

naturalLiving

Spring/Summer 2015

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Fracking

This drilling process has been a game-changer for the natural gas industry, consumers and the economy.

By Stephanie Anderson Forest

Chris McGill is vice president of Policy Analysis at the American Gas Association (AGA), which represents more than 200 local energy companies that deliver clean natural gas throughout the United States. Here, McGill discusses the benefits of hydraulic fracturing, or fracking – a drilling process that uses pressurized sand, water and chemicals to extract natural gas and oil from underground shale formations.

Natural Living (NL): What are the benefits of fracking?

McGill: Without the technology [fracking], producing economic quantities of natural gas and oil from less traditional hydrocarbon reservoirs like shale would not be possible. The recent advances in hydraulic fracturing technology have unlocked vast areas of previously inaccessible energy resources in the United States, allowing producers to more efficiently and economically extract oil and natural gas that can be delivered to millions of American homes and businesses at what have proven to be affordable prices. The abundance of energy resources in the United States today has been made possible by employing drilling and completion technologies that have, in many ways, helped revitalize America's economy, lowered energy prices for consumers and increased American energy security.

NL: How has fracking contributed to growth of the North American natural gas industry?

McGill: The numbers tell the story. As recently as 2007, domestic natural gas production averaged less than 50 billion cubic feet per day. Today, domestic production runs at more than 70 billion cubic feet per day, and virtually all of that production growth has come from shale reservoirs requiring hydraulic fracturing and horizontal drilling in order to make the recovery of natural gas cost effective.

In fact, the United States is the largest producer of natural gas in the world. As such, hydraulic fracturing has changed the game for the natural gas industry, consumers and the American economy. According to the U.S. Energy Information Administration and the Potential Gas Committee, the U.S. estimated supply of natural gas stood at 2,692 Tcf at year-end 2012 – enough to support America's energy needs for more than 100 years.



Chris McGill, vice president of Policy Analysis at the American Gas Association

PHOTO COURTESY OF AMERICAN GAS ASSOCIATION

NL: In general, what kind of economic impact can fracking bring to a community or state?

McGill: Hydraulic fracturing activity can support numerous new jobs and significant economic activity in communities. It is expected [according to an IHS Global Insight study] that by 2035 shale gas extraction will account for more than 2.4 million jobs in the United States. This figure includes jobs directly related to producing, transporting and distributing natural gas; jobs indirectly created through industries such as agriculture and manufacturing that support and supply goods and services to the natural gas industry; and induced jobs that are supported when natural gas employees introduce their income back into the economy. ■

Enchanted Evenings

Natural gas transforms backyards into personal resorts.

By Tonya McMurray

Homeowners have long enjoyed the lure of a backyard picnic on a warm summer night. But now consumers are looking at their yards as an extension of their homes. Designers now often talk about “outdoor rooms,” “outdoor living spaces” or “outdoor kitchens” to emphasize the importance many homeowners now place on their patios and yards.

The National Association of Home Builders (NAHB) notes that outdoor living spaces are one of the top five trends in new homes. And those outdoor living spaces have evolved beyond the simple patio grill and lawn furniture to include kitchen setups and eating areas; fireplaces and fire pits; patio heaters; gas lights and tiki torches; and pools. A fully equipped outdoor living space not only expands useable home space but also increases home resale values, according to the NAHB.

For many homeowners, the backyard becomes an entertainment venue or a place for family gatherings. Outdoor living spaces offer an alternative to televisions and electronics, giving families a place to talk and interact and offering an ideal mingling spot for both formal and casual social events.

Many consumers find that natural gas is the ideal fuel for transforming a backyard into a personal resort. Along with comfort and convenience, natural gas is a versatile fuel source that can provide the energy needed for outdoor heating, cooking and lighting.

Natural gas is both affordable and environmentally friendly. Bottled

propane can cost significantly more to supply outdoor appliances than a direct hook-up to natural gas. And, bottled propane emits around 15 percent more carbon dioxide than natural gas when burned on a grill.

OUTDOOR COOKING

Natural gas grills are often the centerpiece of outdoor living spaces. Grills can be small and freestanding or large, permanent structures with almost all the features of an indoor range.

Natural gas grills offer more precise temperature controls than charcoal grills, allowing for more consistent cooking results, and they extinguish immediately once turned off.

Gas grills ignite quickly without the long warm-up time required for charcoal grills, and the fuel supply is always available. Unlike propane grills, there’s no chance of a tank being low or running out during a cookout. Because natural gas grills connect directly to your home’s existing natural gas line, the fuel is always available and ready to go.

Natural gas cookouts cost about one-sixth the cost of cooking with charcoal and about one-third the cost of a propane cookout. And in the hottest days of summer, outdoor cooking can reduce home cooling costs by keeping the kitchen cooler.

