Carbon180

FY23 Appropriations

Carbon180 Recommendations

This document outlines Carbon180's appropriations requests. If you're interested in speaking with our policy team, reach out to policy@carbon180.org.

TECHNOLOGY-BASED SOLUTIONS

DOE | Carbon Dioxide Removal

FUNDING LEVEL REQUEST: $337,000,000

REPORT LANGUAGE REQUEST:

> The recommendation provides not less than $337,000,000 for research, development, and demonstration of carbon dioxide removal technologies and approaches, to be appropriately coordinated between the Office of Fossil Energy and Carbon Management, the Office of Science, the Office of Energy Efficiency and Renewable Energy and any other relevant program offices or agencies, including the Environmental Protection Agency and the Department of Agriculture. The Committee supports funding going to the Carbon Dioxide Removal Research, Development, and Demonstration program authorized in Section 5001, Division Z of PL 116-260.
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> The Committee commends the Department for establishing the Carbon Negative Shot initiative to advance the development and commercialization of carbon dioxide removal (CDR), sequestration, and other relevant technologies on a significant scale. The Committee supports the development of a diversified suite of technologies and methods to remove carbon dioxide from the atmosphere and durably store it, including through pathways such as enhanced mineralization, direct air capture, bioenergy with carbon capture and storage, and ocean carbon removal. The Committee encourages the development and improvement of accounting frameworks and tools to accurately measure carbon removal and sequestration methods and technologies. The Committee also supports the Carbon Negative Shot initiative's goal of reaching meaningful scales of reduction for less than $100 per net metric ton of CO2-equivalent (CO2e). In carrying out the initiative, the Department is directed to coordinate all carbon dioxide removal activities across FECM, EERE, the Office of Science, and any other relevant program office.

DOE | Office of Fossil Energy and Carbon Management | Carbon Utilization

FUNDING LEVEL REQUEST: $58,562,500

REPORT LANGUAGE REQUEST:

> The recommendation supports carbon utilization and conversion research, development, and demonstration activities to advance valuable and innovative uses of captured carbon, including bio-catalyzed, electrochemical, photochemical, thermochemical, and photosynthetic conversion of carbon dioxide to higher-value products such as chemicals, plastics, building materials, and fuels. The recommendation supports research, development, and demonstration of these pathways in the context of the integration of carbon utilization technologies with power plants, industrial processes, and negative emissions technologies. The Secretary is also encouraged to coordinate with the General Services Administration and the Department of Transportation to support the development of life cycle assessment frameworks for the procurement of low-carbon construction material. The department is encouraged to research and develop carbon mineralization as a utilization pathway, with specific research activities including fundamental research on geochemistry and rock physics to improve understanding of reaction rates and scale, resource assessments to identify sustainable sources of reactive minerals, applied research, and field tests of surface and subsurface mineralization methods, and research on environmental impacts. Pursuant to the responsibilities associated with reviewing life cycle assessment documents directed under IRS RIN 1545-BP42, the recommendation provides not less than $2 million for the evaluation of carbon dioxide utilization pathways for consideration under Section 45Q of Title 26 CFR.

DOE | Office of Economic Impact and Diversity

FUNDING LEVEL REQUEST: $34,000,000

REPORT LANGUAGE REQUEST:

> The Committee supports the Office of Economic Impact and Diversity's role in driving new initiatives to achieve energy equity and environmental justice across the Department and recognizes the Office's increased responsibilities of implementing Executive Orders 13985, 13988, and 14008. Therefore, the recommendation provides $34 million for the Office of Economic Impact and Diversity, $14 million above the fiscal year 2022 budget recommendation of the committee.

EPA | Office of Ground Water and Drinking Water | Underground Injection Control, Class VI Wells

FUNDING LEVEL REQUEST: $6,200,000

REPORT LANGUAGE REQUEST:

> The Committee recognizes the importance of rapid, responsible scale-up of safe, permanent geologic storage of carbon dioxide in geologic formations for meeting net zero by 2050. The recommendation provides not less than $6,200,000 for the Agency's work within the Underground Injection Program related to Class VI wells for geologic sequestration to help develop expertise and capacity at the Agency. Within available funds, $1,200,000 shall be made available to support Class VI regulator education and training programs in conjunction with states, or other eligible entities. The Committee also directs the administrator to issue guidance and eligibility criteria for the state permitting grants program authorized by Section 40306 of the Infrastructure Investment and Jobs Act (PL 117-85) not later than 90 days after enactment of this Act.

