

# naturalLiving

Fall/Winter 2015

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## Natural Gas You Can't Afford Not to Use It

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With both lower direct costs and more efficient energy, natural gas is a robust and smart fuel source.

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## Latest Gas Water Heaters Mean Big Savings

New EPA regulations shine the spotlight on energy-saving natural gas water heaters.

By Drew Robb

**N**ew regulations make it clearer than ever that natural gas is the only way to go when it comes to water heating. As part of the 2010 National Energy Conservation Act, the U.S. Department of Energy (DOE) issued efficiency mandates that require higher energy factor (EF) ratings on residential water heaters. These rules finally went into effect in April 2015 in order to allow time for manufacturers to transition from the old standard to the new.

“The actual standard level depends on volume, and every product the consumer purchases will now meet the new standard,” said Abigail Daken, ENERGY STAR water heating product manager for the U.S. Environmental Protection Agency (EPA).

In general terms, the DOE increased efficiency standards for all water heaters. The latest rules give natural gas an even stronger cost advantage over electricity when it comes to water heating. “Those homes opting for electricity and requiring water heater tanks larger than 55 gallons will be forced to purchase more expensive units,” said James York, vice president of engineering, Rinnai America Corp.

### RATINGS CONFUSION?

Figuring out which kind of water heater to purchase, however, might be a bit confusing to consumers because of the government’s rating system. At first glance, electric water heaters appear to be rated as being more efficient than natural gas. For example, a 50-gallon gas water storage tank could be rated at .60 EF while a comparable electric unit is rated at .94 EF. No wonder some consumers mistakenly assume that electricity is more efficient when the opposite is actually true.

American Gas Association (AGA) spokesperson Jake Rubin emphasizes that natural gas water heaters are nearly twice as efficient as electric water heaters, yet the federal minimum efficiency ratings for natural gas water heaters are calculated at the point of use and do not take into account the full-fuel-cycle or journey from production to customer. Study after study backs up this assertion.

According to an AGA study, the yearly energy cost of a natural gas water heater totaled \$275 compared to \$576 for an electric water heater. In addition, overall savings from an all-gas home compared to an all-

*(continued on page 04)*



*(continued from page 03)*

electric home would be close to \$700 per year. Some estimates put the gap between electric and gas costs even wider.

Mark Axford, an energy consultant with Axford Consulting, said a gas water heater can be several times cheaper than an electric unit and needs far less maintenance.

Axford points out that existing water heaters do not have to be replaced as a result of these new regulations. But when that tank water heater reaches its end of life, the replacement model will be somewhat larger. So consumers should make sure the area where their current tank is installed is large enough to accommodate the new one before purchase in order to avoid additional renovation costs.

“As with any appliance, consumers should do their research and take into consideration all costs when choosing a new water heater,” Axford said.

When deciding which water heater to purchase, consumers should compare the annual usage amounts shown on the appliance’s Energy Guide label attached to the tank.

Daken also advises consumers to apply best practices to keep their bills in line. This includes better insulation, optimized settings and other efficiency tips. “For water heaters, insulate hot water pipes and keep the temperature on the hot water heater at 120°F if you can,” Daken said. “Fix leaky hot water faucets and install a low flow shower head. Additionally, wash your clothes in the coolest water that gets them clean and wash full loads.”

## RUNNING ON EMPTY: TANKLESS WATER HEATERS FILL WALLET WITH SAVINGS

The phrase “Running on Empty” was immortalized in Jackson Browne’s classic song. Certainly, no one wants to be in a car when the gas tank is empty. But it’s an entirely different matter when it comes to water heaters. A new breed of tankless natural gas water heaters promises to save consumers on energy while meeting new U.S. Energy Protection Agency (EPA) guidelines.

“Tankless water heating provides an endless supply of hot water, energy savings, a space-saving design, and environmental benefits,” said James York, vice president of engineering, Rinnai America Corp. “Tankless units are much smaller than traditional water heaters (about the size of a small suitcase), and can be mounted on an interior or exterior wall.”

So how do you obtain hot water? When you turn on the shower, appliance or faucet, cold water is fed to the unit. Water is heated as it passes through the tankless water heater. This water becomes almost immediately available wherever it is required in the home. The tankless natural gas water heater adjusts automatically to meet water-heating demands and user preferences for water temperature. With no storage tank to continually heat and reheat, energy consumption is greatly reduced.

“Tankless water heaters have some of the best energy factor ratings (EF) for gas water heaters, which means consumers are saving dollars every year on their water heating,” York said.

How much? The following chart outlines the annual operating costs of natural gas, electric and propane water heaters with and without tanks based on Department of Energy (DOE) average usage for a family of four. What this shows is that tankless natural gas units save the consumer anywhere from \$357 to \$386 per year compared to electric tank models; and \$233 and \$273 annual to comparable propane tankless units.