For many homeowners, the grill becomes the centerpiece of an outdoor kitchen and a focal point for entertaining.

LIGHTING UP THE NIGHT

The soft glow of natural gas lighting not only illuminates the night, but can help set the mood for entertaining guests or enjoying family. Plus, the soft glow doesn’t attract bugs like electric lighting.

Natural gas lighting fixtures can be mounted on a post, wall or overhang. Tiki torches offer a more casual lighting option.

Whether enclosed or with open flames, outdoor lighting fueled by natural gas is a reliable light source, even during a power outage.

Because natural gas lighting is not impacted by power outages, gas lighting can provide additional security during disruptions due to the weather.

STAYING WARM

As homeowners expand their living space outdoors, patio heaters offer a way to extend the outdoor season from the spring into the fall months. And, they provide warmth on cooler summer nights.

Natural gas patio heaters can be permanently installed in-ground, deck mounted or hung from a roofline. Other heaters are freestanding and portable to allow for greater flexibility in use.



PHOTO COURTESY OF OUTDOOR LIVING INC.



Outdoor fireplaces offer ambiance and warmth for outdoor living spaces.

transferring heat to the water, which is then returned to the pool or hot tub. The process heats pool and hot tub water twice as fast as electricity.

Unlike electric heat pumps or solar heaters, gas pool heaters can maintain a consistent temperature regardless of outside weather, so your pool or hot tub will always be just the right temperature.

THE NUTS AND BOLTS

Many natural gas appliances – such as grills, lights, patio heaters or fire pits – offer the option of permanent installation or portability. When permanently installed, the appliances will be connected directly to an existing gas line.

Some homeowners turn to outdoor fireplaces to provide a heating source that offers both warmth and ambiance. Just as indoor fireplaces become part of a home's décor, an outdoor fireplace offers a focal point for outdoor living spaces. Outdoor fireplaces can be surrounded by granite, tile, stone or other material to fit almost any style home or landscaping.

Fire pits are one of the more popular outdoor heating options. A 2014 landscaping trends survey by home remodeling and design website Houzz found that nearly half of homeowners planning a landscaping project will add a fire pit to their outdoor living space.

Fire pits are the modern equivalent of the old-fashioned campfire. Offering a focal point for outdoor gatherings, they are an ideal place to gather for casual conversation, roasting marshmallows or just enjoying the outdoors. Some fire pits even feature grills for cooking.

Gas fire pits and fireplaces offer reliable warmth and ambiance without the hassle of chopping and carrying wood. There's no need to clean out ashes after enjoying an evening fire. And, because natural gas burns clean, there are no sparks or flying embers to worry about.

IN THE WATER

Natural gas is an optimal fuel for pools and hot tubs, offering a quick and consistent heating source.

Gas pool heaters work much like a boiler, drawing pool water through a filter into the heater. The gas burns in the combustion chamber,

If an appliance is portable, gas convenience outlets can be connected to the home's gas supply and installed to allow plug and play capability for various gas appliances. Grills, patio heaters, gas lights or other gas appliances then plug into the outlet much like electric appliances plug into electrical outlets.

Gas outlets offer flexibility in the placement of outdoor appliances. The outlets typically provide an automatic shut-off valve and will require that the manual valve be shut off before the appliance is connected or disconnected.

It is important for homeowners to work with licensed contractors and plumbers to ensure that gas lines are adequate for outdoor living needs and that everything is installed safely and to code.

Many retailers will offer installation by a licensed contractor with the purchase of a natural gas appliance. If a retailer does not offer installation assistance, homeowners can find contractors in their area through the Plumbing-Heating-Cooling-Contractors Association's contractor locator at www.ct-phcc.com.

A PERSONAL RESORT

As consumers look to expand their living space and turn yards and patios into outdoor living spaces, natural gas offers the versatility to fuel outdoor appliances from grills to gas lights to fire pits to patio heaters – making it the perfect fuel to bring comfort, convenience and ambiance to all their outdoor gatherings. ■

Fired Up

Natural gas offers clean and efficient energy.

By Tonya McMurray

Imagine a clean, reliable and efficient energy source that can provide heat and hot water for your home at a stable and competitive price. In addition, this fuel can reduce dependence on foreign oil and create jobs in North America.

Too good to be true? Not if that energy source is natural gas, a versatile energy workhorse.

Over the last decade, discoveries of large shale gas formations thousands of feet below the earth's surface have vastly increased the amount of natural gas available in North America. New technologies have made it more cost effective to bring natural gas to market.

The discovery of new natural gas resources and more efficient drilling technologies means that North America has enough resources to meet current demand for at least 100 years. And the Energy Information Administration (EIA) predicts natural gas prices will remain stable for at least the next decade.

