



March 18, 2021

The Honorable Paul Tonko
Chairman
Subcommittee on Environment
and Climate Change
Committee on Energy and Commerce
U.S. House of Representatives
Washington, DC 20515

The Honorable David B. McKinley
Ranking Member
Subcommittee on Environment
and Climate Change
Committee on Energy and Commerce
U.S. House of Representatives
Washington, DC 20515

The Honorable Frank Pallone, Jr.
Chairman
Committee on Energy and Commerce
U.S. House of Representatives
Washington, DC 20515

The Honorable Cathy McMorris Rodgers
Ranking Member
Committee on Energy and Commerce
U.S. House of Representatives
Washington, DC 20515

Dear Chairman Tonko, Ranking Member McKinley, Chairman Pallone, Ranking Member McMorris Rodgers, and Members of the Subcommittee:

The Biotechnology Innovation Organization (BIO) is pleased to submit a statement for the record to the United States House of Representatives Committee on Energy and Commerce Subcommittee on Environment and Climate Change hearing entitled, "The CLEAN Future Act: Industrial Climate Policies to Create Jobs and Support Working Communities."

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 nourishes humanity.

Our members use technology to enhance cultivation and food production and produce sustainable biofuels, renewable chemicals, and biobased products, which provide a cost-competitive alternative to petroleum's value chain that also generates added value through economic development, job creation, and environmental and public health. Companies are utilizing biological processes to convert biomass and waste feedstocks into everyday products while creating new markets for agricultural crops, crop residues, and waste streams – in addition to contributing to a circular economy.

¹ <https://www.bio.org/>

Overview

BIO welcomes this opportunity to provide input on H.R. 1512, the *Climate Leadership and Environmental Action for Our Nation's (CLEAN) Future Act*.

To tackle the climate crisis, it is crucial to lead with science and U.S. innovation. We must incentivize the adoption of innovative and sustainable technologies and practices and streamline and expedite regulatory pathways for breakthrough technology solutions to reduce carbon in hard to abate sectors. In doing so, the federal government can support pioneering technology breakthroughs that reduce greenhouse gas emissions in manufacturing, transportation, and agricultural supply chains to build a stronger, more resilient, and environmentally sustainable economy.

Federal climate policy should modernize infrastructure and manufacturing capacity to increase availability of biobased products. Climate legislation should seek to increase the use of biobased manufacturing, low-carbon fuels, and sustainable agricultural solutions to promote resilient and sustainable supply chains across economic sectors including translating sustainability to best practices to all bioindustries. If done right, climate legislation will drive adoption of market pull incentives for investment in and use of innovative technologies and products that fight climate change.²

BIO applauds the *CLEAN Future Act* including provisions supporting the production and deployment of sustainable fuels. It is critical that the Industrial Sector provisions of H.R. 1512, support and promote the development of biobased manufacturing to reduce emissions, rebuild our national economy and workforce in a forward-looking manner, and bolster our economic independence in a way that facilitates self-sufficiency. Finally, BIO welcomes the inclusion of comprehensive environmental justice provisions.

Transportation Sector

Pathways

BIO is pleased the *CLEAN Future Act* includes Sec. 411 ACCELERATING APPROVAL OF CLEAN FUELS. The U.S. Environmental Protection Agency's (EPA) delays in approving biofuel pathways and facility registrations have led to an erosion of the Renewable Fuel Standard (RFS) as Congress intended. Developing and producing these fuels and attracting investment to sustainable fuel projects has been curtailed because of EPA's actions. This hampers the growth of rural America and stymies the development of the bioeconomy. Bringing these innovative technologies online will be critical to creating a resilient, healthier transportation sector in a post-COVID economic recovery. BIO also supports bipartisan, stand-alone legislation from Senators John Thune (R-SD) and Jeanne Shaheen (D-NH), S. 218³, to address this issue.

² <https://www.bio.org/strategic-vision>

³ <https://www.congress.gov/bill/117th-congress/senate-bill/218>

Beyond the *CLEAN Future Act*, BIO would urge the Committee to use its oversight authority over EPA to ensure the Agency interprets the RFS broadly and accommodate all pathways and approve facility registrations that could fall within the existing statute. Specific areas that would have an impact immediately to accelerate the production of low carbon sustainable fuels are related to biological carbon capture and utilization (CCU), the interpretation and eligibility of “renewable biomass”, the use of biointermediates, and life-cycle and tracking methodologies for sustainable fuels from waste agricultural residues such as corn kernel fiber. This would have immediate benefits for reducing greenhouse gas emissions in the transportation sector and agricultural sector by create more demand for waste feedstocks and renewable biomass.

