DECARBONIZING BEGAN WITH BIOHEAT®

Bioheat® fuel reduces lifecycle greenhouse gas emissions by replacing a portion of petroleum heating oil with renewable biodiesel.
As renewable content increases, emissions can be reduced further while homeowners continue using existing heating and fuel-delivery systems.

- **Decades of laboratory and site research**
- **Codes and Standards Compliance**
- **Extensive Technician Education**
- **100% Renewable Fuel Heating Appliances & Systems**
- **Millions of Homes Already Lowering Carbon Emissions with Bioheat@ fuel**
- **Delivery and Service Infrastructure Already Exists**
- **Reliable and Sustainable Agricultural Feedstocks for Low-Carbon Renewable Fuels**



EQUIPMENT DESIGNED FOR THE RENEWABLE-FUEL FUTURE

New equipment combines renewable-fuel capability with higher efficiency, stronger diagnostics and improved serviceability.

- **Advanced burners and renewable fuel compatible components**
- **High-efficiency appliances for renewable fuels**
- **Intelligent controls improve reliability and diagnostics**

BIOHEAT.

LEARN MORE

BetterWithBioheat.com/LowCarbonNow

DECARBONIZING BEGAN WITH

INNOVATION

100% RENEWABLE FUEL
HOME HEATING APPLIANCES



HEATING SYSTEMS & RENEWABLE FUELS ADVANCING TOGETHER FOR IMMEDIATE AND ONGOING CARBON REDUCTIOIN

HOME HEATING EQUIPMENT HAS ADVANCED ALONG WITH RENEWABLE LIQUID FUELS

Carbon reduction is **IMMEDIATE** and **ONGOING** while energy savings reach up to **40%** with modern systems.

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FUEL-READY SYSTEMS

The industry's progress toward lower-carbon heating has been underway for decades, supported by more efficient equipment, cleaner combustion, ultra-low sulfur fuel and the growing use of Bioheat® fuel. Most existing systems can use renewable-fuel blends, although equipment compatibility should be confirmed as blend levels increase. As the percentage of renewable fuel rises, lifecycle greenhouse gas emissions will be reduced further.

New heating systems can be specified with renewable-fuel-compatible components from the start, preparing homeowners to use higher blends as they become more widely available.

Combined with continuing advances in combustion technology, system controls and fuel-handling components, **renewable liquid fuels offer a practical, immediate and scalable path to reliable home comfort and progressively lower carbon emissions.**

GREATER ENERGY SAVINGS

Today's liquid fuel heating systems represent a great leap forward in efficiency and are up to 40% more efficient than older systems.

Modern boilers and furnaces combine improved heat exchangers, better combustion control, reduced standby losses and advanced burner technology to extract more useful heat from every gallon of fuel.

High-efficiency controls and integrated systems can further reduce fuel consumption by matching system operation more closely to heating and hot water demand.

Features such as outdoor reset, thermal purge/energy recovery, thermal targeting, improved burner controls and better system zoning help minimize unnecessary cycling and heat loss while maintaining consistent home comfort.

Findings from the National Oilheat Research Alliance show that upgrading older heating systems with modern equipment, advanced controls and proper system sizing can result in fuel savings on average of 20%, and in some cases up to 40%.

SMARTER CONTROLS

Modern system controls are making heating systems increasingly well suited for renewable liquid fuels. New primary controls use advanced electronic flame-sensing and monitoring technology that can reliably recognize the flame characteristics associated with biodiesel and renewable diesel blends.

These newer controls also provide benefits beyond renewable-fuel compatibility. Features such as interrupted ignition, programmable safety timing, improved flame monitoring, onboard and remote diagnostic information and communication capabilities can improve reliability and help technicians restore proper operation more quickly.

Heating systems are now prepared for higher renewable blends—supporting a practical transition toward B100, R100 and other low-carbon liquid heating fuels and blends without requiring replacement of existing systems.

INNOVATION ENABLED RENEWABLE LIQUID FUEL ADOPTION FOR HOME HEATING