

GROWING SOLUTIONS: CLIMATE CHANGE AND AGRICULTURE RECOMMENDATIONS TO THE CALIFORNIA GOVERNOR

Executive Summary



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The full report can be found at: <http://www.calclimateag.org/recommendations-to-governor>.

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About CalCAN

The California Climate and Agriculture Network (CalCAN) is a coalition of the state's leading sustainable agriculture organizations and farmer allies. We came together out of concerns for climate change impacts on California agriculture and to advance sustainable agricultural solutions to a changing climate. Since 2009, we have cultivated farmer leadership to face the challenges of climate change and to serve as the sustainable agriculture voice on climate change policy in California.

EXECUTIVE SUMMARY



The State of California cannot meet its ambitious climate change goals of reducing greenhouse gas emissions (GHGs), nor can it adapt to changing weather patterns without seeking solutions in agriculture. California's farms and ranches, which make up the largest agricultural sector in the country and cover a quarter of the state's landmass, offer substantial and unique opportunities to reduce GHG emissions and adapt to a changing climate.

In our report, *Growing Solutions: Climate Change and Agriculture Recommendations to the California Governor*, we review the past four years of Governor Jerry Brown's leadership on issues of climate change and agriculture. We also advance a set of comprehensive recommendations to the Governor and his administration for the next four years.

The recommendations in the report are informed by some of the state's leading scientists, farmers and advocates who are experts on climate change and agriculture issues (see the Acknowledgements section).

California agriculture must lead the way in developing innovative responses to climate change. Our farms and ranches must become net carbon sinks, producers of renewable energy and home to diversified operations that can adapt to increasingly variable and unpredictable weather patterns.

Progress Made, More Ground to Cover

As California began to implement the Global Warming Solutions Act (AB 32) in 2010, little attention was paid to climate change and agriculture issues. Yet no other sector of our economy offers the diversity of climate change solutions that agriculture can deliver.

The state's farmers and ranchers can produce renewable energy, manage their operations to capture and store carbon in soils, trees and other woody plants, reduce potent methane and nitrous oxide emissions through livestock and soil management, and protect farmland from urban development, thus avoiding some of the largest sources of GHG emissions.

To address this gap in climate change policy, in 2010 the California Climate and Agriculture Network (CalCAN) forwarded its first set of recommendations to the Governor. Our recommendations focused on sustainable agricultural solutions to climate change, and were aimed at supporting a vibrant California agriculture and food system for years to come.

We are pleased to report that under Governor Brown's leadership, California climate change and agriculture issues are no longer sidelined. In the Governor's third term, new initiatives to advance agricultural solutions to climate change got underway:

California is currently developing the country's first climate change and farmland conservation program. This new effort will support smart growth development and prevent urban sprawl into neighboring farmland, thus significantly reducing GHG emissions associated with transportation and urban development. The program is possible through the public investment of cap-and-trade auction proceeds first made available during Governor Brown's third term.

A new program incentivizes actions that reduce water and energy use on farms, along with related GHG emissions; additional programs support small-scale bioenergy production in agriculture.

The Governor's support for distributed renewable energy is also paying off. California farmers and ranchers report a *tripling* of their production from 2009 to 2012 with 5,845 on-farm renewable energy systems installed—more farm-based renewable energy production than any other state.

The Governor and his administration have also brought needed attention to the agriculture sector's unique vulnerabilities to climate change impacts, including extreme weather events, rising heat stress, and new pest and disease threats.

However, much more is needed to bring on-the-ground climate change solutions to California's 78,000 farms and ranches in ways that benefit the entire state.

Why Sustainable Agriculture Solutions to Climate Change?

Our recommendations focus on sustainable agricultural solutions to climate change. By relying on biologically based, low-input approaches to pest, soil and natural resource management, including organic farming practices, sustainable farming methods offer some of the best techniques for reducing agriculture's carbon footprint and lowering emissions of the potent GHGs nitrous oxide and methane.

Importantly, sustainable agricultural practices can also store (or sequester) carbon in soils and woody biomass like trees and shrubs, keeping carbon dioxide out of the atmosphere. Long-term studies show that using these practices can increase carbon sequestration by up to 36% over conventional farming systems.¹

These practices can assist with climate change adaptation by increasing biological diversity and conserving natural resources, making agriculture more resilient in the face of a changing climate.² Many sustainable management practices are also used by conventional operations and can be widely applied throughout California agriculture. Furthermore, many of the sustainable agricultural solutions to climate change offer multiple benefits to our communities in the form of cleaner air and water, greater biodiversity and economic benefits to farmers and their communities.



Photo credit: USDA-NRCS

1 Horwath, W., et al. 2002. Soil carbon sequestration management effects on nitrogen cycling and availability. *Agricultural Practices and Policies for Carbon Sequestration in Soil* 155–164.

2 Wall, E. and B. Smit. 2005. Climate Change Adaptation in Light of Sustainable Agriculture. *Journal of Sustainable Agriculture* 27(1): 113-123.

