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America's Ethanol Supporters

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July 21, 2022

Cory Ann Wind
Oregon Department of Environmental Quality
700 NE Multnomah Street
Portland, Oregon 97232
Via electronic mail

RE: Clean Fuels Program Expansion 2022 Rulemaking

Dear Ms. Wind:

Thank you for the opportunity to comment on the Department of Environmental Quality's (DEQ) proposal to extend and increase the Clean Fuel Standards to 20% below 2015 levels by 2030 and 37% below 2015 levels by 2035. Growth Energy is the world's largest association of biofuel producers, representing 89 U.S. plants that each year produce more than 8 billion gallons of renewable fuel; 104 businesses associated with the production process; and tens of thousands of biofuel supporters around the country. Together, we are working to bring better and more affordable choices at the fuel pump to consumers, improve air quality, and protect the environment for future generations. We remain committed to helping our country diversify our energy portfolio in order to grow more green energy jobs, decarbonize our nation's energy mix, sustain family farms, and drive down the costs of transportation fuels for consumers.

We sincerely appreciate DEQ's attention and hard work to reshape Oregon's fuel mix to make it more sustainable. This objective is a central driver for our industry, and we look forward to continuing our work on our common goals as you explore revisions to the Clean Fuel Program (CFP) moving ahead. Specifically, liquid fuels will continue to play an important role in the transportation sector, even as alternative technologies flourish. As such, it is imperative to consider the vital role that environmentally sustainable fuel options such as bioethanol will play in reducing greenhouse gas emissions and cutting consumer costs in the current and future Oregon vehicle fleet.

As we have continued to advocate, a primary solution for cleaning up the liquid fuel supply is the promotion of additional use of bioethanol, from starch or cellulosic sources. According to recent data from Environmental Health and Engineering, today's bioethanol reduces greenhouse gas emissions (GHG) by an average of 46 percent compared to gasoline and can provide even further GHG reductions with additional readily available technologies.[1] In the existing light duty

[1] Environmental Research Letters: Carbon intensity of corn ethanol in the United States: state of the science (iop.org)

fleet, higher bioethanol blends can be immediately deployed to achieve immediate GHG reductions, reduce harmful air toxics, and reduce consumer costs at the pump.

Already, we've seen biofuels provide the foundation for the CFP. In fact, biofuels like bioethanol have generated more than 75 percent of CFP credits. Additionally, even with room to further improve GHG lifecycle modeling, the CFP recognizes the significant improvement in bioethanol's carbon intensity. In 2016, DEQ reported the average carbon intensity (CI) for bioethanol at 64.5 gCO2e/MJ. Through 2021, the average recorded CI for bioethanol has decreased to 53.98 gCO2e/MJ, a nearly 17 percent reduction in CI in just 5 years.[2]

Bioethanol's other environmental benefits are also noteworthy. As has been researched by the University of California, Riverside and the University of Illinois at Chicago, the use of more bioethanol and bioethanol-blended fuel reduces air toxics such as carbon monoxide, benzene, and other harmful particulates.[3] To fully realize these and other important air quality benefits, there needs to be a clear policy with a firm future for the role and growth of cleaner-burning, affordable bioethanol fuels.

As we have noted previously, we continue to urge DEQ to further develop clear policies that recognize the realities of today's fuel market and examine how homegrown biofuels can immediately contribute to achieving GHG reductions. Today, nearly all gasoline in Oregon - and across the U.S. - is blended with 10 percent bioethanol. E15, a blend consisting of 15 percent bioethanol, has been approved for use by the U.S. Environmental Protection Agency (EPA) in all passenger vehicles model year 2001 and newer, more than 96 percent of the vehicles on the road today, and is now for sale at more than 2600 locations in 31 states. We were very pleased to see Oregon move forward with its recent approval of E15 as it is another tool to help further reduce Oregon's greenhouse gas emissions.

Additionally, as we have seen in California, low carbon fuel programs are helping to drive growth in the use of E85 in flex-fuel vehicles. The use of E85 will promote even greater reductions in GHG emissions and reductions of air toxics.

