

Farm Bill & Carbon Removal

Policy Brief



Introduction

The Farm Bill is critical omnibus legislation, updated every five years, that governs the U.S. Department of Agriculture's (USDA) administration of U.S. working lands, forests, and aquaculture. The Bill's reauthorization is one of Congress's most important tasks in 2023 and represents a tremendous bipartisan opportunity to enhance and expand public sector support for carbon dioxide removal (CDR) and other carbon management pathways that can deliver great economic and agronomic benefits to America's farmers, ranchers, foresters, and agricultural communities.



Opportunities

The 2023 Farm Bill represents a unique and pressing opportunity to beneficially incorporate carbon management and carbon dioxide removal (CDR) into our food, farm, and forestry systems. Below, we outline several examples of how CDR and the Farm Bill intersect to illustrate the many opportunities ahead.

Working Lands and Agriculture

- Recent USDA policy has increased support for climate-smart agriculture and soil carbon sequestration. However, there remain untapped opportunities to scale, improve, and streamline this support — as well as to enhance the USDA's ability to sample, measure, and model carbon stored in soils that warrants Congressional investment and guidance.
- Hundreds of millions of tonnes of crop residues are burnt, or left to decompose, in the U.S. annually — representing a significant re-emission of carbon dioxide into the atmosphere. It is critical to leave some crop residues on the field to maintain soil health, however crop residues that are burnt can more beneficially be employed as feedstock for biomass carbon removal and storage (BiCRS) approaches, including biochar carbon removal (BCR), and volumetric fill. These practices can turn a waste stream into a revenue stream, and in the case of biochar be circularly reapplied to working lands as a soil amendment.
- Ground basalt (and other mafic minerals that are common mining byproducts) can be applied to working lands as a substitute for liming to increase soil alkalinity (currently a significant cost to farmers, and a significant source of carbon dioxide emissions). Crushed mafic minerals can offer the additional co-benefit of long-duration CDR via enhanced rock weathering (ERW), for which farmers can potentially generate



incremental revenue from high-value carbon credits with little change to their soil amendment regimes.

- U.S. farmers can improve productivity and resilience of their land and generate new revenue from carbon credits by planting a diversity of high-value crops and woody perennials through agroforestry, as well as afforestation and reforestation of portions of their land that are less apt for agriculture.

Working Forests

- U.S. forests annually generate over one hundred million tonnes of unmerchantable forest residues. This volume is expected to grow over the coming decade given significant new federal investment in fire thinning and other forest management. As with crop residues, these non-merchantable forest residues can be beneficially employed as feedstock for a range of BiCRS approaches, including biochar, bio-oil, BECCS, volumetric fill, and other terrestrial biomass sequestration. There are also beneficial opportunities through the Wood Innovations Grant and Community Wood Grant programs.
- There is a significant opportunity for carbon sequestration on National Forest System (NFS) lands — via injection of carbon dioxide into Class VI wells or terrestrial biomass sequestration — however the U.S. Forest Service (USFS) cannot currently allow this due to an inability to permit perpetual use of NFS land.
- The USFS Reforestation Strategy currently has a four million acre backlog. With increased stress on U.S. forests due to wildland fire and other disturbances, the opportunity exists for public-private partnerships to accelerate and scale reforestation on NFS lands, with revenue from these projects reinvested into the Reforestation Trust Fund.

Aquaculture

- Cultivation of aquatic plants, including macroalgae and microalgae, can be scaled in conjunction with current and new aquaculture deployment along U.S. coastlines for CDR, as well as used for food (human and livestock), fertilizer, and as a replacement for hydrocarbons in fuels, plastics, and other products. When cultivated correctly, aquatic plants can additionally reduce ocean acidification locally as well as increase marine biodiversity.



- Restoration of seagrass, mangroves, and other coastal marine ecosystems (coastal “blue carbon”) in conjunction with aquaculture can dramatically increase productivity while offering significant biodiversity, coastal resiliency, and carbon sequestration co-benefits, as well as local reduction of ocean acidification.
- Co-deployment of ocean alkalinity enhancement (OAE) approaches with aquaculture can deliver CDR while improving productivity by locally reducing ocean acidification.

Recommendations

- The Farm Bill must protect and ensure the disbursement of funding authorized by the Inflation Reduction Act for climate-smart agriculture, conservation, and reforestation programs benefiting American farmers, ranchers, and foresters and take steps to streamline the application process for NRCS incentive payments for farmers.
- The Carbon Business Council supports Carbon180’s call for the 2023 Farm Bill to create a Soil Carbon Monitoring Network to consolidate, accelerate, and scale the USDA’s efforts to measure and model soil carbon. We also support Senator Grassley’s and Representative Miller-Meeke’s recently reintroduced, bipartisan-bicameral National Biochar Research Network Act, as standalone legislation or incorporated into the Farm Bill to provide funding support to assess the circular impact of biochar across different soil types, application methods, and climates.
- The Farm Bill should direct the USDA Natural Resources Conservation Service (NRCS) to create new conservation practice standards — or expand existing standards — so that farmers may qualify for direct-payment incentives via the Environmental Quality Incentive Program (EQIP), Conservation Stewardship Program (CSP), Biomass Crop Assistance Program (BCAP), or other NRCS funding programs to replace the burning of crop and forestry residues with beneficial use for BCR, bio-oil, and other BiCRS approaches. Additional potential incentive opportunities include the application of silicate minerals for management of soil pH; generation of soil inorganic carbon on agricultural land through microbes; and OAE and blue carbon restoration for aquaculture.



- Congress should seize the opportunity of the 2023 Farm Bill reauthorization to improve promotion and extension of NRCS programs to Black, tribal, Justice40, and other Historically Underserved Farmers and Ranchers, and to increase funding for Equity in Conservation Cooperation Agreements to ensure equitable distribution of these benefits.
- The Farm Bill's Forestry Title (Title VIII) should be amended to create a regulatory and permitting structure within the USFS for carbon storage on NFS lands via carbon dioxide sequestration in Class VI wells and via terrestrial biomass sequestration. Additionally, Title VIII should clarify current USFS regulations that complicate the use of unmerchantable wood residuals from fire-thinning and other forest-management on NFS lands by private sector actors for BiCRS and allow the USFS to remit direct payment (competitive with the current cost of pile-burning) to private-sector actors for removal of these residuals.
- Current regulatory frameworks make public-private partnerships for reforestation of NFS lands challenging to implement. These challenges can be mitigated by adding carbon as a permitted use to the Multiple Use Sustained Yield Act.

Credits

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About the Carbon Business Council

The Carbon Business Council (CO₂BC), a member-driven and tech-neutral trade association of companies unified to restore the climate, is the preeminent industry voice for carbon management innovators. Together, the nonprofit coalition represents more than 80 companies across six continents with more than \$1.5 billion dollars in combined assets.

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