AGRICULTURE-BASED SOLUTIONS

USDA | Agriculture Research Service | Salaries and Expenses

FUNDING LEVEL REQUEST: $1,800,000,000

REPORT LANGUAGE REQUEST:

> **Expertise on Soil Carbon Research:** The recommendation provides $1,800,000,000 for the Agricultural Research Service (ARS), Salaries and Expenses, of which at least $500,000 is to hire dedicated staff with expertise in soil carbon to better support, coordinate, and expand efforts around soil carbon research and development.
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> **Novel Soil Carbon Practices and New Crops:** The recommendation provides $50,000,000 for research and assessment of the carbon storage capacity of underexplored agricultural practices including novel soil amendments, like biochar, and ranching practices, like management intensive rotational grazing, and $25,000,000 for the development of crop varieties with increased carbon storage potential and perennial varieties of the largest annual agricultural commodities.
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> **Soil Carbon Data:** The recommendation provides $25,000,000 for the Long-Term Agroecosystem Research (LTAR) Network, of which $10,000,000 is for long-term

coordinated research on soil carbon dynamics, including soil carbon fluxes across time and depths, and connecting increases in soil carbon storage with management practices, climate, soil type, and other factors. The recommendation provides $10,000,000 to hire a dedicated data management team to coordinate soil carbon data collection and management efforts across all LTAR sites, and $5,000,000 for auditing existing soil carbon sampling protocols and developing best practices for future sampling done by USDA and other agencies. Available funds should be evenly distributed across the 18 sites in the LTAR Network.

Climate Hubs: Moreover, within available funds for ARS, the recommendation provides $17,000,000 for Climate Hubs, of which $5,000,000 is for synthesis and translation of soil carbon dynamics research in coordination with the LTAR Network, $6,000,000 is for development, testing, and deployment of region-specific best practices for soil carbon storage in rangeland and cropland systems, $2,000,000 is for making publicly-available resources on soil carbon sampling best practices determined by the LTAR Network, and $4,000,000 is to summarize and translate advancements in soil carbon measurement tools, technologies, and techniques to farmers and ranchers. Available funds should be evenly distributed across the 10 Climate Hubs.

USDA | National Institute of Food and Agriculture | Sustainable Agriculture Research and Education

FUNDING LEVEL REQUEST: $60,000,000

REPORT LANGUAGE REQUEST:

The recommendation provides $60,000,000 for the Sustainable Agriculture Research and Education program, of which $2,000,000 is for soil carbon dynamics research on topics including soil carbon chemistry, plant-microbe interactions, soil carbon dynamics across soil depths, and microbial soil carbon transformation and stabilization, $2,000,000 is for development, testing, and deployment of region-specific best practices for increased soil carbon storage in rangeland and cropland systems, and $12,000,000 is for on-farm soil carbon demonstration trials.

USDA | National Institute of Food and Agriculture | Agriculture and Food Research Initiative

FUNDING LEVEL REQUEST: $700,000,000

REPORT LANGUAGE REQUEST:

The recommendation provides $700,000,000 for the Agriculture and Food Research Initiative, of which $20,000,000 is for development and commercialization of soil carbon measurement tools and technologies.

USDA | Economic Research Service

FUNDING LEVEL REQUEST: $100,000,000

REPORT LANGUAGE REQUEST:

> The recommendation provides $100,000,000 for the Economic Research Service, of which $10,000,000 is for a report on the costs and benefits of soil carbon practice adoption across management practices, operation types, scales, geographies, and production systems, with special emphasis on economic considerations for socially disadvantaged producers and agricultural communities. Furthermore, $5,000,000 is for a report on potential labor implications of large-scale implementation of soil carbon practices across a diversity of operation types, system types, and geographic contexts in the US. Report findings should be used to inform and develop workforce development opportunities related to soil carbon in agricultural communities on the frontlines of climate change.