We would encourage DEQ and other state agencies to push for policies that: strongly encourage and incentivize the use of higher bioethanol blends such as E15 and E85, the production and use of flex-fuel vehicles, as well as continued investment in infrastructure for the expanded use of E85.

With respect to some of the items in the proposal, we offer comment:

Correct the GREET Model to Reflect Updated Science on Land Use

While we are pleased that DEQ has a more realistic value for land use change of 7.6 gCO2e/MJ compared to other programs, a review of the more recent science over the last 5 years indicates

[2] DEQ CFP Data: Department of Environmental Quality : Quarterly Data Summaries : Oregon Clean Fuels Program : State of Oregon

[3] University of California Riverside: https://fixourfuel.com/wp-content/uploads/2018/04/UC-Riverside-Study.pdf; University of Illinois at Chicago: https://grains.org/wp-content/uploads/2018/11/Complete-Study-Summary.pdf

newer data indicates values closer to 4 gCO2e/MJ. The LUC value should reflect the latest science that better addresses innovation and increasing yields in agriculture.

Crediting for Field-based Farm Practices

Growth Energy strongly supports the appropriate crediting of on-the-farm field practices in the CFP. The U.S. EPA estimates that five percent of national GHG emissions is from crop cultivation and energy, there is an opportunity for lower emissions in agriculture within the CFP. There has been a wealth of data including a recent study done by Argonne National Laboratory that show the possibility of a 35 percent reduction in carbon intensity through adoption of current best on-farm practices such as cover crops, strip tillage, reduced fertilizer use, and other innovations.[4] With the CFP's verification requirements, capturing these on the farm benefits for biofuel pathways is now more realistic and scalable. Allowing appropriate credit will help bioethanol producers continue to further innovate and lower their carbon intensity, while providing key incentives for farmers to adopt these effective conservation practices.

Carbon Capture and Sequestration

New innovations at biorefineries throughout the U.S. allow pure, biogenic carbon dioxide (CO2) to be captured at a massive scale, and multiple projects are already underway that repurpose, reuse, or provide a permanent storage solution for the majority of that CO2. We encourage DEQ to allow for credit generation from carbon capture, utilization, and storage (CCUS).

Energy Allocation for Non-Fuel Products

Many bioethanol producers have continued to innovate their biorefineries and are producing varying grades of bioethanol for applications beyond fuel. Some of these grades and specifications require additional processing and energy. We encourage DEQ to clarify that its carbon intensity model does not allocate the energy used for non-fuel production inappropriately to biofuels.

Correcting Electricity Usage in Wet and Dry Distiller Grain (DDGS) Pathways

The Oregon GREET model currently distinguishes between wet and dry DDGS pathways for thermal energy but does not do so with regard to electricity use. Electricity use between wet and dry DDGS production is quite different. We recommend that DEQ further distinguish electricity use as it does with thermal energy in its GREET model.

Bioethanol/Fuel Cell Technology

Direct Bioethanol Fuel Cells for the use in motor vehicle transportation have been in development by Nissan for some time. As recently as January of 2020, Nissan and Lawrence Berkeley National Laboratory have published research on the use of 100 percent bioethanol in fuel cell technologies and innovations.[5] This technology not only meets zero emission vehicle requirements, but further eliminates particulates from tailpipe emissions. Using bioethanol in conjunction with a fuel cell would require less infrastructure change and investment and would

[4] Argonne National Laboratory: https://www.anl.gov/article/argonnes-pivotal-research-discovers-practices-technologies-key-to-sustainable-farming

[5] Lawrence Berkeley National Laboratory: https://eta.lbl.gov/publications/ethanol-internal-reforming-solid

help the state meet its ambitious climate goals. As DEQ considers policies on zero emission vehicles in conjunction with the CFP, we would strongly encourage DEQ to consider ways to further develop this technology for consideration.

More broadly, we look forward to working with you through the regulatory process on revisions to the CFP program and ensure the role of biofuels in making Oregon's fuel mix more sustainable and help the state achieve its progressive climate goals through the expanded use of bioethanol.

Thank you in advance for your consideration.

Sincerely,

Chris Bliley
Senior Vice President of Regulatory Affairs
Growth Energy

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