

EXECUTIVE SUMMARY



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Climate change is creating widespread disruptions in our food and farming system.

Farmers and ranchers face unprecedented challenges with increasingly scarce water, extreme heat, flooding and wildfire events, and unpredictable weather and pest patterns. Even experienced farmers are struggling to stay in business, and new farmers face not only climate-related challenges but also a lack of access to affordable, secure land. Ongoing structural and discriminatory barriers exacerbate the challenges for farmers of color. Climate-related crop losses are on the rise, driving up food prices and contributing to an increase in the number of people who are food insecure and hungry. Farmworkers are on the front lines, exposed to unhealthy air and facing the reality of working on more dangerously hot days. They and their families and communities are among California's most economically vulnerable people and also often lack access to healthy food, safe drinking water, and homes that are affordable, air-conditioned, and energy efficient.

Because the stakes are high, re-envisioning how we grow food must be one of our highest and most urgent priorities.

The good news is that science continues to identify many solutions that can help farmers and ranchers both cope with these climate impacts and also reduce greenhouse gas emissions, sequester carbon, and improve the health of humans and ecosystems. There is a growing workforce of agricultural professionals to support farmers with implementing best practices, and farmers and ranchers are interested and willing to adopt new practices. By increasing resources to scale up current programs, we can unleash the huge untapped potential of California's farms and ranches, furthering the state's leadership in building a climate-resilient future.

This work requires a systems approach, multidisciplinary collaboration, ingenuity, an entrepreneurial spirit, and a commitment to addressing systemic inequities. It also requires financial investments in research, technical assistance, market development, and incentives for farmers and ranchers to lower the risk of the transition to climate-resilient practices and technologies. By making strategic investments in our food and farming system now, we will reap the rewards of an agriculture sector that is a net sink for greenhouse gases rather than a net source and avoid some of the worst impacts from a changing climate.



MOVING TOWARD CLIMATE-RESILIENT AGRICULTURE

We believe that California's farms and ranches must be better prepared to adapt to and recover from climate shocks. We also know that agriculture has a key role to play in reaching the state's climate and biodiversity goals.

However, true climate resilience goes beyond mitigating climate change and adapting to its impacts. It also means that farmers and ranchers are profitable and rural communities and their economies are thriving. Food is produced in balance with natural resource limits and with maximal biological diversity. The people who grow our food and their families have safe working conditions and adequate wages and affordable housing, and rural communities have clean air and water and healthy food. Productive agricultural land is permanently protected and there is abundant access to land for new farmers and racially and culturally diverse farmers. Resources for the agricultural communities most impacted by climate change are prioritized, and these communities themselves guide the policies they need.

California is moving toward climate-resilient agriculture. But we are not moving quickly enough. We must act with more urgency and equip our farmers, ranchers, and the farming economy with the necessary tools to achieve carbon neutrality in agriculture well before California's economy-wide target date of 2045 for net carbon neutrality.

In Part 1 of this report (*State of the State: Taking Stock of a Decade of Progress in California Agriculture*), we summarize the progress made in research, policy, and practice. We note that in the last decade, scientific research on climate-resilient agricultural management has advanced considerably. Since 2015, close to \$1 billion has been committed by the state to Climate Smart Agriculture programs, supporting farmers and ranchers with incentives and technical assistance.

In Part 2 of the Platform (*Tools for Transformation: Cultivating Climate Resilience In 2030 and Beyond*), we identify the most important actions needed to achieve the state's 2030 climate and biodiversity goals and set us on a path to climate resilience. These actions include incentives, regulations and regulatory efficiency, research, education, pilot projects, procurement policies, market development, and land use decisions. The effectiveness of these actions will depend on collaborations that bring together the best and brightest innovators and leaders from diverse backgrounds to guide the way.

The ideas presented here are intended to engage and inspire policymakers, agriculture stakeholders, and advocates in the food and farming, environmental, and climate justice fields to advance policies that yield faster and deeper change.



