



## Propane Energy Pod Solution for New Homes

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### Overview

A truly energy-efficient, carbon-friendly home, with high-performance systems and appliances is no longer something that only die-hard, back-to-the-earth types are searching for.

According to one homeowner survey,\* 87 percent of respondents said they planned to have high-efficiency heating and cooling systems in their next home; 86 percent said those homes would include high-efficiency appliances. In other words, nearly all consumers now place a high value on efficient and eco-friendly home-energy solutions.

### Five in one: The Propane Energy Pod

A home's energy profile should be efficient at all points of use. That's the goal of the Propane Energy Pod: a model for new home construction that treats five applications of propane — space heating, water heating, cooking, clothes drying, and fireplaces — as components of an integrated, whole-home energy package.

**1. Propane for Space Heating.** Propane home-heating systems can be configured as central or zone-based, forced air or radiant. Smaller (non-ducted) space heaters — freestanding or wall-mounted — can include thermostats and blowers, and typically work during an electrical outage.

Propane furnaces can achieve efficiency ratings of 97 percent or greater, and they emit 69 percent fewer greenhouse gas emissions than electric furnaces and 64 percent fewer than electric baseboard heat.

**2. Propane for Water Heating.** Every day, no matter the climate, people need hot water, which can be costly depending on the energy source. The Energy Department estimates approximately 20 percent of a home's energy costs are spent heating water.

A propane high-efficiency tankless water heater can cost up to 60 percent less to operate than standard electric storage models. A propane tankless water heater also prevents the emission of nearly 70,000 pounds of greenhouse gases (GHGs) over its 20-year lifetime when compared with the GHGs produced by a standard storage electric water heater.

**3. Propane for Cooking.** A Propane Education & Research Council survey of 100 professional chefs found that 96 percent of respondents preferred cooking with gas.\*\* But you don't have to be a pro to be a fan of gas, especially propane, which is always available and kinder to the environment than other energy sources.

According to an annual design trends survey done by the National Kitchen & Bath Association, 70 percent of designers had gas cooktops installed in clients' kitchens.

**4. Propane for Clothes Drying.** While propane is well known as an energy source for home heating, water heating, and cooktops, it's sometimes an afterthought when it comes to the laundry room. That's unfortunate, especially when it comes to a propane dryer, which dries clothes faster than an electric model and can even help relax wrinkles and static cling. As a bonus, the moist heat from a propane dryer is gentler on fabrics.

**5. Propane for Fireplaces.** More and more homeowners are finding it's both energy efficient and better for the environment to choose a propane fireplace over a wood-burning unit. Not only is a propane fireplace an excellent secondary source of heat, but it can also be more than 90 percent efficient (as opposed to wood-burning fireplaces, which are about 15 percent efficient).

## The collective benefits of the Propane Energy Pod

By treating these five highly marketable parts of a new home — heating, water heating, cooking, clothes drying, and fireplaces — as a whole, the Propane Energy Pod illustrates the full impact of a propane-enabled home.

- 1. Maximum Benefit.** The Propane Energy Pod brings the collective benefit of highly efficient appliances to a home's most energy-intensive applications. Innovative propane appliances are at the leading edge of operational efficiency, allowing builders to meet demanding performance goals with style and ease.
- 2. Green Profile.** When chosen in place of electricity or oil, the Propane Energy Pod lowers a home's carbon footprint. For example, a propane furnace emits nearly 70 percent fewer greenhouse gas emissions than an electric furnace. Similar reductions exist for all five applications.
- 3. Desirability.** The Propane Energy Pod delivers performance as well as efficiency. Endless hot water from a tankless system, professional-grade cooktops and grills, and switch-on fireplaces contribute to home comfort and perceived value. Propane lets builders offer these amenities anywhere they build.
- 4. Propane Appliance and Systems Rebates.** Federal, state, and local governments — as well as propane dealers and product manufacturers — all recognize the benefits of homes that have energy-efficient systems and appliances. There are many rebates available to encourage builders and homeowners to incorporate propane in a home.

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## Preparing the home for additional propane features

Take simple design and installation steps during construction to prepare a home for additional propane features — such as backup power generation, garage heating, snow melting, and outdoor living — in excess of the five applications contained in the Pod model. Doing so greatly reduces retrofit costs, should the homeowner decide to add those applications in the future.

## Conclusion

The piecemeal approach to the greening of a new home — a propane tankless water heater here, a gas cooktop there — just doesn't cut it anymore. Conserving energy and lessening the carbon footprint of homes is too important to leave to insufficient efforts. A coordinated approach, that takes the whole home into account, is a model that works.

## About the research

Technical information supporting the Propane Energy Pod solution is based in part on energy consumption and carbon emissions calculations made by Newport Partners, LLC, of Davidsonville, Md. Newport Partners performs technical, regulatory, and market research and analysis related to the built environment, with a specific focus on the energy performance of buildings and building systems.

## For more information

For more information on the reliability, efficiency, and performance of propane appliances, contact the Propane Education & Research Council, at 202-452-8975 or [propanesupport@propanecouncil.org](mailto:propanesupport@propanecouncil.org).

\*Next Home Survey (2009), conducted by Better Homes and Gardens.

\*\*Based on a September 2004 survey of 100 members of the Professional Chef's Association, conducted on behalf of PERC.