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U.S. Biomass Subsidies

Biomass was originally sold 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/power facilities using feedstocks that do more harm than good for the [climate](#). Biomass programs in the farm bill have subsidized the promotion of wood pellet manufacturing not only for domestic but also [international](#) use. 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 into cellulosic biofuels, for instance – is beneficial for the climate. Despite this, numerous federal programs promoting biomass

energy do not require subsidy recipients to significantly reduce GHG emissions in exchange for taxpayer support. In fact, farm bill energy title programs – such as the Rural Energy for America Program (REAP) – nor biomass production tax credits require emissions reductions for facilities to become eligible for federal subsidies. A provision in the FY22 omnibus bill similarly attempts 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 increase GHG emissions at taxpayer expense. Lessons learned from decades of bioenergy subsidies should inform future policies aimed at climate mitigation, including those within the budget, tax extenders, farm bill, and other energy/climate 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. Other programs have subsidized the wood pellet industry. Examples include:

- 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, the program’s funding was instead cut due to implementation and funding issues. 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.
- **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, GA, planned to use woody biomass for biofuel production. The company received both DOE and USDA loan guarantees but later [liquidated](#).
- Another company receiving farm bill energy title [subsidies](#) – through the **Bioenergy Program for Advanced Biofuels** - is Enviva. Enviva is [self-described](#) as “the world’s largest producer of industrial wood [pellets](#).” The company [exports](#) wood pellets from the US Southeast (from states such as North Carolina) to Europe to be burned in power plants. Not only is burning wood for energy a failed climate solution but cutting down trees for bioenergy use has [other impacts](#) as well. Proponents initially touted bioenergy solutions that could arise from using fallen limbs, for instance, in biofuels and the heat/power sector, but certain interests are cutting [trees](#) down for bioenergy use. Taxpayer dollars wasted on projects such as these could instead have been spent on real climate solutions, such as mitigating wildfire risk.

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.”

Federal Programs Subsidizing Biomass Energy

While several federal energy, agriculture, transportation, tax, and other programs subsidize bioenergy, Table 1 includes 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. Additional subsidies were proposed in the House-passed reconciliation bill, the Build Back Better Act, and in separate legislation proposed in both the House and Senate.

Program	Agency/ Dept.	Description	Cost of Subsidy
Sec. 45 Credit for Electricity Produced from Certain Renewable Resources – including biomass tax credit among other energy sources*	U.S. Treasury	Tax break for closed- and open-loop biomass production	Proposal to expand and extend full credit (including other types of energy) from 2022-2026 = \$54.9 billion from FY22-31 .
Sec. 48 Energy Investment Tax Credit – including biomass tax credit among other energy sources*	U.S. Treasury	Tax break for energy-related property investment	Proposal to add biogas derived from biomass to expansion and extension of full credit (in addition to extension of other types of energy) through 2026 = \$52.1 billion.
Rural Energy for America Program	USDA	Grant & loan program intended to support rural renewable energy projects like wind and solar but has also subsidized bioenergy	Since 2010, \$32.7 million has been spent on biomass projects. Overall program receives \$50 million in mandatory funding annually.
Biomass Crop Assistance Program	USDA	Program for planting, collection, harvest, storage, and transportation of biomass feedstocks	\$341 million from FY10-17.**
Biorefinery Assistance Program	USDA	Loan guarantee program for biorefineries	Since 2009, \$1.2 billion in conditional and final loan guarantees, with \$491 million for woody biomass. Mandatory funding of \$50 million provided for FY19 & \$25 million for FY20.

Biomass Research & Development Initiative	USDA	Grants for R&D into feedstocks for biofuels or biobased chemicals and products.	\$140.5 million dispensed from 2009-2016, with \$27.4 million for woody biomass.**
Bioenergy Program for Advanced Biofuels	USDA	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. Mandatory funding of \$7 million for each year FY19-FY23.
Community Wood Energy & Wood Innovation Program	USDA	Grant program for woody biomass projects.	\$8.9 million in grants announced in 2021, for heat boilers, biomass power plants, woody biomass cellulosic ethanol, etc.
Notes:			
* Expired at the end of 2021. ** Only discretionary funding provided in 2018 farm bill.			

Recommendations

Federal policies subsidizing and promoting the use of bioenergy for fuel and heat/power should be addressed to ensure they are not promoting unsustainable biomass use. This includes biomass riders added to annual appropriations bills, the RFS biofuels mandate, the biomass tax credit, farm bill energy title programs, and other wasteful subsidies. Federal policies should mitigate – instead of increase – climate risks. Taxpayer dollars wasted on the biomass wood pellet industry, for instance, 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.