Recommendations

Farm Management Strategies for Mitigating Climate Change

- Invest cap-and-trade auction proceeds in agricultural research, technical assistance and financial incentives for on-farm practices and farming systems that meet AB 32 objectives. Integrate these efforts into a new California Program on Agriculture and Climate to achieve GHG emissions reductions and increased carbon sequestration in agriculture while providing multiple co-benefits.
- Include low-input, biological and organic farming practices and systems in state climate change and agriculture research initiatives and programs to reduce GHG emissions, increase carbon sequestration and achieve multiple health, environmental and economic co-benefits.

On-Farm Renewable Energy

- Encourage the California Public Utilities Commission (CPUC) to preserve and enhance affordable, simplified interconnection and billing processes for distributed renewable energy projects as it designs the next Net Energy Metering (NEM) program. CPUC actions should support the ongoing growth of on-farm renewable energy generation, particularly by preserving and enhancing meter aggregation under the NEM program.
- Direct the Bioenergy Interagency Working Group to develop standards and guidelines for the use of sustainable agricultural feedstocks in bioenergy production.

Agricultural Water Stewardship

- Direct the appropriate agencies to expand the vision for water efficiency to include on-farm practices such as soil management systems that improve water-holding capacity and build soil health, and techniques like on-farm water ponds that improve overall water savings.
- Simplify permitting for on-farm groundwater recharge and pond building projects that demonstrably produce environmental, conservation, and resilience benefits.
- Support the Department of Water Resources (DWR) and other agencies involved in agricultural water use efficiency in ongoing professional development of agency staff to improve their understanding of agricultural perspectives on water issues, particularly for water management in biological systems.

On-Farm Energy & Water Efficiency

- Include a diversity of water use efficiency measures, including soil management practices, incentives programs aimed at reducing water and energy-related GHG emissions in agriculture.
- Direct the California Public Utilities Commission to ensure that the energy efficiency programs of Investor-Owned Utilities are adequately reaching California's diverse agricultural customers and achieving the best possible outcomes.

Compost Benefits in Agriculture

- Conduct an analysis of compost production and market demand in agriculture, including regional analyses, in order to inform the development of incentives that promote the wider use of compost for on-farm fertility, water use reductions, GHG emissions reductions/sequestration, and improved water quality.
- Create a pilot program to incentivize compost use on farms and ranches, aimed at improving soil health, reducing GHG emissions and lowering input expenses for growers.

Agricultural Land Conservation

- Convene a Governor's task force to develop a set of recommendations on Williamson Act reforms and state agricultural land conservation policies that go beyond the Williamson Act. The task force should be charged with considering Williamson Act reforms and farmland conservation policies, as a whole, that address a variety of state priorities. The task force should include a diversity of stakeholders with relevant expertise.
- In the updated General Plan guidelines under development by the Office of Planning and Research, include farmland conservation policy tools and model ordinances—especially farmland mitigation policies—that are available to local governments. Highlight recent court cases that clarify the CEQA requirements to mitigate for the loss of farmland from development projects.
- Increase funding for the new Sustainable Agricultural Lands Conservation Program (SALCP) funded by cap-and-trade revenue. A minimum of ten percent of Sustainable Communities Strategies funding should be allocated annually to SALCP.
- Following the recommendations of the task force, described above, the Governor should re-invest in subvention payments that advance a reformed Williamson Act program to meet the needs of the state's producers and the greater goals of the state.

Climate Resilient Agriculture

- Create a state clearinghouse of information and resources for climate change adaptation, including resources relevant to agricultural professionals.
- Prioritize activities that bring together climate change mitigation and adaptation strategies in biological systems like agriculture.

Research, Technical Assistance and Planning

- Implement the California Climate Change Research Plan, led by the Natural Resources Agency and the California Energy Commission, by prioritizing the multi-year climate change/agriculture research scope with stakeholder input and developing a funding mechanism.
- Review the status and needs for grower public technical assistance and on-farm demonstration and research, focused on Cooperative Extension and Resource Conservation Districts.
- Increase diversity of expertise, including those familiar with climate change and organic and sustainable agriculture, on the advisory board and committees of CDFA's Fertilizer Research and Education Program (FREP).
- Improve communication between agencies and departments on climate change and agriculture by holding interagency and stakeholder meetings of the Agriculture Climate Change Action Team (AgCAT).
- Develop and implement a funding plan to restore funding to the University of California Cooperative Extension to 1990 levels.
- Stabilize funding for the Resource Conservation Districts through an ongoing appropriation.



Photo credit: USDA-NRCS

California Farmworkers

- When implementing climate change policies, such as the Sustainable Communities Implementation Program administered by the Strategic Growth Council, ensure that rural communities with limited access to transit infrastructure are adequately served.
- Ensure that migrant family housing centers and other farmworker housing have access to adequate HVAC systems to better protect farmworkers and their families from weather extremes.
- Develop a plan to extend services (e.g., health care, education etc.) to those individuals and families in California who are given administrative relief under President Obama's November 2014 Immigration Accountability Executive Action. Support California farmworkers and their families in seeking relief status under President Obama's executive action.
- Improve funding for migrant family housing centers and provide adequate funding (e.g., through the Joe Serna Farmworker Program) for financing new construction, rehabilitation and purchase of farmworker rental housing.
- Improve access and funding to disaster services for farmworker families during times of crop failures, droughts and other extreme events and keep pace with the predicted need for assistance as weather extremes become more frequent in the state.



Photo credit: USDA