Abigail Daken, ENERGY STAR water heating product manager for the EPA, reassures homeowners that they can obtain a reasonably rapid return on their investment if they opt for an ENERGY STAR tankless unit the next time they purchase a natural gas water heater.



Tankless water heaters, such as these by Rinnai, provide an endless supply of hot water, energy and space savings, and environmental benefits.

PHOTO COURTESY OF RINNAI AMERICA CORP.

## STAGGERING RESULTS

Over the past decade or so, consumer awareness of the importance of energy efficiency and reducing greenhouse gas (GHGs) emissions has increased markedly. “Residential and commercial buildings account for 35 to 40 percent of energy consumption worldwide,” said Eric Bloom, a research analyst at Navigant Research. “Efforts to reduce consumption and GHGs have led to increasing deployments of energy efficiency retrofits.”

By choosing natural gas, each person can do their part to reduce harmful emissions and conserve energy while lowering their own energy costs. When you add up the gains from broad adoption of more efficient technology, the impact is staggering.

According to the AGA, a 2,000-square-foot home switching from an electric to a natural gas water heater reduces carbon dioxide emissions by enough to take three cars off the road or add 3.5 acres of trees. That’s a big gain for the environment – just by demanding a natural gas unit instead of an electric unit.

When you add up the gains from broad adoption of more efficient technology, the impact is staggering.

Tankless water heaters will also be a contributor to the ongoing energy efficiency wave (see sidebar). For gas tankless water heaters, the minimum EF rating has been raised from .62 to .82 by recent regulatory updates.

“Due to efficiency, compact size and longer product lifespan, there is a big incentive for consumers to investigate more efficient tankless technology,” York said. ■

“Tankless water heaters that earn the ENERGY STAR-certified label cost the same or only slightly more than standard models,” she said. “It usually costs more to install a tankless water heater if you are replacing a storage model, but costs vary widely.”

Her advice is to find a contractor already familiar with tankless technology. That way, the installation will be smooth, rapid and is likely to be less expensive.

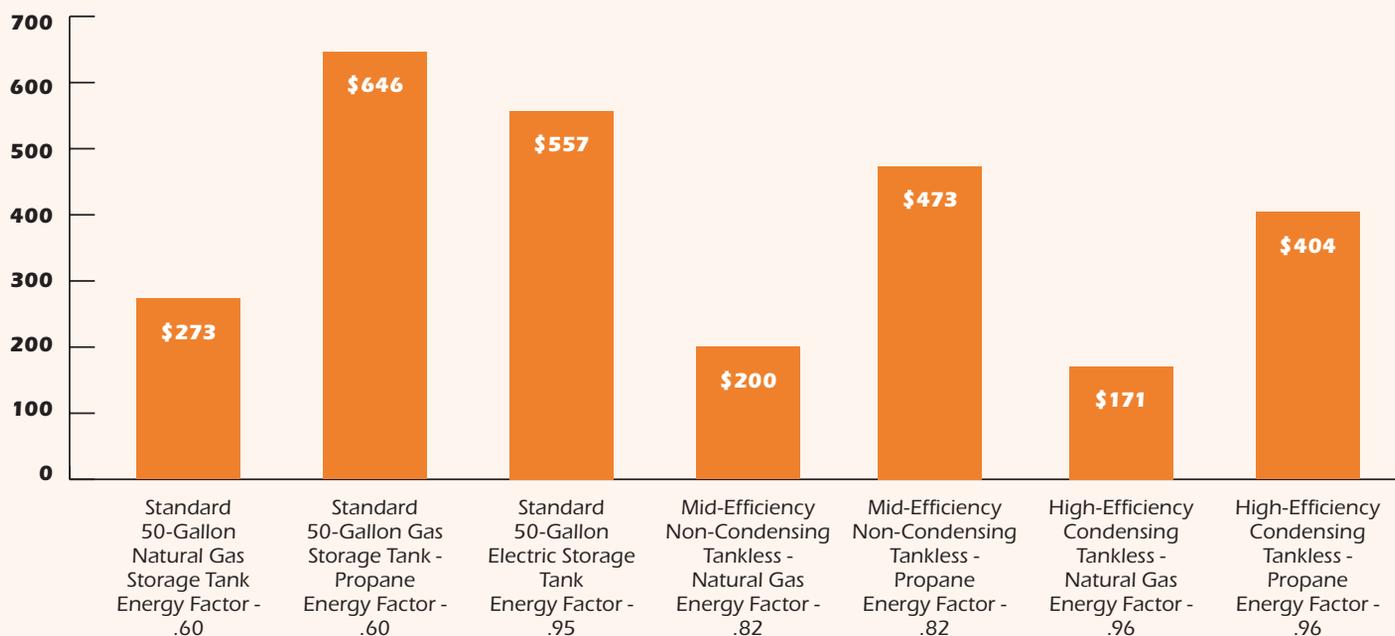
Rinnai data reveals that by using copper heat exchangers to provide maximum efficiency, and meet ENERGY STAR qualifications, energy usage is cut by up to

40 percent than a traditional natural gas storage tank. When a tankless natural gas water heater is compared to an electric storage tank water heater, the savings are even more dramatic.

