

Assembly Bill 2649

The Natural Carbon Sequestration and Resilience Act of 2022 Assemblymember Cristina Garcia (D – 58)

Summary: AB 2649 defines “natural carbon sequestration” as “the removal and storage of atmospheric carbon dioxide equivalents by vegetation and soils on natural, working, and urban lands.” It establishes a natural, non-technological target for sequestering from the atmosphere an additional 60 million metric tons (MMT) of carbon dioxide equivalent (CO₂e) annually on California’s natural, working and urban lands (NWL) by 2030, and increases that target to 75 MMT CO₂e annually by 2035. The bill calls for technical assistance and additional forms of support to farmers, ranchers and other land managers to implement natural carbon sequestration (NCS). It also allocates 50 percent of state expenditures in support of NCS for low-income and disadvantaged communities including historically underserved farmers.

Background: The Paris Agreement’s globally agreed upon target – net zero emissions by 2050 – is far too late to prevent the worst impacts of climate change. More recent climate science indicates that California could pass the 1.5 degree Celsius threshold of dangerous warming as soon as 2027 to 2030. Confronting the climate crisis at the speed and scale demanded by science will require bold action from California.

Per the Intergovernmental Panel on Climate Change, establishing a limit of 1.5C warming, requires both dramatic cuts in greenhouse gas emissions *and* removal of upwards of a trillion tons of past carbon pollution in our atmosphere. Ambitious targets are needed to catalyze the atmospheric carbon removal that will help California lead the way to achieving net-negative emissions and a climate-safe future.

Removing carbon from the atmosphere is sometimes confused with, but is distinct from, capture of some fossil fuel pollution at the smokestack (known as carbon capture and storage), which has a long record of underachieving at great expense.

Problem: The climate crisis threatens increasingly deleterious effects on California’s people, land, and economy. Heat extremes and poor air quality have enormous health impacts, especially to the most vulnerable communities. Wildfires and smoke storms that have caused mortalities, damage to public health, and billions of dollars of destruction are significantly exacerbated by the climate crisis. The multidecadal megadrought now gripping the

American West has been made severe by climate change. In 2015 alone, the drought cost the state \$2.7 billion and 21,000 jobs. The agricultural sector is especially vulnerable to these impacts, with the latest research indicating that unchecked global warming could make many of the crops grown in California today unviable as soon as 2027.

In addition, technological removal of past climate pollution from the atmosphere or Direct Air Capture, is in its infancy, expensive and energy intensive, while providing none of the significant co-benefits offered by NCS. California policymakers have an alternative that can begin to be implemented immediately with multiple co-benefits for community health, our economy and our environment; natural carbon sequestration.

Solution: Recent research has found that NCS on California’s working lands could absorb up to 103 MMT CO₂e additional per year. Adding sequestration on natural lands and waters further increases what is possible annually with already proven, scalable, cost-effective, environmentally sound, and just, including practices informed by traditional ecological knowledge.

Critically, NCS delivers much more than atmospheric carbon reduction outcomes alone. Practices that enable greater sequestration on NWL also restore the health of soils, vegetation and ecosystems. In doing so, they enhance biodiversity, make land more resilient to extreme events from drought and heat to wildfires and flooding, support cleaner air and water, increase natural water storage, stabilize and improve crop yields. These practices can displace the use of synthetic nitrogen fertilizer, which, when overapplied, pollutes air and water in frontline agricultural communities and is a significant source of the potent greenhouse gas, nitrous oxide. Application at scale of compost on agricultural lands can also divert food waste and other organic waste from landfills, reducing emissions of the short lived climate pollutant methane while providing benefits to soil health.

Increased soil health enhances water absorption and retention, and when achieved across a wide swath of the state’s NWL, could store at least as much additional water as the state’s largest reservoir, Shasta Dam, at full capacity.

To spur implementation at scale of NCS and all its vital co-benefits, AB 2649 establishes an ambitious and achievable

NCS goal of an additional 60 MMT CO₂e on California's NWL by 2030, and 75 MMT by 2035 – well below what is technically feasible. Just as the state led with other landmark policies such as the Renewable Portfolio Standard and the climate targets set by AB and SB 32, the first of its kind target set by AB 2649 will spur the wider use of natural carbon sequestration practices across California.

By enacting the Natural Carbon Sequestration and Resilience Act of 2022, California will scale up natural carbon sequestration from the atmosphere while enhancing water and food security, public health outcomes, environmental justice, climate resilience, biodiversity, and also providing a template that can be replicated across the nation and the world.

Support:

The Climate Center
Carbon Cycle Institute
California Association of Resource Conservation Districts

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Assembly Natural Resources Committee

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