Almost all natural gas consumed in the North America is produced in North America. Because so much of the United States' natural gas comes from domestic production, it is a reliable fuel source with stable pricing that is not impacted by political unrest or international alliances.

That's all good news for consumers because natural gas is a clean fuel that is cheaper and more efficient than other major home energy sources.

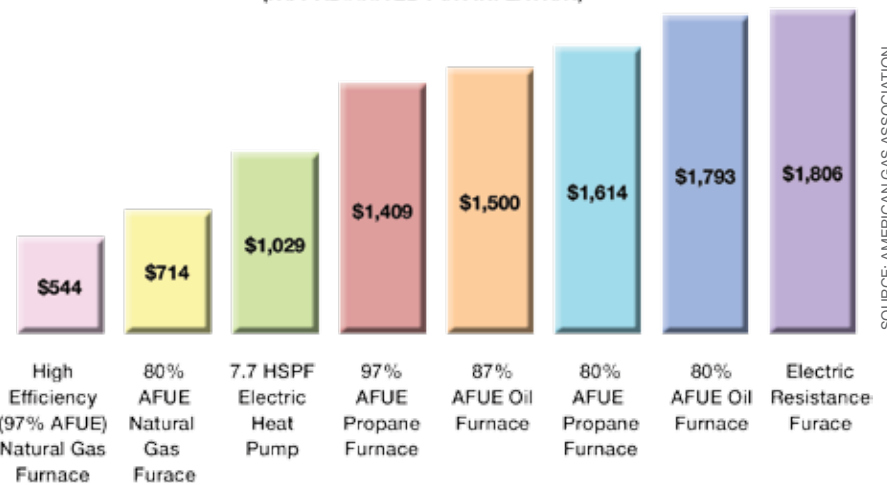
According to the American Gas Association, homes that use natural gas appliances for heating, hot water, cooking and clothes drying spend an average of nearly \$700 less per year than homes using electric appliances. During the past two winter heating seasons, both electricity and heating oil have been roughly three times the costs of natural gas, according to the EIA.

Not only does natural gas cost less than other fuel sources, but it is also more efficient. About 30 percent of the energy used to generate electricity actually reaches your home; the other 70 percent is lost in generation, transmission and distribution. On the other hand, natural gas loses only 10 percent of its energy in the distribution process; so 90 percent of natural gas that enters the pipeline reaches your home.

Natural gas is the cleanest of all fossil fuels, producing half as much carbon dioxide as electricity generated by coal, according to the Environmental Protection Agency (EPA). Natural gas also produces less than

2014 ESTIMATED SPACE HEATING ANNUAL COSTS BY APPLIANCE TYPE

(NOT ADJUSTED FOR INFLATION)



SOURCE: AMERICAN GAS ASSOCIATION

Natural gas offers lower cost and better efficiency for home heating and other energy needs.

a third as much nitrogen oxides and 1 percent as much sulfur oxides as electricity.

Because of that, natural gas is less of a factor in environmental hazards such as smog (composed primarily of carbon monoxide and nitrogen oxides), acid rain (formed from sulfur dioxide and nitrogen oxides), and climate change.

Natural gas is primarily methane, which has a higher energy content compared to other fuels, and burns cleaner than oil and coal, according to the EPA. The combustion of natural gas releases almost no sulfur dioxide and small quantities of nitrogen oxides, virtually no ash or particulate matter and lower levels of carbon dioxide, carbon monoxide and other reactive hydrocarbons.

For many consumers, choosing natural gas over other energy sources is, well, natural: Natural gas appliances cost less to operate than electric appliances. Natural gas dryers dry clothes quicker and are less costly than electric dryers. Natural gas hot water heaters typically heat water twice as fast as electric heaters and at about half the cost. Natural gas furnaces last longer than electric heat pumps and deliver heat that is up to 25 degrees warmer.

All of that efficiency frees up both time and money so consumers can devote their attention to family, friends and other financial goals. ■

Gas Water Heaters – Hot Choice for Energy Savings

New EPA standards make gas water heaters even more efficient, offering additional energy savings.

By Kristy Alpert

Betty Jo Brown remembers natural gas keeping her childhood home cozy and warm through the long and chilly winters in Colorado. Upon moving to the snowy hills of Utah after 26 years of living with an electric water heater in Texas, Brown was thrilled to learn her new house was equipped with a natural gas water heater.

“I realized how much I’d missed natural gas over the years as soon as I moved into the new house,” says Brown.

Like most natural gas users, Brown reaped the benefits of her natural gas water heater right away. Not only do these types of heaters supply more hot water than electric models, but homeowners can do more things at once, like take multiple showers, do laundry, or wash dishes.

