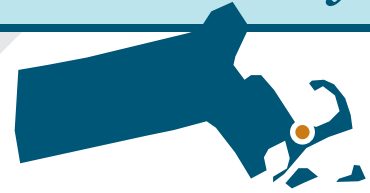




## BIODIESEL CAN HELP MASSACHUSETTS ACHIEVE ITS CLEAN ENERGY GOALS



### Environmental Solutions

**B10** 10% biodiesel blend eliminates **65.2 million gallons of petroleum in heating oil**, the equivalent of making **64,165 homes carbon neutral**.

**B20** 20% biodiesel produces a **14.6% reduction in CO<sub>2</sub> emissions and better GHG performance** than natural gas (NESCAUM).

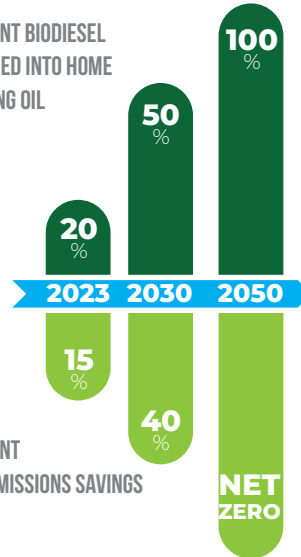
**B50** 50% biodiesel **eliminates 326.4 million gallons of petroleum in heating oil** and **2.8 million metric tons of carbon**.

**B100** 100% biodiesel **eliminates 653 million gallons of petroleum in heating oil** and **5.57 million metric tons of carbon**.



B10 and higher biodiesel blends qualify as Eligible Liquid Biofuels under the state's Alternative Energy Portfolio Standard (APS). In 2018, the state used biofuels to meet 14.6% of the APS requirement.

PERCENT BIODIESEL BLENDED INTO HOME HEATING OIL



PERCENT GHG EMISSIONS SAVINGS

### HEATING INDUSTRY PROPOSAL TO LOWER CARBON EMISSIONS

Under the Providence Resolution, the heating oil industry has established benchmarks to achieve **net-zero emissions by 2050** using Bioheat® fuel.

### Economic Solutions

**708,000** homes and businesses rely on Bioheat® (27% of households)

**#3** the third largest consumer of heating oil in the U.S.

**76M** gallons of B100 sold via the state APS incentive program

**1** biodiesel producer with 1-million gallons annual capacity

**78** retail biodiesel distributors participate in the state's APS incentive program

### CURRENT MANDATES

Chapter 8 of the Acts of 2021

**2030 = 50% Carbon Reduction**

**2040 = 75% Carbon Reduction**

**2050 = Carbon Neutral**

vs. 1990 levels



By 2023, Massachusetts will implement a long-term declining emissions cap on heating fuels.

More than 50% of Massachusetts GHG emissions are produced by light-duty passenger vehicles and residential and commercial space and water heating. About 5 million light-duty passenger cars and trucks generate around 60% of statewide transportation sector emissions, and approximately 3 million residential households generate about 60% of statewide building sector emissions.



Sources: Massachusetts Department of Energy Resources, 2018 Annual Compliance Report, June 2021; U.S. Census Bureau, 2013-2017 American Community Survey 5-Year Estimates; U.S. Energy Information Administration, State Profile and Energy Estimates, Sept. 2021; LMC International, "Economic Impact of the U.S. Biodiesel Industry," 2019; "Leading the Way Toward a Zero-Carbon Future," NEFI, 2019; U.S. Environmental Protection Agency, Greenhouse Gas Equivalencies Calculator; NESCAUM, "Low Sulfur Heating Oil in the Northeast States: An Overview of Benefits, Costs and Implementation Issues," December, 2005, p. 2-7.