



H.R. 4824, the Carbon Sequestration Collaboration Act

*Introduced by Rep. Jim Baird (R-IN)
Cosponsored by Ranking Member Zoe Lofgren (D-CA)*

H.R. 4824, the Carbon Sequestration Collaboration Act, directs coordinated research efforts across the Department of Energy, the Department of Interior, and the Department of Agriculture to address knowledge gaps and improve domestic capabilities to sequester carbon in terrestrial ecosystems and through land use.

Background

Land is a critical component of the climate system in which plants and healthy ecosystems can absorb carbon through photosynthesis and store it in biomass. Land sinks currently remove close to one-quarter (24%) of human-caused carbon dioxide emissions from the atmosphere and the National Academies estimates that there is potential for soil alone to store up to 13% of the United States' annual CO₂ emissions.

Despite this significant opportunity, additional research and general understanding is needed to explore the full suite of carbon sequestration practices across geographies, measure and verify terrestrial carbon storage, and develop the next generation of agriculture and land-based solutions. To date, the Department of Energy's research has focused primarily on large-scale carbon sequestration in geologic formations, or formations that can store at least 50 million metric tons of CO₂ over a 10-year period.

This leaves a significant knowledge gap related to carbon storage potential in soils, rangelands, biochar, mine tailings, and other smaller scale methods. Approaches that enhance carbon uptake and storage in agricultural soils have many positive benefits, including increased productivity, water holding capacity, stability of yields, and nitrogen use efficiency. Increased carbon sequestration can also improve the regeneration of cultivated soils across the country, which are estimated to have lost 50–70% of their original organic carbon over time.

A better understanding of land-based carbon storage is necessary not only to maximize the environmental benefits, but also to ensure any potential voluntary certification programs are science-based. Tools are needed to quantify, track, and verify carbon sequestration changes over time, especially in the short term. This can be best achieved through a coordinated effort to increase understanding through modeling and predictions, as well as increased data collection across multiple sectors.

The Carbon Sequestration Collaboration Act directs the Department of Energy, in coordination with the Department of Interior and the Department of Agriculture, to establish a research initiative to evaluate terrestrial carbon sequestration and carbon sequestration in shallow or untraditional geologic formations. The research activities will focus on reducing uncertainties with long- and short-term behavior of sequestered carbon; improving methods, practices, and standards related to sequestered carbon; and providing data needed for the development and demonstration of new carbon sequestration technologies. Priority will be placed on research that is conducted in a joint agency manner.