

GAS KNOWLEDGE IS POWER (LITERALLY)



At Hawai'i Gas, we believe that education is essential to progress. If people are educated about the uses and benefits of gas, they will understand how it can lead to a greener future. That's why we are pleased to provide this information to you and hope it is a useful tool in your classroom.

Why Gas in Hawai'i? Since Hawai'i has no naturally occurring source of natural gas, Hawai'i Gas produces Synthetic Natural Gas (SNG) from a petroleum by-product called naphtha. While SNG is manufactured, its properties are similar to that of natural gas found and used on the Mainland and throughout the world.

THE WORLD OF GAS

Natural Gas – Natural gas is a fossil fuel that comes from deep inside the earth and is used for heating air and water, cooking, and producing electricity. Dinosaurs roamed the earth millions of years ago and when the dinosaurs and plants died, the remains were buried under many layers of rock and soil. Layers of dead plants, animals and other debris built up over time and the pressure and heat from the earth turned them into petroleum (oil) and natural gas. That's why natural gas is called a "fossil fuel."

Natural Gas (CH₄) is primarily methane with ethane, propane and butane plus small amounts of nitrogen and helium. It is gas found in the earth as opposed to manufactured gases.

Utility Gas & Non-Utility Gas – The difference between utility (regulated) and non-utility (non-regulated) gas services is the way the gas is distributed. Utility gas is distributed via an underground transmission system from a gas plant or storage to homes and businesses. Non-utility gas is stored and drawn from tanks or cylinders, which are installed safely near the point of use.

Propane or LPG (Liquefied Petroleum Gas) – Propane (C₃H₈) is a heavy gaseous hydrocarbon found in crude petroleum and natural gas. It is used as fuel and during chemical synthesis of non-utility gas. Propane is a portable energy source that can be stored in an above-ground storage tank or a below-ground storage tank. It provides a convenient means of fueling, heating, cooking and other processes, regardless of where your home is located.

Synthetic Natural Gas (SNG) – SNG is chemically similar to natural gas but is a gas fuel manufactured from hydrocarbon feedstock. The major component in both SNG and natural gas is methane and they have similar burning characteristics.

British Thermal Unit (BTU) – BTU is the amount of heat energy needed to raise the temperature of one pound of water by one degree Fahrenheit. This is the standard measurement used to state the amount of energy that a fuel has as well as the amount of output of any heat generated device.

FUN FACTS ABOUT GAS



Natural gas was formed deep under the earth about 100 million years ago.



Natural gas is colorless and odorless. Utility companies add the smell of rotten eggs to help make gas leaks easier to notice.



When natural gas is cooled to 260 degrees below zero, it changes from a gas into a liquid.



Natural gas is lighter than air. When natural gas escapes, it rises quickly into the atmosphere and produces about 1,000 BTU per cubic foot.



Propane is heavier than air. If propane is released into the air, it will "pool" on the ground until it is blown away. It produces about 2,500 BTU per cubic foot.



HAWAII GAS
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Why Chefs Love Gas

The majority of chefs prefer to use gas cooktops. Why? The reasons include: quick heat-up times, better temperature control, visual heat, a huge range of possible cooking methods, and greater variety of pan choice.



The Flexible Flame of Gas

Gas can easily be adjusted by turning the burner control knob. This makes it easy for chefs to choose just the right flame for the pan size and the kind of food they are cooking. Below is an overview of three types of flames and what type of cooking they are good for.

High flame: Used to bring large quantities to a boil quickly. Often used for a short time under big pans in order to start food cooking rapidly.

Medium flame: Used for browning meats evenly without burning and with little spattering. May also be used to keep large quantities of food boiling.

Low flame: Used to melt and warm foods and cook small quantities of food. Also used to keep cooked foods warm until serving time.

Reasons Why Gas Is So Great



Gas is the most efficient source of heat energy and a cleaner-burning fossil fuel—making it the perfect bridge to Hawaii's clean energy future.



Gas is an efficient fuel. It takes less oil to make gas than it does to make electricity for cooking, heating water and drying clothes.



Gas is naturally nontoxic, colorless, odorless and flammable.



Gas energy is one of the cleanest burning fossil fuels around. By using gas energy for your appliances instead of electricity, you can reduce your home greenhouse gas emissions. Using gas energy means cleaner air and a smaller carbon footprint.



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If you'd like more information on gas, visit hawaiigas.com

QUICK TIPS FOR THE KITCHEN

A gas flame should never extend beyond the bottom of the pan because this would waste energy.

Many ranges also have “keep boiling” (simmer) and “keep warm” click positions as convenient guides for these common burner settings. Because a gas burner is also “instant off” there is no need to move a pan to stop a boil over, just turn off the flame. As a result there is no retained heat to overcook foods.

Cooking Safety

Cooking fires are the primary cause of home fires. These four safety tips will help prevent accidents so you can enjoy your time in the kitchen.

1. Always turn pan handles to the side or back of the range, not out into the room where they can easily be hit, possibly knocking the pan off the range.
2. In the event of a grease fire, do not try to move the pan. Turn off the burner and, if possible, slide a cover on the pan to snuff out the fire. Sprinkle the area heavily with baking soda to douse the flame. Do not use water on a grease fire. (Water will spread the flames.)
3. If you smell the odor of gas, check to be sure all range controls are turned off. If they are off and you still smell gas, call Hawai'i Gas. Do not turn on electrical light switches or appliances.
4. If the pilot light goes out, follow the manufacturer's instructions and allow time for accumulated gas to escape before relighting. Always light a match first and hold it at the point of lighting before you turn on the gas. If problems continue, call Hawai'i Gas.

Grilling Safety

Position the grill in a safe location. Keep your grill outdoors and at least five feet from the house on a level surface that is clear of outdoor furniture, out from under the eaves of the house and overhead branches or other potential fire hazards.

Check for leaks. Use a soapy water solution to check connections for leaks. Expanding bubbles indicate a leak. Follow this procedure every time you replace your cylinder.

Cleaning. Periodically remove grease and fat buildup in trays below the grill so it cannot be ignited.

Follow proper lighting procedures. Follow the manufacturer's lighting instructions. Always keep the lid open and don't lean over the grill while lighting.

Follow proper relighting procedures. If your flame goes out, turn off the gas and refer to your owner's manual. At a minimum, keep the lid open and wait at least 15 minutes before relighting.

Be present. When lit, stay close and never leave your grill unattended.