Natural gas water heaters offer more hot water in the first hour of use than electric models, and they also boast a faster recovery time. In addition, the cost to operate one gas water heater is about half that of the competing electric model, leaving extra money in your wallet to spend on other things.

HOT NEWS

Not since 2004 has the Department of Energy (DOE) issued a mandate for efficiency. But in April 2015, the DOE increased efficiency standards

for electric and natural gas water heaters greater than 55 gallons in size that could have gas hot water heater owners buzzing with new energy savings.

“Large-size electric and gas water heaters are now required to be more efficient, as are instantaneous [tankless] water heaters,” explains Abigail Daken, ENERGY STAR water heater product manager for the Environmental Protection Agency. She notes that large electric water heaters won’t even be available unless it’s a heat pump water heater.

“The stringency of the standards is such that for large residential water heaters, only a certain advanced technology will meet the requirements [i.e., heat pumps],” Daken says.

Heat pump water heaters cost far more than previous standard models, require large unconditioned spaces around the water heater and can have slower recovery times. The electric heat pump water heater does save money over a conventional electric tank model, but you can save the same amount of money by installing a gas water heater. Plus, a 40-gallon gas tank water heater produces as much hot water as a 55- to 60-gallon electric model with a recovery speed that is twice as fast, even once the shower has turned cold.

For more information on what the new EPA efficiency standard could mean for you and your water-heating needs, visit www.energy.gov or www.epa.gov. For information on Canadian standards, visit <http://www.nrcan.gc.ca/energy/products/12509>. ■



Betty Jo and Mitch Brown enjoy the benefits of a gas hot water heater in their home in the snowy hills of Utah.

PHOTO COURTESY OF BETTY JO BROWN



Natural Gas = Versatility

This multipurpose, abundant fuel source is capable of meeting the energy needs of North American consumers for decades.

By Tonya McMurray

You wake up to a long, hot shower before making breakfast and heading out the door to drive to work. When you come home, you pop some clothes in the dryer, head outside to enjoy a quick dip in the pool, fix dinner on the grill, and then sit around the fire pit with your family.

All of these activities can be fueled by natural gas.

From cozy heat to precision cooking to fuel-efficient cars, natural gas is a versatile fuel source capable of meeting the energy needs of North American consumers for the next century.

Natural gas meets 25 percent of the energy needs of United States and 30 percent of Canada's fuel requirements, and it is used daily by 79 million customers throughout North America, according to the American Gas Association (AGA) and Canadian Gas Association (CGA).

Christina Nyquist of AGA notes that natural gas is the dominant source of energy for heat, hot water and cooking. But natural gas is more than just an efficient heating and cooking fuel. Because of its versatility, this fuel gas can also power almost any energy need, including outdoor lighting, clothes dryers, pool heaters, standby generators, and even vehicles.

In fact, many consumers would be surprised to learn that natural gas is often used to create the electricity that comes into their homes. Indeed, generation of electric power is one of the fastest growing uses of natural gas as older coal plants are retired and replaced with new natural gas-fired power plants across the electric grid.

In 2003, natural gas surpassed coal as the energy source with the largest installed electricity generation capacity in the U. S., according to the Energy Information Administration (EIA). And a recent report by the American Gas Foundation and IHS CERA projects that electric power generation will be the largest growth in future natural gas demand, nearly doubling by 2035.

"This is, in part, because in addition to its domestic abundance, natural gas is a cleaner and more affordable energy source, producing nearly half the carbon emissions of other energy sources," Nyquist explains.

And those same attributes make natural gas a versatile and efficient fuel source for a variety of household energy needs. In fact, the energy efficiency and affordability of natural gas is best realized when natural gas is used directly for home energy needs.

A RELIABLE, ABUNDANT FUEL

Over the last decade, discoveries of deeply buried shale gas reserves, combined with new technologies such as horizontal drilling and hydraulic fracturing (often referred to as fracking), have increased the natural gas supply throughout the U.S. and Canada.

Fracking has allowed oil producers to access shale reserves and bring gas to market at an affordable price, greatly increasing the supply of natural gas available throughout North America. And that increased supply has resulted in lower prices for consumers.

The EIA's 2014 Annual Energy Outlook notes that gas supplies will continue to be abundant and affordable for decades. The EIA energy outlook projects a 56 percent increase in total natural gas production by 2040 with prices remaining stable for more than a decade.

Almost all natural gas used in North America is produced in North America – as much as 97 percent by most estimates. With gas pipelines and storage controlled domestically, the U.S. and Canada have greater energy independence and consumers have the assurance that gas will be available when they need it. There is no disruption based on international conflict or political disruptions.

Because natural gas pipelines run underground, they are less susceptible to power outages or weather-related disruptions, making natural gas an ideal fuel source for back-up generators, water heating and cooking.