Transparency of Small Refinery Exemptions

BIO applauds the inclusion of Representatives Angie Craig (D-MN) and Dusty Johnson (R-SD) bipartisan *Renewable Fuel Standard Integrity Act*, H.R. 1113⁴ in SEC. 413 INFORMATION IN PETITION SUBJECT TO PUBLIC DISCOLUSRE of the *CLEAN Future Act*.

When allowed to work, the RFS has enabled billions of dollars of investment in new technologies that have led to the rapid growth of the renewable fuels industry, the development of new fuel technologies, and the biobased economy. The growth of the biofuels industry has bolstered our rural communities and provided agriculture producers stable commodity markets, benefitting our nation’s economic and energy security. Unfortunately, the demand destruction caused by the EPA’s drastic expansion of small refinery exemption waivers or small refinery exemptions (SREs) has had a major impact on the industry, costing jobs, stifling investment in innovation, and undermining efforts to reduce greenhouse gas emissions in the transportation sector.

Providing greater transparency, predictability, and accountability to EPA’s SRE process as proposed in H.R. 1512, will ensure success of the sustainable fuels industry, enable agriculture to reduce emissions, and bring even greater job growth to rural America.

Biofuel Infrastructure

BIO appreciates the Committee’s interest in expanding U.S. electric vehicle infrastructure and access. However, we urge the Committee to recognize biofuels already provide a strong and immediate solution to reducing emissions in transportation. It is critical the Committee understands that these solutions are available today, and do not require a mass turnover in vehicles. Reducing carbon emissions now is much like compounding interest. Just in the way that a dollar saved today is better than a dollar saved tomorrow, limiting carbon emissions today is far more valuable than limiting the same or a greater amount emission later.

⁴ <https://www.congress.gov/bill/117th-congress/house-bill/1113>

BIO urges the Committee to include language in the *CLEAN Future Act* to invest and develop biofuels infrastructure and access. This includes the development of biorefineries and deployment of advanced biofuels as well as investments in infrastructure to help consumers access low carbon fuels.

Bolstering the U.S. Department of Energy (DOE) Energy Efficiency and Renewable Energy (EERE) Bioenergy Technology Office (BETO) will help fund vital research and development of technologies to convert our nation's biomass resources into clean, renewable fuels, as well as chemicals and industrial products. BETO Systems Development and Integration (SDI) program is working to establish first-of-a-kind integrated biorefineries, to produce advanced biofuels, such as sustainable aviation fuels, that are capable of efficiently converting a broad range of biomass feedstocks into commercially viable biofuels, biopower, and other bioproducts. While the U.S. Department of Agriculture's (USDA) Higher Blends Infrastructure Incentive Program (HBIIP) could provide a model for developing the needed infrastructure to deploy low carbon fuels.

Additional Provisions

BIO urges the committee to recognize that because of biotech innovations, the production of biofuels is becoming more efficient and environmentally sustainable. Unfortunately, EPA's current greenhouse gas modeling for ethanol and biodiesel do not reflect these improvements. Including Senators Thune and Amy Klobuchar's (D-MN) bipartisan *Adopt GREET Act*, S. 193⁵ in H.R. 1512 will ensure these benefits are recognized.

BIO also encourages the Committee to further examine the development of a federal Low Carbon Fuel Standard (LCFS) that is technology and feedstock neutral and builds on the success of the RFS to ensure agriculture and low carbon, sustainable fuels are part of future solutions to significantly reduce emissions in transportation.

Industry

Federal Buy Clean Program

BIO is pleased that the *CLEAN Future Act* establishes a federal "Buy Clean" standard for the use of federal funds to incentivize more sustainable practices. These standards, we hope will promote the procurement of building materials and products that are manufactured through low greenhouse gases (GHGs) intensity processes.

While we appreciate the intent, we encourage the Committee to recognize that similar programs have existed for some time now, such as the USDA BioPreferred Mandatory Federal Purchasing program and the EPA's Environmentally Preferable

⁵ <https://www.congress.gov/bill/117th-congress/senate-bill/193>

Purchasing Program but without agency mandated key performance indicators or methodologies to hold them accountable the intent alone has failed to create the necessary market pulls for these more sustainable products. In other words, there are no consequences fiscally or otherwise if the federal funds are not being utilized to procure low carbon alternative products. We urge the Committee to put in place mechanisms to hold parties accountable that fail to do the necessary due diligence. BIO also recommends the scope of the "Buy Clean" standard can be expanded to other areas of government procurement beyond the building and construction sector.

