

United States Congress
U.S. Capitol Building
Washington, D.C. 20510

The Role of Renewable Liquid Heating Fuels in a National Clean Energy Strategy

Dear Senators and Representatives:

The undersigned organizations urge you to consider the liquid heating fuels industry's accomplishments in reducing greenhouse gas emissions as you consider energy infrastructure and tax reform legislation.

Most of our retail members are small, multi-generational family businesses. They deliver a safe, reliable, and efficient heating fuel to five million homes across the Northeast and Mid-Atlantic, from Maryland to Maine.¹ These regions use 85-percent of the nation's home heating oil each year.² These businesses, once known as "heating oil dealers," are replacing heating oil with renewable fuels to reduce greenhouse gas emissions, support local economies, and contribute to energy and environmental security.

States are acknowledging the role renewable fuels are playing to significantly reduce emissions in the space heating sector and help meet ambitious carbon reduction goals. Several have partnered with local heating oil associations to craft policies that ensure widespread utilization of lower carbon fuels. New York, Connecticut, and Rhode Island have passed legislation requiring that heating oil be blended with significant volumes of biodiesel, commonly referred to as Bioheat® Fuel.³ Massachusetts has an incentive program that rewards heating oil distributors that market Bioheat Fuel blends of at least 10%.⁴

Maine is advancing a cellulosic heating fuel called ethyl levulinate (EL). This liquid heating fuel is *net-negative carbon* and can be produced from sustainably harvested wood products, municipal solid waste, and forestry and agricultural residues.⁵ EL utilizes local supply chains including sustainable logging, forestry, and waste management operations. It has the potential to significantly reduce greenhouse gas emissions in the heating sector while revitalizing rural economies across the Northeast.

Bioheat Fuel and EL utilize existing storage and distribution infrastructure and, with minor modifications, work seamlessly in existing appliances to deliver immediate reductions in greenhouse gas emissions at little to no additional cost to the consumer.⁶ They provide Americans on a fixed income and those that live in vulnerable communities the opportunity to make a meaningful and affordable contribution to the battle against climate change, while reducing the negative health effects of related emissions. Bioheat Fuel and EL are "plug & play" solutions for reducing emissions and viable alternatives to electric heat pumps, which are unaffordable or impractical for many homeowners.

Recent studies conclude air-source heat pumps and other high-cost electrification strategies will burden lower-income households and perpetuate environmental and economic inequalities in vulnerable communities.⁷ Our members that install these systems report conversion costs of up to \$35,000 or more. While some customers use them for heat, many install them primarily for air-conditioning and have decided to retain their existing liquid fuel or gas-fired heating system.

Our members also report that heat pumps perform poorly in colder climates, such as in the Northeast. Heat pump efficiency continuously degrades as temperatures drop below freezing to the point of equivalence with electric resistance heat.^{8, 9} The resulting load may cause a super-peaking of the grid, which increases greenhouse gas emissions because many generators rely on fossil fuels to meet electricity demand. These peaking events strain the electric grid and can result in catastrophic power outages. Reports suggest over-reliance on electric heat may have exacerbated the February 2021 power crisis in Texas, where more than 60% of homes rely on electric heat each winter.^{10, 11}

Further, refrigerants used in heat pumps may present considerable climate risks. R-410A, the most common refrigerant, has a global warming potential (GWP) that is 2,088 greater than carbon dioxide.¹² These refrigerants often leak, resulting in reduced efficiency and poor performance. In fact, leaks are so common that recharging refrigerant is necessary over the life of the heat pump. Policymakers therefore understand the need to phase-out these refrigerants. The goal is to replace R-410A with an alternative drop-in refrigerant that does not require replacement or reduction in the efficiency of a heating system. However, until such a refrigerant can be identified, heat pumps will continue to use 410A, and some percentage of these refrigerants will end up in the atmosphere.

Again, many of our members sell and install heat pumps. They always encourage homeowners to weigh the pros and cons before making such a significant financial investment. Congress should do the same as it develops a national clean energy strategy and incorporate Bioheat Fuel and EL, which offer an immediate and equitable solution for significant emission reductions in the space heating sector. To further encourage the availability, adoption, and use of these fuels, we recommend the following:

1. **Climate policies should be fuel-neutral and based on carbon-equivalent emissions.** Policies should reward fuels and technologies that reduce total lifecycle carbon-equivalent emissions and not favor one specific low- or zero-carbon fuel or technology to the detriment of all others.
2. **Include biofuel-compatible heating appliances in legislation designed to strengthen existing tax credits or that propose new national rebate programs for energy efficiency.** In addition to efficiency, these incentives should reward the installation of appliances that *immediately* reduce lifecycle

emissions *at minimal cost* to consumers, taxpayers, and ratepayers through the utilization of readily available low carbon renewable fuels.

