TAXPAYERS for COMMON SENSE

FACT SHEET

January 2025

U.S. Biomass Subsidies

Biomass was originally pitched to taxpayers as a source of renewable energy that could help improve U.S. energy security, spur rural economic development, and reduce greenhouse gas (GHG) emissions. The industry was intended to increase energy production from non-food feedstocks such as municipal solid waste, perennial grasses, and forest and agriculture residues such as corn stalks and leaves. Federal mandates and subsidies were meant to help get the biomass industry off the ground. However, in practice, U.S. biomass supports have subsidized biofuels and heat and power facilities using feedstocks that do more harm than good for taxpayers. Despite decades of billions of dollars in bioenergy subsidies—including those for biomass feedstocks used in biofuels production—the industry has failed to mitigate climate risks while spurring unintended consequences and market distortions.

Background

Federal biomass subsidies are scattered throughout the U.S. tax code, U.S. Departments of Energy (DOE) and Agriculture (USDA), and other federal agencies. While the biomass industry has attempted to sell biomass as a carbon-neutral energy source, independent experts disagree that leveling forests to generate heat and power—or convert it into cellulosic biofuels, for instance—is beneficial for the climate. Despite this, numerous federal programs promoting biomass energy—such as the Rural Energy for America Program (REAP)—do not require subsidy recipients to

significantly reduce greenhouse gas emissions in exchange for taxpayer support. Congress has also attempted to include provisions in proposed legislation, including the House draft of the FY2025 farm bill, to declare forest biomass as carbon neutral for federal policy purposes, without any verification of real climate benefits.

Instead of reducing climate risks, in many cases, federal programs distort markets and increase GHG emissions at taxpayers' expense. Lessons learned from decades of failed bioenergy subsidies should inform future policies.

Failed Biomass Projects Waste Taxpayer Dollars

The federal government has a history of wasting taxpayer dollars on failed biomass projects and programs that were poorly implemented, leading to waste, fraud, and abuse.

- While the **Biomass Crop Assistance Program (BCAP)** was intended to subsidize the planting, collection, harvest, storage, and transportation of biomass feedstocks such as perennial grasses and agricultural residues. Instead, BCAP subsidized existing woody biomass facilities and mature pulp and paper companies instead of spurring the next generation of bioenergy sources, leading to Congress significantly scaling back funding in the 2018 farm bill.

Biomass Crop Assistance Program

A report by USDA's Office of Inspector General (OIG) found:

"The lack of sufficient policies and procedures resulted in inconsistent program administration across States and counties, improper payments, and instances of possible waste, fraud, and abuse by participants."

- **Range Fuels** is one of many examples of the federal government supporting cellulosic ethanol and other biofuels projects that later failed, bringing taxpayer dollars down with them. Range Fuels' proposed facility in Soperton, Georgia, planned to use woody biomass for biofuel production. The company received both DOE and USDA loan guarantees but later liquidated.[1]

- Another company receiving farm bill energy title subsidies—through the **Bioenergy Program for Advanced Biofuels**—is Enviva.[2] Enviva is self-described as "the world's largest producer of industrial wood pellets."[3] The company exports wood pellets from the U.S. Southeast (from states such as North Carolina) to Europe to be burned in power plants. Proponents initially touted bioenergy solutions that could arise from using fallen limbs, but certain interests are cutting trees down for bioenergy use. Not only is burning wood for energy a failed climate solution, but clearing forests for bioenergy use can negatively impact local ecosystems and air quality in nearby communities.[4] Taxpayer dollars wasted on projects such as these could instead have been used to support activities that result in verified GHG reductions and do not leave taxpayers with long term liabilities.