BIO is also heartened to see the Committee recognize that both biogenic carbon-based products as well as carbon sequestered products can help to achieve lower GHGs manufactured goods. The transformation of biomass (and its embodied "biogenic" carbon⁶) into products represents in effect a removal of CO₂, via its continued storage in the product over a period. Biobased products can thus contribute to reduce the CO₂ level in the atmosphere and address global warming. For GHG accounting purposes, biogenic carbon embodied in a product should be considered as a CO₂ reduction or a "negative emission". Therefore, it is essential that biogenic carbon flows are assessed in a correct, transparent, and consistent way in Life Cycle Assessments (LCA) and product carbon footprint (PCF) tools. The lack of adequate assessment would hinder the introduction of innovative solutions to climate change rather than support it. We are therefore supportive of establishing a National Environmental Product Declaration (EPD) database to help verify the embodied carbon of materials and products acquired with federal funds.

Clean Energy Manufacturing Grant Program

BIO is pleased to see the Committee recognizes the need for the establishment of a program to award grants to existing manufacturers for projects to reequip, expand, or establish a facility. Often developers, especially those in the bioenergy and biotech sectors come face to face with the valley of death in their innovation pipeline from proof of concept to scale up. While venture capitalist and government funding are prevalent for new concepts and stage one projects, the funding often dries up post pilot phase where scale up challenges and retrofitting capital investments are needed for commercial viability. Ultimately, the valley of death reflects the perceived imbalance of risk and reward for an investment at this stage as well as the resulting difficulty for a biotech company in raising capital during this time. This is exactly where there needs to be governmental intervention strategy to enable fledgling innovators crossover into the commercially successful threshold. For example, while EERE and the Advanced Research Project Agency–Energy (ARPA-E) are admirable grant programs, but much of their focus is on projects that are in large part early – stage.

⁶ Biogenic carbon: carbon which is contained in biomass

Biomass: material of biological origin excluding material embedded in geological formations or transformed to fossilized material.

Support Platform Technologies to Revolutionize Energy and Industry

Innovations like synthetic biology, gene editing, cell culturing, and fermentation hold tremendous potential to solve urgent challenges throughout industrial and manufacturing supply chains, which will only be compounded by climate change. These platform technologies can revolutionize manufacturing by optimizing processes for producing sustainable chemicals, biobased products, and biofuels.⁷ Producers and developers will need access to these innovative technologies to increase production while cutting down on their environmental footprint. Enabling regulatory systems to keep pace with advancements in biology is essential if society is expected to fully benefit from food, health, and industrial products developed using the very latest cutting-edge platform technologies.

Furthermore, domestic regulatory pathways must provide for more expedient approval timelines to ensure the economics of new product development are not a deterrent to bringing new products to market. In the absence of a predictable and well-designed regulatory product approval system developers may choose to invest in more mature markets with better approval timelines. Investments by the government in next generation of biotechnologies and genomics will also be critical to meet the challenge of climate change.

Waste Reduction

BIO is supportive of the Committee's goal of reducing plastic waste and in addressing related climate change impacts. We applaud the committee for the inclusion of zero waste and recycling initiatives in the bill and believe these are a much-needed positive step toward mitigating climate change. With the world population projected to increase to 10 billion by 2050, meaningful action is required to fundamentally alter the way in which we manufacture, use, reuse, and recycle plastics.

We, however, would like to point out that not all plastics have the same environmental footprint and there needs to be a distinction in both policy and practice to appreciate these very distinct physical and environmental properties. As BIO highlighted last year in a statement submitted to the Committee's hearing, "Reduce, Reuse, Recycle, Reform: Addressing America's Plastic Waste Crisis," biotechnology is enabling the production of sustainable alternatives to petroleum-based plastic.⁸ The innovations and technologies emerging from the biotechnology sector, such as alternative biobased/biodegradable/biocompostable plastics, and carbon recycling, are central to enabling societies and economies to restructure, adapt to a changed environment and mitigate against future impact on the planet. Importantly, the biomanufacturing and synthetic biology sector is developing new techniques which are allowing other foundational industries and sectors to improve their environmental performance and overall competitiveness.