Technological advances in the last several years have also brought greater efficiency in production, delivery and use of natural gas. This has resulted in a more efficient and affordable gas supply, allowing natural gas customers to save money and make wiser use of energy in their homes.

NOW WE'RE COOKING

Most professional chefs insist on cooking with natural gas because it offers even, consistent heat and exceptional temperature control. Natural gas ranges, cooktops and ovens offer that same controllable heat with the turn of a dial.

Some gas ranges and cooktops now come with special high-Btu burners for rapid heat and low-Btu burners for simmering, increasing cooking control and efficiency.





Cooking with natural gas costs about half as much as cooking with electricity, and many new models of natural gas ranges, stoves, ovens and grills use an electronic spark ignition rather than a continuously burning pilot light, saving as much as an additional 30 percent on energy costs.

Natural gas grills – both indoor and outdoor – offer the same precise temperature control for consistent cooking results. Gas grills ignite quickly and cost about one-sixth the amount of cooking with charcoal and one-third the cost of cooking on a propane grill.

IN HOT WATER

According to ENERGY STAR, water heaters are typically the third largest energy expense in your home, accounting for 14 percent of utility bills and exceeded only by heating and cooling costs.

Water heaters running on natural gas cost up to 50 percent less to operate, and typically heat water twice as fast as electric water heaters, offering significant savings. In fact, the AGA estimates that homeowners can enjoy two bathtubs full of water heated by natural gas for the same cost of a single tub of water heated with electricity.

Natural gas tank water heaters have higher first hour ratings than comparably sized electric water heaters, so consumers using natural gas can get by with smaller heaters.

First hour ratings refer to the amount of hot water the unit will produce before the water is considered cold and needs to be recharged. A 40-gallon gas water heater has a typical first hour rating of around 70 gallons while a similar 40-gallon electric water heater has a first hour rating of only 54 gallons. With a gas water heater producing approximately

30 percent more hot water in the first hour than its electric counterpart, homeowners would need a 55- to 60-gallon electric tank to produce the same amount of hot water as a 40-gallon gas tank unit.

In April 2015, the Department of Energy increased efficiency standards for large electric and natural gas water heaters. Standard efficiency electric water heaters that are greater than 55 gallons in size will no longer be available. The new efficiency standard forces any electric tank water heater over 55 gallons in size to be a heat pump water heater which is more efficient, but also costs significantly more than the standard model and has special installation requirements. This will significantly impact any homeowner with an electric water heater greater than 55 gallons in size when it comes time for replacement.

Consumers can choose from several types of hot water heaters, including standard tank or tankless style water heaters or more energy-efficient, condensing tank or tankless hot water heaters.

Combination water and space heaters are compact systems requiring only a single unit to heat both water and the various residential spaces.

HEATING UP

Natural gas can run everything from fireplaces, stoves and space heaters to outdoor patio heaters, fireplaces and fire pits. Natural gas heat feels warmer than heat produced by electricity, so gas heating just feels better.

Natural gas heat is delivered from forced-air systems at temperatures ranging from 120 to 140 degrees Fahrenheit (49 to 60 degrees Celsius). Heat from an electric pump is typically delivered at 85 to 95 degrees Fahrenheit (29 to 35 degrees Celsius). While electric heat is warm enough to heat a room, it is cooler than the average human skin temperature, so a room doesn't feel as warm as one heated by natural gas. In addition, since the air temperature is lower from the heat pump, electric heaters must increase the fan speed to supply more of this lower temperature air, which, in turn, makes a home feel drafty.

Natural gas fireplaces feature realistic gas logs with burning flames. But unlike wood fireplaces, gas fireplaces burn more cleanly, so there is no ash build-up, no creosote in chimneys, and no sparks or flying embers escaping the fireplace.

Some fireplaces are mostly decorative, offering radiant heat to the room but not providing a primary heat source. Others are classified as space heaters and include blowers or vents that increase the amount of heat available to provide primary heat to the room.

Some natural gas fireplaces require venting to the outside, but others do not, so homeowners have more flexibility in where the fireplace can be located. (Check local codes before installing a vent-free hearth product). Because no masonry work is required for gas fireplaces, they are as economical to install as they are to operate.

Natural gas is a popular heating fuel because of its energy efficiency and relatively low cost compared to other fuels. Natural gas heating systems include gas boilers, forced-air central heating systems, gas stoves,

space heaters, and radiant floor heating systems that circulate hot water through a series of pipes embedded under the floor.

Outdoors, natural gas can be used with both freestanding and permanently fixed patio heaters to take the chill off a cool night.