In addition, many tankless models come with replaceable components. If one part fails such as a burner, fan or igniter, it is a matter of replacing that one component rather than having to buy a new unit as was the case with regular storage tanks.

So, while your water heater may be running on empty, in the long run, your wallet won’t be.

TANK VS TANKLESS ANNUAL OPERATING COSTS\*



\*Based on national averages per Department of Energy, U.S. Energy Information Administration

# Making Summer Last

Extend your outdoor season with natural gas products and appliances.

By Tonya McMurray

If changing leaves and cool autumn evenings have you mourning the loss of summer, turn to natural gas to help you enjoy outdoor living spaces long into the fall months.

The Hearth, Patio and Barbecue Association (HPBA) reports that about one-third of consumer expenditures on home remodeling and renovation is spent on outdoor amenities, with outdoor living spaces often created over a period of several years. Not only do these renovations add to the homeowner's enjoyment of their space, they also significantly increase the value of a home.

The right outdoor renovations can also create a warm and inviting space from early spring to late fall.

## TAKE THE CHILL OFF

If you're looking to increase the number of months you're able to enjoy your outdoor space, outdoor heaters are essential. Patio heaters can generally warm a 12- to 20-foot area, helping to take the chill out of crisp fall nights. They are most effective when outdoor temperatures are between 40 and 60 degrees F and can be placed almost anywhere.

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.

## A COZY FIRE

You can also add warmth to your outdoor living area with natural gas fireplaces, fire pits and fire rings. While the heat doesn't always radiate as far as a patio heater, fireplaces and fire pits combine the timeless appeal of a crackling fire with the convenience and safety of the latest natural gas technology.

Because there are no sparks or hot embers flying about, gas fire pits and fireplaces are safer and can be located almost anywhere – even close to patio furniture or wood decks. There is no hassle of gathering or buying wood or trying to start the fire. And, no need to clean out ashes after enjoying a cozy evening fire.

Just as indoor fireplaces become part of a home's décor, outdoor fireplaces and fire pits are often a focal point of outdoor living spaces.

Fire pits, the modern equivalent of the old fashioned campfire, are increasingly popular with consumers. A recent 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.

## NOW WE'RE COOKING

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. Plus, natural gas cookouts cost about one-sixth the cost of a charcoal cookout and three-fourths the cost of a propane cookout.

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 can be permanently mounted in ground or on your deck. They can be small and freestanding or large permanent structures with almost all the features of an indoor kitchen.



Sophisticated natural gas-fueled fire pit designs offer both ambiance and warmth, creating an inviting setting for enjoying the outdoors well into the fall.

PHOTO COURTESY OF THE OUTDOOR GREATROOM COMPANY



### LIGHT UP THE NIGHT

With natural gas lights, you can enjoy the warm glow of soft light – even if your electricity goes out. The soft light from natural gas adds charm to your outdoor gathering and creates a soft light that won't attract bugs.

From casual tiki torches to elegant brass or copper lamps, there's something for every taste and pocketbook. Lights can be mounted on exterior walls, porch ceilings or on lamp posts. Light sensors and timers can help reduce fuel use by ensuring that lights are only on when you need them.

Because natural gas lighting is not impacted by power outages, gas lighting is reliable and can provide additional security during a power outage.

### TAKING THE PLUNGE

Natural gas can extend your swim season by turning a pool from chilly and uninviting to warm and relaxing. And natural gas can keep your pool and hot tub at a consistent comfortable temperature regardless of the outside temperature.

Natural gas pool and spa heaters are up to 95 percent efficient and heat water twice as fast as electric heaters, according to the American Gas Association.

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

### PUTTING IT ALTOGETHER

Many outdoor 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.

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.

