



Biotechnology Innovation Organization
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November 15, 2022

The Honorable Debbie Stabenow
Chairwoman
Committee on Agriculture
Nutrition, and Forestry
United States Senate
328 A Russell Senate Office Building
Washington, DC 20515

The Honorable John Boozman
Ranking Member
Committee on Agriculture
Nutrition, and Forestry
United States Senate
328 A Russell Senate Office Building
Washington, DC 20515

Dear Chairwoman Stabenow, Ranking Member Boozman, and Members of the Committee:

The Biotechnology Innovation Organization (BIO) is pleased to submit a statement for the record to the United States Senate Committee on Agriculture, Nutrition, and Forestry hearing entitled, "Farm Bill 2023: Rural Development and Energy Programs."

Introduction

BIO¹ represents 1,000 members in a biotech ecosystem with a central mission – to advance public policy that supports a wide range of companies and academic research centers that are working to apply biology and technology in the energy, agriculture, manufacturing, and health sectors to improve the lives of people and the health of the planet. BIO is committed to speaking up for the millions of families around the globe who depend upon our success. We will drive a revolution that aims to cure patients, protect our climate, and nourish humanity.

As Congress begins the process of authorizing the next farm bill, BIO applauds the Committee for examining renewable energy opportunities in rural America and for inviting BIO Agriculture and Environment Section Governing Board member Christoph Schilling, Founder and CEO of Geno to serve as a witness.

A farm bill centered on innovation stands to incentivize the adoption of cutting-edge technologies and practices, resulting in benefits to the environment and rural economies. Further, supporting biobased technologies, such as sustainable fuels, renewable chemicals and biobased manufacturing is crucial to agriculture being part of the solution to protecting our climate and fostering energy security.

¹ <https://www.bio.org/>



The Benefits of Innovation

Biotechnology is enabling a dramatic paradigm shift in the production of fuels and chemicals. Modern biorefineries are converting domestic sources of renewable biomass, wastes, and residues into sustainable low carbon fuels, chemicals, and products. In turn, the sector creates high paying jobs, particularly in rural parts of the country where renewable biomass is grown and in manufacturing communities where carbon can be captured and utilized. Developing and employing domestic feedstocks will help reduce the United States' dependence on foreign energy and create an energy sector that reduces greenhouse gas emissions and enhances human health through improved air quality.

Sustainable fuels producers and renewable chemical manufacturers need comprehensive legislation, like the farm bill, to maintain U.S. leadership in the biobased economy. Programs must be supported with robust funding and streamlined and expedited regulatory pathways for breakthrough technology solutions.

At its core, the farm bill promotes durability. The next farm bill offers a timely opportunity to examine innovation's influence on the resiliency of our economy in the face of global challenges. It also provides an unparalleled platform to grow awareness and trust in the innovation ecosystem, so more communities and consumers can embrace deployment of biobased products with confidence and enthusiasm.

To aid the Committee and provide more background on these technologies and the innovative breakthroughs that can reduce greenhouse gas emissions throughout agricultural supply chains, attached is BIO' *Biotech Solutions for Climate Report*², which examines biotechnology's contributions to addressing the climate crisis and provides case studies on several BIO member companies including Geno. This report highlights how biotechnology can achieve at least three-billion tons of CO₂ equivalent mitigation annually by 2030, by delivering vital climate solutions in four key areas:

- Producing sustainable biomass feedstock
- Empowering sustainable production
- Developing lower carbon products
- Enhancing carbon sequestration

Supporting Innovation

Federal programs supporting the biobased economy, like the Farm Bill energy title, can foster research, development, demonstration-scale activities, and deployment of renewable, low-

² https://www.bio.org/sites/default/files/2021-04/Climate%20Report_FINAL.pdf



carbon energy technologies and send positive signals to the investment community. The Farm Bill energy title can build on the recent Executive Order on Biotechnology and Biomanufacturing to catalyze domestic biomanufacturing. These investments will spur private sector funding, which is critical to accelerate innovation, create a more resilient economy, strengthen supply chains, and grow jobs for years to come.