Federal Programs and Tax Credits Subsidizing Biomass Energy

While several federal energy, agriculture, transportation, tax, and other programs subsidize bioenergy, Tables 1 and 2 include the most prominent programs within the farm bill and tax code. In addition to the programs below, biomass is also subsidized indirectly through the Renewable Fuel Standard (RFS) mandate, which requires increasing amounts of biofuels to be blended with U.S. gasoline and diesel each year.[5]

Table 1: USDA Programs Subsidizing Biomass Energy

Program	Description	Cost of Subsidy
Rural Energy for America Program	Grant & loan program intended to support rural renewable energy projects but has also subsidized biomass	Nov. 2010 to Oct. 2024, $48.4 million was spent on biomass projects.[6] Overall, program receives $50 million in mandatory funding annually and was appropriated $2 billion in the Inflation Reduction Act.
Biomass Crop Assistance Program	Program for planting, collection, harvesting, storage, and transportation of biomass feedstocks	$330 million from FY09-24.[7]
Section 9003 Biorefinery, Renewable Chemical, and Biobased Product Manufacturing Assistance Program	Loan guarantee program for biorefineries through the Commodity Credit Corporation (CCC)	2009 to 2021, $762 million in final loan guarantees with a $200 million subsidy cost.[8] Two loan guarantees, $205 million combined, were for projects with woody biomass.[9]
Biobased Product Market Development and Access Grant Program	Grants to applicants who have been accepted into the Biorefinery, Renewable Chemical and Biobased Product Manufacturing Assistance Program	$200 million available through the Commodity Credit Corporation (CCC). The program was created in Oct. 2024 and awards have not been announced.[10]
Biomass Research & Development Initiative	Grants for biofuels and biobased products R&D and demonstration or commercial projects	$140.5 million dispensed from 2009-2018, with at least $27 million for woody biomass.[11]
Bioenergy Program for Advanced Biofuels (Advanced Biofuel Payment)	Annual payments for production of biofuels, intended to be for advanced biofuels but has also subsidized mature bioenergy	$5.3 million for woody biomass projects from 2009-2016.[12] Mandatory funding of $7 million for each year FY19-FY23.
Wood Innovations Grant Program (Wood Innovations)	Grants to expand wood product markets and wood energy markets, including for woody biomass projects	$132 million in grants awarded FY15-FY24[13]

Community Wood Energy & Wood Facilities Program (Community Wood)	Grants for installing a community wood energy system or building an innovative wood product facility, including for woody biomass projects	$53 million in grants awarded FY20-24[14]
Sun Grant Program	Grants to land-grant universities for bioenergy, biomass, or bioproducts research	$40.5 million in grants obligated FY10-20[15]

Table 2: Tax Credits Subsidizing Biomass Energy

Program	Description	Cost of Subsidy
Sec. 25C Energy Efficient Home Improvement Credit	Tax credit for qualified energy efficiency improvements, including $2,000/year for biomass stoves or boilers.[16]	$12.4 billion from FY23-27[17]
Sec. 30C Alternative Fuel Vehicle Refueling Property Credit	30 percent tax break for purchasing certain "clean fuel" refueling or electric vehicle recharging equipment, including biomass-derived biofuels.	$11.3 billion from FY24-33[18]
Sec. 40(b)(6) Second Generation Biofuel Producer Credit	$1.01 per gallon producer tax credit for cellulosic biofuel, including from agriculture residues or perennial grasses. Sunsets at the end of 2024.	$54 million from FY22-25[19]
Sec. 40A Biodiesel Tax Credit	$1.00 per gallon tax credit to produce biomass-derived biodiesel. Sunsets at the end of 2024.	$40 million from FY23-24[20]
Sec. 40B Sustainable Aviation Fuel Credit	Tax credit to produce aircraft fuels from qualified sources, including biomass, with low GHG emissions. Sunsets at the end of 2024.	$49 million from FY23-25[21]