OTHER HOUSEHOLD USES

While heating and cooking are the most commonly recognized uses for natural gas within the home, natural gas is an efficient fuel source for other household uses, including:

- Clothes Dryers: Gas dryers tend to dry clothes quicker than electric dryers and save money to boot. Plus, natural gas dryers produce less static electricity and fewer wrinkles than electric dryers.
- Pools and Hot Tubs: Pools and hot tubs heated with natural gas heat up quickly and maintain a consistent temperature regardless of outside weather.



- Outdoor Lighting: Natural gas lights produce a soft light without a harsh glare, and they do not attract bugs like electric lights. Outdoor lighting can range from modest to elegant or even more casual tiki torches.
- Generators: Natural gas services run underground, making them less susceptible to power outages or disruptions due to the weather. The dependability of natural gas makes it the ideal fuel source for whole home generators.

LET IT SNOW

When you think of snow removal, you probably think of shovels, plows and sand or salt. But natural gas offers effective and environmentally friendly snow melting systems that improve safety by keeping walkways and other surfaces free of ice and snow, dissolving them as soon as they start to form.

Natural gas snow melting systems consist of a series of plastic (PEX) tubing installed beneath brick, asphalt or concrete surfaces. Traditional boilers or water heaters heat a mixture of water and glycol then circulate that hot fluid through the tubing to keep driveways, patios and sidewalks clear of ice and snow.

With natural gas snow melting systems, there is no need for shoveling or snow removal costs. Snow removal systems are more environmentally friendly because they eliminate the need for salt or other snow melting chemicals.

A DRIVING FORCE

Consumers looking for fuel efficiency and environmentally friendly transportation are turning to natural gas vehicles. AGA's Nyquist says there are about 150,000 natural gas vehicles on U.S. roads today.

Honda has produced a natural gas version of its popular Civic model since 1998. The car has been recognized by the Environmental Protection Agency as one of the cleanest internal combustion engines on the market today.

A FUEL FOR ALL USES

From traditional uses such as heating, water heating, cooking and clothes dryers to lesser used applications such as pool heaters, gas lighting and snow melt, natural gas is a versatile and efficient energy source.

"Natural gas is a safe, reliable, affordable and extraordinarily efficient energy source, meaning consumers can achieve significant savings for their wallets and the environment," says Nyquist.

Households that use natural gas appliances produce about 37 percent fewer greenhouse gas emissions than homes with electric appliances, according to the AGA. And, homes with natural gas appliances spend an average of nearly \$700 less on energy than homes that rely on other fuel sources.

With that extra money, consumers can enjoy a vacation, make needed home improvements, or buy that big ticket item they've been putting off – all while enjoying the benefits of having natural gas fuel their energy needs. ■



Culinary enthusiasts Tyler and Stacie Williams in their recently remodeled kitchen, featuring natural gas appliances.

PHOTO COURTESY OF TYLER AND STACIE WILLIAMS

Create the Kitchen of Your Dreams with Natural Gas

For most chefs – home and professional, alike – the decision to use natural gas in the kitchen is, of course, a natural one.

By Kristy Alpert

When culinary enthusiasts Tyler and Stacie Williams of Portland, Oregon bought their first home two-and-a-half years ago, the couple already had plans to remodel certain rooms of the house. But the need for immediate repairs in the kitchen inspired them to add a gas line so they could finally purchase the natural gas range Stacie had been dreaming about.

“Cooking is about the only form of art that I can claim to be good at,” Stacie jokes about why she had her heart set on natural gas cooking appliances. “My limited experience using other people’s gas ranges

helped me realize that it is much easier to control the temperature. Plus, a gas range has a nice look and is good for resale value. But mostly, we love to be in the kitchen. So having a well-designed space that combined design and function was important.”

The couple finished the renovations earlier this year, and they are already savoring the sweet benefits of their natural gas range. “Natural gas has absolutely reduced cooking time, which has freed me up to spend more time with my dinner guests,” Stacie notes, adding that a recent dinner took about 15 minutes less cooking time.

“It does not take long to heat the oven or boil a pot of water,” adds Stacie. “I don’t have to pre-heat anything the way I used to, and I’d like to think that we’re also saving energy by working more efficiently. Truth be told, I’m still adjusting to not having to wait around for my oven to pre-heat or a pot to heat!”

FOODIE FRIENDLY

For enthusiastic home chefs, like the Williams, the decision to use natural gas in the kitchen is, of course, a natural one. A New Homeowner Energy Preference Study conducted by Woodland O’Brien & Scott found that 75 percent of new homeowners prefer natural gas for cooking, and only 20 percent of those surveyed are content with cooking on an electric stove. And, it’s not just the heat control that makes natural gas such an attractive option. Cooking with natural gas costs about half as much as cooking with electricity, and many new models of natural gas ranges, stoves, ovens and grills use an electronic spark ignition rather than a continuously burning pilot light, saving as much as 30 percent of the gas cost compared to older models with standing pilot lights.