USDA | Conservation Operations | Conservation Technical Assistance

FUNDING LEVEL REQUEST: $800,000,000

REPORT LANGUAGE REQUEST:

> The recommendation provides $800,000,000 for the Conservation Technical Assistance program, of which $5,000,000 is for assessment, field testing, and verification of the effectiveness of soil carbon measurements tools in real agricultural contexts, $10,000,000 is for increasing NRCS field office capacity and hiring staff to respond to producer inquiries and needs, including processing program applications, responding to producer calls and requests, and conducting on-farm consultations, and $5,000,000 is for increasing expertise on soil carbon sequestration planning by developing and hosting soil carbon education and training at NRCS field offices, as well as for hiring soil carbon experts. The Committee recognizes the importance of cultural diversity within NRCS field offices to better support historically underserved producers and encourages targeted usage of funds to hire staff fluent in non-English languages, experienced in Traditional Ecological Knowledge (TEK)-based practices, and familiar with a range of operation types and business structures.

FORESTRY-BASED SOLUTIONS

USDA | US Forest Service | Forest and Rangeland Research

FUNDING LEVEL REQUEST: $365,000,000 (Forest and Rangeland Research)
$27,000,000 (Forest Inventory Analysis)

REPORT LANGUAGE REQUEST:

> The recommendation provides $365,000,000 for Forest and Rangeland Research, including salaries and expenses.
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> The recommendation provides $81,000,000 for research and development programs, of which $2,000,000 is directed to large-scale field demonstration projects in collaboration with local universities, nonprofits, and landowners that evaluate enhanced forest management techniques to optimize forest carbon removal potential; $4,000,000 for social science research to understand the barriers to adopting forest carbon management practices, especially in rural and underserved communities; and $8,000,000 to USDA Climate Hubs to evaluate and communicate carbon and overall ecosystem health outcomes of different forest management techniques across US geographies.
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> The recommendation provides $27,000,000 to Forest Inventory and Analysis (FIA) to expand the FIA plot network for greater data resolution and to increase frequency of data collection at all sites. Of these funds, not less than $1,500,000 should be allocated for continued development, demonstration, and deployment of advanced forest carbon monitoring, reporting, and verification technologies, including LiDAR, hyperspectral monitoring, unmanned aircraft systems, and others that could address “leakage” of timber harvesting.

USDA | US Forest Service | Vegetation and Watershed Management

FUNDING LEVEL REQUEST: $40,000,000

REPORT LANGUAGE REQUEST:

> The recommendation provides $40,000,000 to Vegetation and Watershed Management to support activities across forest restoration needs. Not less than $5,500,000 should support activities that increase regional seedling supply across subprograms, including establishment and expansion of federal nurseries and seed extractories and research and development of seed progenies that are more resilient to climate impacts.

USDA | US Forest Service | Urban and Community Forestry

FUNDING LEVEL REQUEST: $60,000,000

REPORT LANGUAGE REQUEST:

> The recommendation provides $60,000,000 to Urban and Community Forestry to expand technical assistance, equipment, and grants for projects that prioritize tree-planting in communities with low canopy coverage. Grants should also be made available to support demonstration projects that combine food and tree cultivation to improve carbon storage, public health, and local food access.

USDA | US Forest Service | Forest Health Management (Federal and Cooperative Lands)

FUNDING LEVEL REQUEST: $55,000,000

REPORT LANGUAGE REQUEST:

> The recommendation provides $55,000,000 for Forest Health Management (FHM), including $37,000,000 to Cooperative FHM and $18,000,000 to Federal FHM. Increased funds should support forest landowners, especially small-scale and underserved landowners, with post-planting activities on recently-planted forests to ensure long-term survival and ecosystem benefits.

USDA | US Forest Service | Community Forest and Open Space Conservation

FUNDING LEVEL REQUEST: $7,000,000

REPORT LANGUAGE REQUEST: N/A