Sec. 45 Renewable Electricity Production Tax Credit	Tax credit to produce electricity from certain renewable sources, including open-loop biomass. Sunsets at the end of 2024.	$15 billion from FY22-26, with open-loop biomass costing $600 million[22]
Sec. 45Z Clean Fuel Tax Credit	Tax credit to produce fuels from qualified sources, including biomass, with low GHG emissions. Starts in 2025.	$19.1 billion from FY25-29[23]
Sec. 45Y Clean Energy Production Tax Credit	Tax credit to produce electricity from sources, including biomass, with zero GHG emissions. Starts in 2025.	$11.2 billion from FY25-31[24]
Sec. 48 Energy Investment Tax Credit	Tax credit for investments in energy-related property, including biogas. Sunsets at the end of 2024.	$89.7 billion from FY23-27, with biogas costing $400 million[25]
Sec. 48E Clean Energy Investment Tax Credit	Tax credit for investments in energy-related property, including biogas, with zero GHG emissions. Starts in 2025.	$50.9 billion from FY25-31[26]

Recommendations

Federal policies subsidizing and promoting the use of bioenergy for fuel, heat, and power should be addressed to ensure they are not promoting unsustainable biomass use. This includes federal subsidies programs, tax credits, the RFS biofuels mandate, and other wasteful biomass programs.

Federal policies should mitigate—instead of increase—climate risks. While new energy tax credits created in the Inflation Reduction Act of 2022, such as Sections 45Y, 45Z, and 48E, have the potential to better protect taxpayers by restricting eligibility to energy sources with low GHG emissions, its success is highly dependent on implementation and ensuring high-carbon biomass sources do not qualify.

Taxpayer dollars wasted on biomass could instead be spent on real climate solutions, such as protecting old growth forests, conserving wetlands and grasslands, and investing in agricultural conservation practices. Forests and agricultural lands provide significant opportunity for carbon sequestration, but currently, misguided bioenergy policies are distorting markets, exacerbating the costs and impacts of climate change, and jeopardizing real solutions for a more sustainable future.