⁷ <https://www.bio.org/blogs/synthetic-biology-sustain-agriculture-and-transform-food-system>

⁸ <https://www.bio.org/letters-testimony-comments/bio-testifies-biobased-products-address-plastic-waste>

The National Bioeconomy Strategy⁹ of the United States rightly raise concerns about the long-term effects of plastics in the environment and calls for the increased use of biobased renewable and sustainable materials as a means of addressing these issues. Accordingly, to achieve this objective BIO is supportive of developing a more holistic regulatory framework which includes creating effective standards and definitions specific to advanced biotechnologies and bioproducts. Biobased plastics standards, including standards for compostable plastic products, must be addressed as part of an overall North American plastic waste agenda. The development of guidelines around labeling for recyclables and compostables, require standardization in cohort with innovative technology manufacturers. Its success requires coordinated and adopted standardized terminology, government regulations and policy incentives to provide the impetus for consumers and manufacturers to shift towards the adoption of alternative plastics as a practical solution to addressing the environmental performance issues.

We urge the Committee to recognize that putting in place a pause on permitting for new and expanded plastic production facilities that does not account for the strides the biobased and plant-based alternatives sector is making can decimate a burgeoning industry especially considering a post COVID world where green jobs have the potential to truly transform how we address recovery.

Environmental Justice

BIO applauds the Committee's efforts to address environmental justice. As part of BIO's BIOEquality Agenda¹⁰ broadening access to biotechnology advances to clean the environment and elevate community health is critical to health equity in disadvantaged communities.

Harmful tailpipe emissions, including particulate matter (PM) from the transportation sector disproportionately affect areas comprised of minority populations. For example, according to a study by the Union of Concerned Scientists (UCS), African Americans and Latinos breathe in about 40 percent more particulate matter from cars, trucks, and buses than white Californians¹¹. Another UCS study found Northeast communities of color breath 66 percent more air pollution from vehicles¹².

According to the National Bureau of Economic Research, the United States saw fine particulate pollution increase 5.5 percent between 2016 and 2018. According to the American Lung Association, State of the Air report for 2019, more than four in ten Americans live in counties that have unhealthy levels of ozone pollution or particulate matter.¹³ Prior to COVID-19, the World Health Organization¹⁴ found that

⁹https://obamawhitehouse.archives.gov/sites/default/files/microsites/ostp/national_bioeconomy_blueprint_april_2012.pdf

¹⁰ <https://www.bio.org/bioequality-agenda>

¹¹ <https://www.ucsusa.org/resources/inequitable-exposure-air-pollution-vehicles-california-2019>

¹² <https://www.ucsusa.org/about/news/communities-color-breathe-66-more-air-pollution-vehicles>

¹³ <http://www.stateoftheair.org/key-findings/>

¹⁴ https://www.who.int/health-topics/air-pollution#tab=tab_1

4.2 million deaths¹⁵ every year occur because of exposure to ambient air pollution. Since then, numerous studies have found that long-term exposure to levels of tiny particulate matter were linked to a significant increase in the mortality rate for COVID-19¹⁶.

Biobased technologies can reduce pollution in the transportation and manufacturing sector, improving environmental and human health. As BIO stated in its comments to the EPA's Scientific Advisory Board (SAB) *Review of COVID-19 Pandemic Scientific and Technical Issues to Inform EPA's Research Activities*¹⁷, "our member companies offer several solutions that can not only help combat this pandemic, but also lessen the impact of a future pandemic by helping to establish a resilient, sustainable bioeconomy." As the Committee seeks to tackle the impact poor air quality has on disadvantaged communities, BIO encourages it to support the deployment of biotechnology and biobased technologies to reduce pollution, rebuild the workforce, and enhance human health through improved air quality.

Conclusion

BIO is committed to working with the Committee, Congress, and the Administration to address the climate crisis. We urge you to support policy that advances pioneering technology breakthroughs. With science we can return our Nation and the world to health and prosperity by taking bold and drastic action to address the climate crisis.

¹⁵ https://www.who.int/gho/phe/outdoor_air_pollution/burden/en/

¹⁶ <https://www.newscientist.com/article/2241778-are-you-more-likely-to-die-of-covid-19-if-you-live-in-a-polluted-area/>

¹⁷ <https://yosemite.epa.gov/sab/sabproduct.nsf//0/2996BA363B41C2598525854C0048EA69?OpenDocument>