U.S. HOUSE OF REPRESENTATIVES COMMITTEE ON
SCIENCE, SPACE, & TECHNOLOGY
Opening Statement

Representative Sean Casten (D-IL)

Subcommittee on Energy Hearing:
Bioenergy Research and Development for the Fuels and Chemicals of Tomorrow
March 16, 2022

Thank you to all of the witnesses for joining us today to discuss the future of our bioenergy research enterprise. As some of you know I spent 20 years in the energy industry before I came to Congress. And I'm sure all of you have read the 1998 New York Times Bestseller "Advanced Process for Ethanol and Electricity Coproduction from Lignocellulosic Biomass." That, of course, was my Masters' thesis, which caused me to spend three years building, operating, and modelling biofuel fermentation and every recovery system. I'm thrilled to say we have come a long way since then. In December of last year, I was on the first passenger flight powered by 100% sustainable aviation fuel, flying from the great city of Chicago to Washington, DC. Although that was a historic moment, we still have some significant barriers to overcome. Not only is cost a prohibitive factor, with sustainable aviation fuels costing four times as much as traditional jet fuel, but we simply don't have enough supply. 95 billion gallons of jet fuel was consumed in 2019, and that same year less than 2 million gallons of sustainable aviation fuels was produced. I am encouraged by President Biden's Sustainable Aviation Grand Challenge that aims to reduce cost, enhance sustainability, and expand production of these fuels, which I understand Lanzajet is taking part in by pledging production of a billion gallons of these fuels per year by 2030. So I am really looking forward to Dr. Harmon's testimony, and not just because Lanzatech is headquartered in my back yard. But because we need to address and discuss sustainable feedstocks, and how to best increase the global supply of alternative fuels.

I am also pleased that the Department of Energy sees this urgent need, and is focusing its bioenergy research on the fuels of tomorrow. Sustainable, cost-effective feedstocks that can scale down and move refinement closer to the feedstock sources would enable a distributive model that revives local economies. For example, the Center for Advanced Bioenergy and Bioproducts Innovation – which also happens to be located in Illinois – works to create ecologically and economically sustainable feedstocks by using a "plants as factories" approach that prioritizes efficient land use, soil health, water health, clean air, and of course, emission reductions.

As we saw in the recent IPCC report, the science is clear that we must achieve zero emissions as soon as possible. What is scientifically necessary vastly exceeds what is politically on the table at the moment, which is why I'm proud to be on the Science Committee where we Get. Stuff. Done. I hope that in convening this hearing, we ensure that our R&D dollars are spent wisely,

and that we prioritize these less sexy, hard to decarbonize industries. Now more than ever we must work to decarbonize hard to abate sectors, such as cement, steel aviation, and shipping. These sectors currently use the carbon in fossil fuels not as an energy source, but as a chemical reducing agent and/or depend on energy sources with the mass – and energy-density only found in liquid fuels. Bioenergy is the unique renewable fuel source that can serve both needs. I'm excited to hear from our witnesses where we can best target our research and development in this space.

The IPCC report concluded that bioenergy has significant potential to mitigate greenhouse gases if resources are sustainably developed, and efficient technologies are thoughtfully applied. If we do this right, we can pinpoint how biofuels and biobased chemicals can be utilized where they would be most effective in enabling a successful transition to a 100% clean economy.

Lastly, I don't think we can emphasize enough the impacts that most Americans, and much of the world, are now experiencing due to our over-reliance on a globally traded, geographically limited, environmentally detrimental, and ultimately finite commodity. This is not a problem that we can drill our way out of. No amount of oil that we extract from within our shores can make a meaningful dent in the massive price spikes that would always follow a world event that disrupts the global oil supply chain. This is yet another critical reason that we absolutely must pursue ways to produce more sustainable solutions, domestically-grown, to meet our energy needs. By doubling down on our innovation enterprise, we can electrify the bulk of many more sectors and create sustainable fuels to power those otherwise hard-to-abate sectors. Knowing what we know today, we just can't keep doing more of the same and expect a different outcome anymore.

I want to again thank our excellent panel of witnesses assembled today, and I look forward to hearing your testimony. With that, I yield back.