[1] Derek Mead, "Range Fuels Officially Dead: Another DOE Loan Bites Dust," *Green Tech Media*, December 6, 2011. https://www.greentechmedia.com/articles/read/range-fuels-officially-dead-another-doe-loan-bites-dust
[2] For example, Enviva was awarded $15,931.32 in 2021 under the Bioenergy Program for Advanced Biofuels. Source: U.S. Department of Agriculture, "Agriculture Secretary Vilsack Announces Support for Producers to Grow Renewable Feedstocks for Advanced Biofuels," July 27, 2012. https://www.usda.gov/media/press-releases/2012/07/27/agriculture-secretary-vilsack-announces-support-producers-grow
[3] Enviva, "Corporate Overview," accessed November 8, 2024. https://ir.envivabiomass.com/ overview/default.aspx
[4] Jonathon Vigliotti, "Wood pellet industry may be falsely marketing itself as a green renewable energy source, critics say," *CBS News*, April 22, 2022. https://www.cbsnews.com/news/wood-pellets-renewable-energy-source-critics/
[5] Taxpayers for Common Sense, "Renewable Fuel Standard (RFS) Fact Sheet," February 15, 2022. https://www.taxpayer.net/energy-natural-resources/renewable-fuel-standard-rfs-fact-sheet/
[6] Calculated by TCS using project descriptions as reported by USDA in REAP award announcements.
[7] Calculated by TCS using Enacted Net Outlays as reported by the Congressional Research Service (CRS) and USDA Budget Summary. Source: CRS, "Biomass Crop Assistance Program (BCAP): Status and Issues," R41296, January 12, 2025. https://crsreports.congress.gov/product/pdf/R/R41296/20
[8] Calculated by TCS using loan information available on USASpending.com for CFDA Program Listing 10.865
[9] $80,000,000 to Range Fuels, Inc and $125,000,000 to Aemetis Advanced Products Keyes, Inc.
[10] USDA, "Biden-Harris Administration Announces $239 Million to Increase Access to Clean, Affordable Domestic Biofuels as Part of Investing in America Agenda," October 29, 2024. https://www.usda.gov/media/press-releases/2024/10/29/biden-harris-administration-announces-239-million-increase-access
[11] Calculated by TCS using project descriptions as reported by USDA in BRDI award announcements. More awards may have been made under this program. Source: TCS, "Biomass Research and Development Initiative Fact Sheet," June 30, 2017. https://www.taxpayer.net/energy-natural-resources/biomass-research-and-development-initiative-fact-sheet/
[12] Woody biomass subtotal calculated by TCS using project descriptions, when available. Source: TCS, "Bioenergy Program for Advanced Biofuels Fact Sheet," July 6, 2017. https://www.taxpayer.net/energy-natural-resources/bioenergy-program-for-advanced-biofuels-fact-sheet-2/
[13] Calculated by TCS using USDA award announcements.
[14] Calculated by TCS using USDA award announcements.
[15] Calculated by TCS using loan information available on USASpending.com for CFDA Program Listing 10.320
[16] Prior to 2023, biomass stoves and boilers qualified under the Sec. 25D not residential energy efficient property credit. It now qualifies under the Sec. 25C Energy Efficient Home Improvement Credit.
[17] Joint Committee on Taxation, "Estimates Of Federal Tax Expenditures For Fiscal Years 2023-2027," JCX-59-23, December 2023. https://www.jct.gov/publications/2023/jcx-59-23/
[18] U.S. Treasury, "Treasury Tax Expenditure FY2025," March 2024. https://home.treasury.gov/system/files/131/Tax-Expenditures-FY2025.pdf
[19] Joint Committee on Taxation, "Estimated Budget Effects Of The Revenue Provisions Of Title I – Committee On Finance, Of An Amendment In The Nature Of A Substitute To H.R. 5376, "An Act To Provide For Reconciliation Pursuant To Title II Of S. Con. Res. 14," As Passed By The Senate On August 7, 2022, And Scheduled For Consideration By The House Of Representatives On August 12, 2022," JCX-18-22, August 2022. https://www.jct.gov/publications/2022/jcx-18-22/
[20] U.S. Treasury, "Treasury Tax Expenditure FY2025," March 2024. https://home.treasury.gov/system/files/131/Tax-Expenditures-FY2025.pdf
[21] Joint Committee on Taxation, "Estimated Budget Effects Of The Revenue Provisions Of Title I – Committee On Finance, Of An Amendment In The Nature Of A Substitute To H.R. 5376, "An Act To Provide For Reconciliation Pursuant To Title II Of S. Con. Res. 14," As Passed By The Senate On August 7, 2022, And Scheduled For Consideration By The House Of Representatives On August 12, 2022," JCX-18-22, August 2022. https://www.jct.gov/publications/2022/jcx-18-22/
[22] Joint Committee on Taxation, "Estimates Of Federal Tax Expenditures For Fiscal Years 2022-2026," JCX-22-22, December 2022. https://www.jct.gov/publications/2022/jcx-22-22/
[23] U.S. Treasury, "Treasury Tax Expenditure FY2025," March 2024. https://home.treasury.gov/system/files/131/Tax-Expenditures-FY2025.pdf
[24] Joint Committee on Taxation, "Estimated Budget Effects Of The Revenue Provisions Of Title I – Committee On Finance, Of An Amendment In The Nature Of A Substitute To H.R. 5376, "An Act To Provide For Reconciliation Pursuant To Title II Of S. Con. Res. 14," As Passed By The Senate On August 7, 2022, And Scheduled For Consideration By The House Of Representatives On August 12, 2022," JCX-18-22, August 2022. https://www.jct.gov/publications/2022/jcx-18-22/
[25] Joint Committee on Taxation, "Estimates Of Federal Tax Expenditures For Fiscal Years 2023-2027," JCX-59-23, December 2023. https://www.jct.gov/publications/2023/jcx-59-23/

[26] Joint Committee on Taxation, "Estimated Budget Effects Of The Revenue Provisions Of Title I – Committee On Finance, Of An Amendment In The Nature Of A Substitute To H.R. 5376, "An Act To Provide For Reconciliation Pursuant To Title II Of S. Con. Res. 14," As Passed By The Senate On August 7, 2022, And Scheduled For Consideration By The House Of Representatives On August 12, 2022," JCX-18-22, August 2022. https://www.jct.gov/publications/2022/jcx-18-22/