Professional chefs also rave about the intricate heat control natural gas offers, making it a great option for home cooks looking to create restaurant quality menus in their kitchen.

In a survey by Fryett Consulting, 98 percent of professional chefs said they preferred cooking with natural gas over electric. To those working in the food industry, it’s common knowledge that cooking with gas appliances is not only a more efficient fuel for crafting delicious works of art, but it oftentimes delivers better results.

The Professional Chef’s association recently asked members about the primary benefits of cooking with natural gas, and their responses included:

- Greater control over temperature; and
- Faster cook times and immediate heat.

“I’ve been in this business for more than 20 years, and I don’t know of any professional chefs that prefer using electric,” said Executive Chef Brian Mattingly in a recent press release publishing results of the Professional Chefs Association survey.

“We [taught] our more than 2,400 students to use gas ranges because they are easier to control, quicker to heat up, simpler to clean, and less expensive to maintain,” added Mattingly of the budding chefs at the California Culinary Academy, where he was executive chef at the time.

“When deciding between gas and electric cooking appliances, there really is no question. Gas is always the better alternative,” said Mattingly, now executive chef for a multinational company, where he leverages his gas-fired corporate kitchen to create a daily changing menu for more than 630 employees.

Pros cite five main reasons they look to gas in their kitchens at work and at home:

- Immediate heating speed for when time is of the essence;
- Temperature control for complicated dishes that require a responsive cooktop;



PHOTO COURTESY OF TYLER AND STACIE WILLIAMS



When they decided to remodel their kitchen, Tyler and Stacie Williams of Portland, Oregon opted for the Bosch 800 series natural gas range.

LESS TIME IN THE KITCHEN

Although gas is the choice for both professional and home chefs, its user-friendly nature lends itself to any type of kitchen environment, whether you're a family of four rushing to get a healthy dinner on the table before the next soccer practice or a couple that wants to spend more time entertaining and less time flambéing. The beauty of natural gas is that, although it is synonymous with precision cooking, it's also the economical choice to save both time and money in the kitchen, allowing more time to spend with family and friends.

Time is a valuable commodity for professional chefs and families alike. Natural gas is

an efficient, versatile fuel that is synonymous with precision cooking. It is also the economical choice to save time and money in the kitchen for a variety of reasons, including:

- Fast and easy clean up. Sealed burners on gas ranges eliminate the space between the burners and the cooktop.
- Improved time. Baking with a gas convection oven is quicker due to even air circulation that transfers heat faster to the food baking in the oven.
- Instant-on heat. Start cooking your meal as soon as you're ready, and turn off just as instantly so you can leave the kitchen with no fear of little hands touching a still-hot stovetop.

Natural gas allows you to ignite your culinary passions and cook like a pro without sacrificing your time or style. Today's natural gas appliances are sleek and energy-efficient, but, more importantly, they free you up so you can enjoy the things that matter most in life – like eating a good meal with the ones you love. ■

- Visual heat control so the flames can light the path to a perfect dish;
- Multiple cooking method options that allow a chef to flambé or roast on the same flame; and
- Unlimited pan options so chefs don't have to limit themselves to the flat-bottomed pans required on electric and induction cooktops.

And now, some gas ranges and cooktops even come with special high-Btu burners for rapid heat and low-Btu burners for simmering; further increasing cooking control and efficiency.

While some of these reasons may seem obvious to anyone who has ever sautéed an onion on a gas range, the pros have a few other less evident explanations for preferring natural gas to get the job done perfectly. One chef noted how he loves the way the pots stay in place on the sturdy cooktop grates as opposed to the slick surfaces of an electric cooktop.

Driving with Natural Gas

Efficient and environmentally friendly, natural gas will fuel consumer transportation needs for years to come.

By Stephanie Anderson Forest



Chevrolet's availability of a dual-fuel version of its 2015 Silverado 2500HD truck gives customers another choice for a cleaner-burning, compressed natural gas-powered vehicle – and savings at the pump.

PHOTO COURTESY OF CHEVROLET

Thanks to new drilling technologies that have significantly increased the supply of natural gas, this versatile fuel will help power the energy needs of North America for the next century. That's great news for consumers looking for fuel efficient and environmentally friendly cars and trucks.

While more commonly used in the commercial market (fleets, buses, taxis, etc.), natural gas vehicles (NGVs) are quietly gaining ground among consumers for a number of reasons. "Natural gas is an abundant, clean-burning fuel that helps our country wean itself from foreign oil, has significantly reduced emissions, and provides fuel savings at the pump," says Matthew Godlewski, president at Natural Gas Vehicles for America (NGVAmerica). "There are a number of options for consumers when it comes to choosing a natural gas vehicle."

