making, equitable resource allocation, and public accountability. To ensure high levels of participation from RCD leadership, members of the governing bodies will be adequately supported and committed to building the larger state-wide network through participation in public policy decision making, legislative outreach, and strategic partnership development. Regional technical advisory committees composed of regional experts, conservation partners, and agricultural industry representatives will be established to ensure broad-based representation from and integration with existing sustainability initiatives in the development of 5-year regional plans.

Each Hub will have a management framework in place to oversee and direct staff and resources in the execution of a 3-year strategic work plan to meet the goals and objectives of this capacity building effort. Regional coordinators will form the backbone of capacity building and coordination efforts, providing staff support to governing bodies and technical advisory committees, organizing regional

needs assessments and overseeing development of 5-year regional implementation plans.

Further, regional coordinators will manage and coordinate field tours, workshops, educational events, outreach and communications efforts, fund development, and eventually, Hub representation in policy development and coalition building efforts at the regional and statewide levels. The cohort of seven regional coordinators will attend an annual bootcamp to receive comprehensive training, to ensure ongoing knowledge and resource sharing, and to facilitate development of shared communications tools and platforms, strategy development, partnership engagement, and regional needs assessment and planning frameworks.

Attachment A: Budget

	Total (3-Year)
7 Regional Coordinators (FTEs)	$2,682,574
Carbon Farm Planners (PTEs)	$3,702,898
Governance & Management	$1,160,983
Overhead	$349,310
Travel	$306,983
Events and Trainings	$220,500
Equipment, Computer Hardware & Software	$214,112
Consultants/contractors *(Science, training, and technical support; statewide coordination; communication, organizational and fiscal support; RCD Project Tracker)*	$1,061,000
Total Costs	**$9,630,068**

Attachment B: Major Activities by Year

Year 1

Formal Hub Agreements

- Governance and technical advisory bodies established
- Management framework established
- Organizational management and fiscal consultant hired

Carbon Farm Planning Assistance

- Annual training completed for planners
- Annual carbon farm planning assistance to producers completed
- 24 producer events held (targeting 1,000 producers annually)

Regional Coordinators

- Hire 7 regional coordinators
- Hold training boot-camp for cohort
- Regional needs assessments begun

Communications

- Communications specialist hired
- Communications committee established
- Hub web portal created

Year 2

Carbon Farm Planning Assistance

- Annual training completed for planners
- Annual carbon farm planning assistance to producers completed
- 24 producer events held (targeting 1,000 producers annually)
- Peer-to-peer learning networks created for planners and producers

Regional Coordinators

- Strategic work plans completed
- Regional needs assessments completed
- Implementation funding proposals submitted

Communications

- Communications strategies for each Hub and the larger Network completed
- Produce videos, story boards, e-journal pieces showcasing carbon farmers

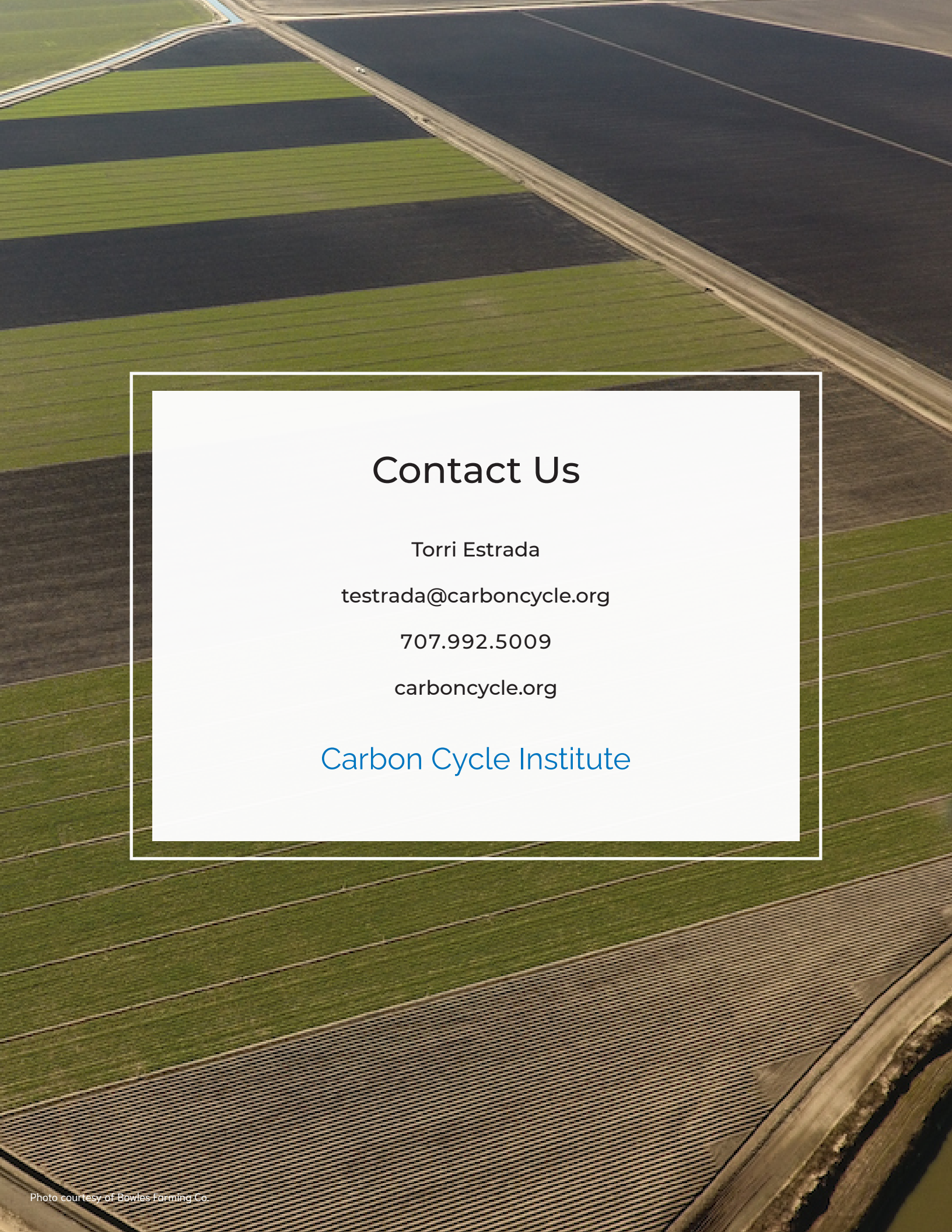
Year 3

Carbon Farm Planning Assistance

- Annual training completed for planners
- Annual carbon farm planning assistance to producers completed
- 24 producer events held (targeting 1,000 producers annually)

Regional Coordinators

- 5-year implementation plans completed
- Implementation funding proposals submitted



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