

Agriculture Climate Benefits Act

SB 1241

Senator Lois Wolk (D-Yolo)

What does SB 1241 do?

SB 1241 designates that a portion of funds generated from state or federal climate change programs support voluntary greenhouse gas emission reductions in California agriculture, while achieving environmental co-benefits. The California Department of Food and Agriculture (CDFA), with input from an advisory committee, will administer the funds for research & demonstration, technical assistance and financial incentives.

What kinds of activities would SB 1241 fund?

1. Research and demonstration projects in California that reduce greenhouse gas emissions or sequester atmospheric carbon through agricultural technologies, practices or farming systems and provide environmental co-benefits, including water conservation, improved air or water quality, increased soil organic matter, and enhanced wildlife habitat.
2. Technical assistance, including the development of outreach and training programs to assist agricultural producers in adopting agricultural technologies, practices or farming systems that reduce greenhouse gas emissions or sequester atmospheric carbon and provide environmental co-benefits.
3. Financial incentives for California agricultural producers to:
 - (A) Generate greenhouse gas emission reductions that may not be economically viable as an offset project.
 - (B) Demonstrate and test new or promising methods to reduce greenhouse gas emissions or sequester atmospheric carbon.
 - (C) Be an early adopter of agricultural technologies, practices or farming systems that reduce greenhouse gas emissions or sequester atmospheric carbon.

The grant funds shall be divided equally across all three grant categories.

Who would sit on the advisory committee?

The advisory committee will be made up of 16 members, including:

- Five members who are agricultural producers, including at least two certified organic producers.
- Three members who are researchers with an institution of higher education with expertise in agriculture and climate change
- Three members from non-profit organizations with expertise in climate change and agriculture; and
- One ex-officio member from each of the following public agencies:
 - California Department of Conservation
 - California Air Resources Board
 - US Department of Agriculture Natural Resources Conservation Service
 - US Environmental Protection Agency, Region IX.

How will climate change impact California agriculture?

California agriculture is uniquely vulnerable to climate change. In a state where water is already scarce, climate change scenarios predict that water supplies will become increasingly constrained, limiting a fundamental resource for the state's agricultural industry to thrive¹.

Warming temperatures also threaten to shift the kinds of crops that can be grown in the state. For example, reduced winter chilling hours may significantly decrease production of the state's lucrative nut and fruit tree industry².

According the CA Natural Resources Agency's Adaptation Strategy Report, "Extreme events, such as heat waves, floods, and droughts, may be among the most challenging impacts of climate change for agriculture since they can lead to large losses in crop yields and livestock productivity³."

What is agriculture's contribution to climate change?

California agriculture accounts for 6 percent of the state's greenhouse gas emissions⁴. Roughly 50 percent of agriculture's emissions come from livestock and manure management practices, 33 percent from crop management and harvesting, and 17 percent from general fuel use (e.g. tractor diesel, etc.)⁵.

How can agriculture help reduce greenhouse gas emissions?

Agriculture can reduce greenhouse gas emissions through energy efficiency, renewable energy production and on-farm management practices.

What is carbon sequestration?

Carbon sequestration in agriculture is the removal of carbon dioxide from the atmosphere. According to the National Sustainable Agriculture Information Service/ATTRA:

Carbon dioxide is absorbed by trees, plants and crops through photosynthesis and stored as carbon in biomass in tree trunks, branches, foliage and roots and soils. Forests and stable grasslands are referred to as carbon sinks because they can store large amounts of carbon in their vegetation and root systems for long periods of time. Soils are the largest terrestrial sink for carbon on the planet. The ability of agricultural lands to store or sequester carbon depends on several factors, including climate, soil type, type of crop or vegetation cover and management practices⁶.

What kinds of agricultural practices can sequester carbon?

Practices that increase biomass (e.g. perennial plantings) on the land, reduce disturbance of the soil and build soil organic matter will help increase carbon sequestration. Examples of practices include cover cropping, plantings of riparian zones, conservation tillage, organic soil management, and more.

What are the environmental co-benefits of GHG emission reductions in agriculture?

Agricultural practices that reduce GHG emissions and/or sequester carbon can also provide other environmental benefits, including improved air and water quality, water conservation and wildlife habitat. For example, water quality and water

conservation can be improved by enhancing soil organic matter with cover cropping and reduced nitrogen fertilizer applications. Wildlife habitat can be created through improved grazing management and plantings of riparian zones. Air quality can be improved through manure management and conservation tillage.



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SB 1241 Sponsor, the Agriculture and Climate Coalition:

California Sustainable Agriculture Policy Project
California Certified Organic Farmers
Community Alliance with Family Farmers
Dixon Ridge Farms
Earthbound Farm
Ecological Farming Association
Occidental Arts and Ecology Center
Sustainable Agriculture Education
The Center for Food Safety
Wild Farm Alliance

For more information:

Jeanne Merrill, Policy Director
California Climate & Agriculture Network
916-441-4042 • jmerrill@calclimateag.org
www.calclimateag.org

¹ 2009 California Climate Adaptation Strategy. California Natural Resources Agency. December 2009. <http://www.climatechange.ca.gov/adaptation/>

² Luedeling, E., Z. Minghua, E.H. Girvetz. July 2009. Climatic Changes Lead to Declining Winter Chill for Fruit and Nut Trees in California during 1950 – 2099. *Plos ONE*. Vol. 4. Issue 7.

³ Page 90. 2009 California Climate Adaptation Strategy.

⁴ Climate Change Scoping Plan. Appendix C. California Air Resources Board. December 2008.

⁵ Ibid.

⁶ Schahczenski, J. and H. Holly. 2009. Agriculture, Climate Change and Carbon Sequestration. ATTRA-National Sustainable Agriculture Information Service.