3. **Enact long-term extensions of renewable fuel tax incentives.** Most of these tax credits are set to expire during the current Congress and significant market disruptions could result from their lapse. We support a bill offered in the House (H.R.3472) and Senate (S.1806) to extend the biodiesel tax credit for three years; and support an extension of the cellulosic biofuel tax credit.¹³
4. **Support the Renewable Fuel Infrastructure Investment and Market Expansion Act.** This bipartisan bill (H.R.1542 in the House and S.2271 in the Senate) expands upon a successful USDA program that offers cost-sharing grants for infrastructure improvements and will help facilitate greater adoption of Bioheat, EL, and other renewable heating fuels in the Northeast.

Your support for these measures will help ensure that fuel dealers and their hardworking employees are given a chance to compete in the new energy economy, continue to serve their loyal customers including those vulnerable communities, and make meaningful contributions to U.S. climate security.

Thank you for your consideration.
Sincerely,

Advanced Biofuels Association	
www.advancedbiofuelsassociation.com	
American Energy Coalition	www.americanenergycoalition.com
Connecticut Energy Marketers Association	www.ctema.com
Empire State Energy Association	www.esean.org
Energy Marketers Association of New Hampshire	
www.energymarketersassociationnh.com	
Energy Marketers Association of Rhode Island	www.warmth4ri.com
Fuel Merchants Association of New Jersey	www.fmanj.org
Maine Energy Marketers Association	www.maineenergymarketers.com
Massachusetts Energy Marketers Association	www.massenergymarketers.org
National Energy & Fuels Institute	www.nefi.com
New York State Energy Coalition	www.nysecnow.org
Pennsylvania Petroleum Association	www.papetroleum.org
Vermont Fuel Dealers Association	www.vermontfuel.com

¹ U.S. Census Bureau, *American Community Survey (ACS)*, Fuel Oil Use by Occupied Housing Units, Five-Year Avg. (2013-2017). Percent (%) of homes is calculated as a percentage of total state occupied housing units.

² For this purpose, NEFI defines the "broader Northeast and Mid-Atlantic regions" to include New England, Delaware, Maryland, New Jersey, New York, North Carolina, Pennsylvania, West Virginia, Virginia, and the District of Columbia.

³ On July 12, Connecticut Governor Ned Lamont signed HB6412, a bill to require a 5% biofuel blend (B5) in all heating oil by 2022, 10% blend (B10) by 2025, 15% blend (B15) by 2030, 20% blend (B20) by 2034, and 50% blend (B50) by 2035. July 13, Rhode Island Governor Daniel McKee signed H5132A, increases the current B5 blend requirement for all heating oil to B10 by 2023, B20 by 2025, and B50 by 2030. New York state law currently requires a B5 for all heating oil sold in New York City, Nassau, Suffolk, and Westchester counties. A bill (S3321A/A7290) currently awaits Governor Cuomo's signature that expands the requirement statewide in 2022 and increases the requirement to B10 by 2025 and B20 by 2030.

⁴ 225 CMR 16.00

⁵ A 2019 GREET analysis conducted by Biofine Developments Northeast Inc. and EarthShift Labs shows that EL, when utilized as a heating fuel, reduces emissions by over 100-percent.

⁶ National Oilheat Research Alliance, *Developing a Renewable Biofuel Option for the Home Heating Oil Sector: A Report to Congress, State Governments and the Administrator of the Environmental Protection Agency*, May 2015, p.18.

⁷ Acosta, Joel, *Study: Electrification is a Misguided Approach to Tackle Climate Change*, Energy In Depth, July 9, 2020 www.energyindepth.org/study-electrification-is-a-misguided-approach-to-tackle-climate-change (accessed May 11, 2021).

⁸ Johnson, R.K., *Measured Performance of a Low Temperature Air Source Heat Pump*, U.S. Department of Energy, Office of Energy Efficiency & Renewable Energy, September 2013, p. viii. <https://www.nrel.gov/docs/fy13osti/56393.pdf> (accessed July 16, 2021)

⁹ RDH Building Sciences, Inc., *BC Cold Climate Heat Pump Field Study (Project 21090.00)*, November 9, 2020.

¹⁰ U.S. Census Bureau, *American Community Survey*, 2019, primary heat source by occupied housing unit.

¹¹ Traywick, Catherine, et al., *The Two Hours that Nearly Destroyed Texas' Electric Grid*, Bloomberg Green, Feb. 20, 2021 www.bloomberg.com/news/features/2021-02-20/texas-blackout-how-the-electrical-grid-failed (accessed May 11, 2021)

¹² Global Warming Potential (100 year), IPCC 4th Assessment Report, 2007.

¹³ 26 U.S.C. §40A and §40(b)(6)