Biobased Markets Program

The Biobased Markets Program, or the BioPreferred® Program, directs federal agencies to increase their purchases and use of renewable chemicals and other biobased products. This program makes it easier for consumers to identify biobased products with the U.S. Department of Agriculture (USDA) Certified Biobased Product label. According to USDA's *An Economic Impact Analysis of the U.S. Biobased Products Industry*,³ the biobased products industry contributed \$393 billion and 4.2 million jobs to America's economy.

BIO recommends the next farm bill strengthen the BioPreferred® program with significant mandatory funding and enforceable procurement requirements. USDA and the Office of Management and Budget (OMB) should educate procurement officers on the benefits of BioPreferred® to ensure procurement targets are achieved.

Finally, the 2018 Farm Bill called for USDA to work with the Department of Commerce to develop North American Industry Classification System (NAICS) codes for renewable chemical manufacturers and producers of biobased products. However, to date, OMB declined to do so. Without dedicated NAICS codes, federal agencies cannot accurately classify, collect data, or report on the rapidly growing bioeconomy. BIO urges the Committee to work with USDA and OMB to update NAICS to establish a measurement for biobased products.

Biorefinery Assistance Program

USDA has been a critical partner in promoting and providing financial support for the development of sustainable biofuels and renewable chemicals.

The Biorefinery Assistance Program loan guarantee program provides manufacturers access to capital for large-scale projects in rural communities. Without the loan guarantee program, new innovative companies might never be able to pool sufficient capital to commence development of a project in rural communities with a small population. These biorefineries are proven drivers of job and economic growth for rural communities.

³ <https://www.biopreferred.gov/BPResources/files/BiobasedProductsEconomicAnalysis2018.pdf>



The 2018 Farm Bill expanded access to this program to renewable chemical and biobased product manufacturers. BIO urges the Committee to use its authority to build on report language in the 2018 Farm Bill to ensure that all biobutanol manufacturers can qualify for the biorefinery assistance program as an advanced biofuel, regardless of feedstock. The 2018 Farm Bill also only provided mandatory funding to the program through Fiscal Year 2020. To spur growth of additional biorefineries in rural communities, it will be critical for the next farm bill to provide mandatory funding for the full length of the law.

Improved Modeling

As BIO noted in its statement for the record to the House Agriculture Committee’s hearing “A 2022 Review of the Farm Bill: The Role of USDA Programs in Addressing Climate Change⁴,” just like carbon markets, supporting the development of renewable energy will require infrastructure to measure and verify reductions in emissions and carbon sequestrations at the local farm level. This will ensure both government and industry can invest and properly award innovative technologies that reduce emissions.

This will also require both modeling and regulatory requirements for greenhouse gas emissions analysis for sustainable fuels and renewable chemicals to reflect the newest science and technology. As BIO recently noted in comments⁵ in response to the U.S. Environmental Protection Agency’s (EPA’s) workshop on biofuel greenhouse gas modeling, relying on a single, stagnant version of a model jeopardizes the integrity of EPA processes and long-term decision making. Enabling the use of up-to-date modeling tools and data will permit the agency to capture improvements in agricultural efficiency and deployment of innovative technologies.

As such, BIO recommends the Committee and congress urge EPA to work with U.S. Department of Energy (DOE) to incorporate the DOE’s Argonne National Lab Greenhouse gases, Regulated Emissions, and Energy use in Transportation (GREET) model for measuring lifecycle emissions of transportation fuels. BIO also recommends EPA coordinate with USDA and utilize its practical knowledge and expertise on biofuels and innovative farming techniques.

Conclusion

BIO believes the government can and should play a catalytic role in growing a renewable, biobased economy. This will require Congress to incentivize the adoption of innovative, sustainable technologies and practices. BIO is committed to working with Congress in a forward-looking manner to foster pioneering technology breakthroughs and science. Doing so

⁴ <https://www.bio.org/letters-testimony-comments/bio-statement-house-agriculture-committee-2022-farm-bill-and-climate>

⁵ <https://www.bio.org/letters-testimony-comments/bio-comments-epa-ghg-modeling>



will bolster our economic and energy independence and set us on a path to better health and prosperity.

Sincerely,

A handwritten signature in black ink that reads "Beth Ellikidis". The signature is fluid and cursive.

Beth Ellikidis
Vice President, Agriculture and Environment
Biotechnology Innovation Organization