Honda, for example, has offered a natural gas version of its popular Civic model for the past 17 years. And, earlier this year, General Motors introduced its dual fuel Chevy Impala. Other consumer models that feature gas-powered versions include the Chevrolet Silverado 2500, Ford F-250 and Dodge Ram 2500.

Today, the United States has about 150,000 NGVs on the road.

And with 1,525 compressed natural gas (CNG) stations across the country, the industry continues to make significant strides in growing the natural gas fueling network. Since 2009, NGVAmerica says there has been a 98 percent increase in the number of CNG stations in the U.S.

"Many of today's stations are being built with the consumer in mind," says Godlewski. "This means user-friendly dispensers, fast fill rates, and co-locating stations at convenience stores and truck stops to provide amenities consumers have come to expect and enjoy. Home refueling is another great option for those that do not have convenient access to a public station."

Meanwhile, according to a January 2015 report by think-tank Navigant Research, North American sales of light duty NGVs are expected to grow from 31,241 annually in 2014 to 56,251 in 2024. Navigant also estimates the number of NGV refueling stations in both the United States and Canada will grow from 1,734 last year to 2,827 in 2024.

Given the versatility and abundance of low-priced, clean-burning natural gas, it's easy to see how it will continue to fuel consumer transportation needs for years to come. ■

Tri-Tip Roast with Grilled Avocados

INGREDIENTS

1 cup California red oak or oak wood chips
 1 tablespoon kosher salt
 1 tablespoon granulated garlic
 1 teaspoon onion powder
 1 teaspoon ground black pepper
 1 teaspoon dried parsley flakes
 1 pound boneless beef tri-tip roast (bottom sirloin roast)

Red Wine Vinegar Baste

3 tablespoons olive oil
 2 tablespoons lemon juice
 3 firm medium avocados, halved, seeded

DIRECTIONS

- 1 In a large bowl, soak wood chips in enough water to cover for one hour. For the rub, in a small bowl, combine the 1 tablespoon salt, the garlic, onion powder, pepper and parsley flakes.
- 2 Trim fat from roast. Place roast in a shallow dish. Generously sprinkle rub evenly over all sides of the roast; rub in with your fingers.
- 3 For a gas grill, preheat grill. Reduce heat to medium. Adjust for indirect cooking, and place a drip pan under the side of grill that will remain off. Add wood chips according to the manufacturer's directions. Place roast on grill rack over the burner that is turned off. Cover and grill to desired doneness, turning once halfway through grilling and brushing with the Red

Wine Vinegar Baste three times during the first 30 minutes of grilling. Allow 35 to 40 minutes for medium-rare (135° F) or 40 to 45 minutes for medium (150° F). (For a charcoal grill, arrange medium-hot coals around a drip pan. Drain wood chips and sprinkle over the coals. Test for medium heat above pan. Place roast on grill rack over pan. Grill as above). Discard any remaining Red Wine Vinegar Baste.

- 4 Remove roast from grill. Cover roast with foil; let stand for 15 minutes. The temperature of meat after standing should be 145° F for medium-rare or 160° F for medium. To serve, cut roast diagonally against the grain.
- 5 In a small bowl, combine oil and lemon juice; brush over cut sides of avocados. Sprinkle with additional salt. While roast stands, grill avocado halves about 10 minutes or until grill marks form, turning once halfway through grilling. Remove and keep warm. Slice avocados; serve with sliced roast.

SOURCE: BHG.COM



Grilled Veggie Pasta Salad

INGREDIENTS

1 small zucchini, halved lengthwise
 1 red sweet pepper, stemmed, seeded and quartered
 ½ small red onion, cut into ½-inch thick slices
 ½ pound asparagus, trimmed
 3 tablespoons olive oil
 4 cups cooked whole grain rotini pasta
 1 tablespoon balsamic vinegar
 ¼ teaspoon salt
 1/8 teaspoon ground black pepper
 2 tablespoons fresh oregano, chopped
 Shredded Parmesan cheese (optional)

DIRECTIONS

- 1 Lightly brush vegetables with 1 tablespoon of the oil. For a gas grill, preheat

grill. Reduce heat to medium-high. Cover and grill for 3 to 5 minutes for asparagus, turning once, and about 10 minutes for the zucchini, sweet pepper, and onion, turning once, or until vegetables are tender. Remove and cool slightly. (For a charcoal grill, place vegetables on the rack of the grill over medium-hot coals. Cover and grill as above).

- 2 Cut vegetables into 1/2-inch pieces and toss with pasta in a large bowl. Add remaining oil, balsamic vinegar, salt, and black pepper to pasta mixture; toss to coat. Top with fresh oregano and, if desired, Parmesan. Makes 4 servings.



SOURCE: BHG.COM