

# Affordable, Lower-Emission Propane

## The Ideal Companion for Heat Pumps



Canadian Propane Association  
Association canadienne du propane

Propane, an affordable and high-efficiency energy source, is an excellent companion to air-source heat pumps, mitigating the limitations of heat pumps and ensuring reliable and consistent heating.



### Propane Solves Heat Pump Challenges

Affordable, lower-emission propane is the perfect complement to heat pumps, addressing their limitations:

- 1. Reliable Cold Weather Performance:** Propane heating systems operate efficiently in sub-freezing temperatures, providing a reliable heat source when heat pumps struggle.
- 2. Quick Response:** Propane systems heat quickly, making them suitable for rapid temperature recovery in cold snaps.
- 3. Versatility:** Propane can be used for space heating, water heating, and cooking, offering a versatile energy source for homes.
- 4. Long Shelf Life:** Propane has an indefinite shelf life, meaning it can be stored on-site and readily available whenever needed.
- 5. Reduced Environmental Impact:** Modern propane systems are highly efficient and emit fewer greenhouse gases compared to older heating systems, making them a cleaner energy choice.

Lower-emission propane combined with heat pumps provide homeowners with an affordable and efficient heating solution that is both environmentally friendly and dependable, even in the harshest weather conditions.



### Insurance Considerations

Many insurance companies may not provide home insurance for properties solely heated by heat pumps. They typically require a supplemental heating system due to heat pump limitations, especially in extreme cold climates. Lower-emission propane acts as an ideal solution to meet these insurance requirements, ensuring that homeowners can obtain the necessary insurance coverage for their properties.

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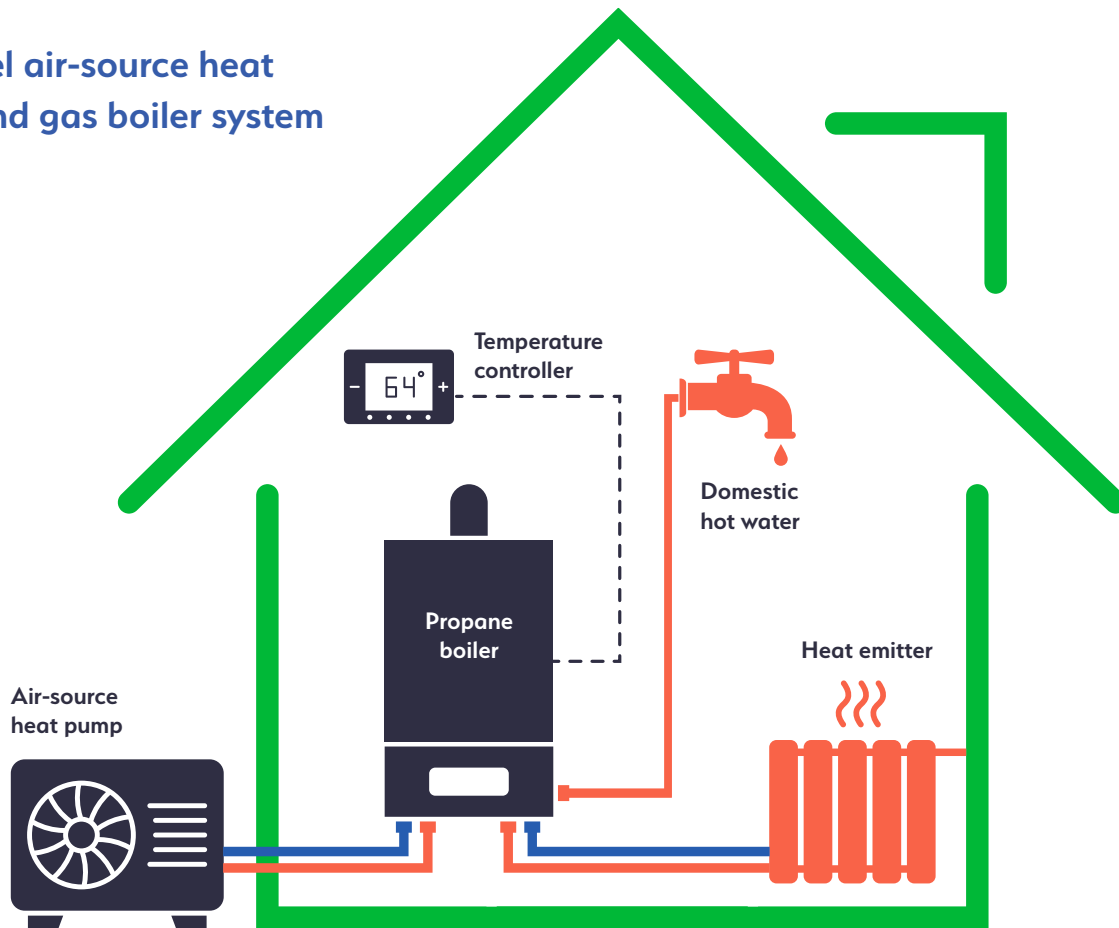
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## Understanding Heat Pumps

A dual fuel system uses a heat pump as the initial heat source and a propane furnace as backup. When temperatures drop too low for the heat pump, the propane furnace automatically takes over.

- 1. Minimum Operating Temperature:** Most air-source heat pumps have a minimum operating temperature, typically between  $-8^{\circ}\text{C}$  (older models) to  $-25^{\circ}\text{C}$  (newer models). Depending on the model, their BTU output drops significantly, necessitating backup heat from an additional source.
- 2. Reduced Efficiency:** As temperatures drop, heat pumps work harder to extract heat from the outside air. This results in reduced efficiency and increased energy consumption.
- 3. Limited Reach:** Mini-split (air source) heat pumps provide both heating and cooling, however, coverage is limited especially for homes that do not have an open layout concept.
- 4. Potential System Overload:** In cold conditions, heat pumps run constantly, making breakdowns more likely and potentially shortening the equipment's lifespan.

## Dual fuel air-source heat pump and gas boiler system



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