TOOLS FOR TRANSFORMATION

To develop over 50 policy recommendations in the Platform, we drew upon numerous reports and peer-reviewed studies. We also consulted over 60 issue area experts and assembled a team of 16 reviewers to inform and challenge us. Our recommendations will accelerate the pace of transition to climate resilience and net carbon neutrality in the agriculture sector. A snap shot of all the recommendations can be found in the [Platform Recommendations At-a-Glance](#).

The experts we interviewed and the recommendations we include repeatedly emphasize the following themes:

WHOLE-FARM SOLUTIONS	To remain economically viable in the face of climate change, farmers and ranchers will have to adapt to significant and recurring extreme weather events at the same time as they work to reduce greenhouse gas emissions. This will require stacking multiple synergistic practices and taking into account the economic, ecological, practical, and marketplace realities of agricultural businesses.
INVESTING IN PEOPLE AND KNOWLEDGE	In every solution chapter of this Platform, there are recommendations focused on workforce development, training, and cooperation among individuals and within networks.
MULTI-STAKEHOLDER COLLABORATION	Implementing many of the recommendations in the Platform will depend on bringing together different agencies and governmental jurisdictions, farmers, researchers, and community members. Such interdisciplinary collaboration will lead to the most innovative, impactful, and practical outcomes.
ADDRESSING SYSTEMIC INEQUITY	Racial, gender, and economic equity are essential to achieving climate resilience. Many of the Platform recommendations note the importance of designing policies and prioritizing limited public dollars to support small and medium-scale and socially disadvantaged farmers and ranchers. These farmers lack resources because they have faced systemic barriers in agriculture.



FINANCIAL INVESTMENTS TO UNLEASH INNOVATION IN AGRICULTURE

It is critical that California's farmers and ranchers have the information and financial support they need to be productive and profitable while also innovating and taking risks with new practices and technologies that reduce greenhouse gas emissions and make their operations more adaptable to a rapidly changing climate. Increasing investments from government, the private sector, and philanthropy is essential in the transition to a climate-resilient food and farming system. There are several potential sources of funding described in the section [*Funding the Transition: Investment Strategies for Agricultural Solutions to the Climate Crisis*](#).

The scale of these investments should be on the order of \$1 billion annually. To put this into perspective, this represents less than 0.5 percent of California's average annual state budget for a sector that generates approximately 2.5 percent of the state's GDP.

Our Proposed Investments for Climate-Resilient Agriculture



Invest \$1 billion / year

It is critical that the state accelerate its financial investment in climate-resilient agriculture. The scale of these state investments should be on the order of \$1 billion annually for a total of \$7 billion between now and 2030.

GETTING TO WORK

This *Climate Platform for California Agriculture* is CalCAN's contribution to the rich and complex dialogue and action underway in the state to move boldly and quickly toward a carbon-neutral and climate-resilient future.

The sooner we implement the agricultural climate solutions recommended in this Platform, the sooner we will see a return on investment and the more powerful their impact will be. We invite you to join us in this work of a generation.

ON-FARM TOOLS

[Enhancing Soil Health and Biodiversity for On-Farm Climate Resilience](#)

[Dairy Manure Management: Moving From Waste Problem to Climate Solution](#)

[Reducing Farmer Dependence on Fossil Fuel-Based Pesticides and Fertilizers](#)

[Harvesting the Sun: Advancing On-Farm Solar Deployment](#)

[Protecting Farmland Using Integrated Land Use Planning](#)

[Decarbonizing Irrigation, Recharging Groundwater, and Protecting Small Farms](#)

[Preventing and Mitigating Catastrophic Wildfires](#)

SYSTEM-WIDE STRATEGIES

[Funding the Transition: Investment Strategies for Agricultural Solutions to the Climate Crisis](#)

[Breaking Down the Silos: Coordinating Agriculture Climate Action Across Programs](#)

[Expanding Technical Assistance to Support On-Farm Climate Resilience](#)

[Advancing Farmworker Safety and Well-Being](#)

[Moving Beyond Consolidation: Building a Climate-Resilient Agricultural Economy](#)