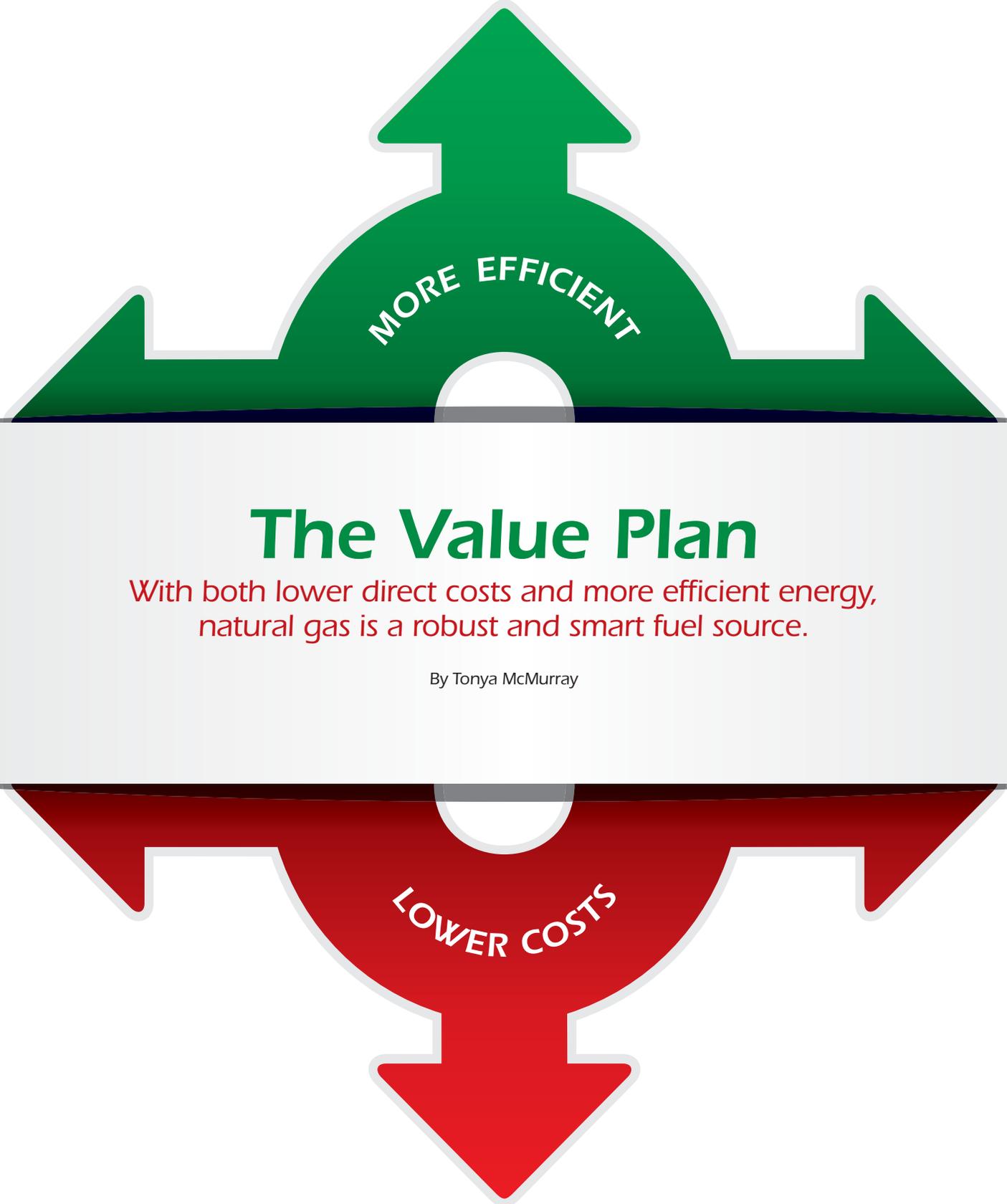
Gas outlets offer flexibility in the placement of outdoor appliances. The outlets typically provide an automatic shut-off valve and will require that the manual valve be shut off before the appliance is connected or disconnected.

Still unsure what natural gas appliances will complement your outdoor space and where you would place them? Take advantage of the Outdoor Room Design tool that was developed for the Energy Solutions Center. The tool will allow you to design your outdoor space; you can even upload a picture of your own backyard and experiment with the placement of grills, gas lights, tiki torches, plants and more. There is a tool for both PC and Apple users. To design your outdoor living space, go to [www.outdoorroomdesign.com](http://www.outdoorroomdesign.com).



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 <http://www.phccweb.org>. ■



MORE EFFICIENT

## The Value Plan

With both lower direct costs and more efficient energy, natural gas is a robust and smart fuel source.

By Tonya McMurray

LOWER COSTS

**W**hether you're looking to heat your home, cook dinner, do laundry, or enjoy a backyard barbecue and dip in the pool, natural gas provides a versatile, affordable and efficient fuel source.

Natural gas has long been one of the most popular fuels for residential heating, hot water and cooking, used by 79 million customers daily throughout North America, according to the American Gas Association (AGA) and the Canadian Gas Association (CGA). But natural gas is more than a heating and cooking fuel. Its versatility extends to outdoor lighting, clothes dryers, pools and hot tubs, and standby generators.

The popularity of natural gas stems from its affordability and efficiency. AGA estimates that households that use natural gas for heating, hot water, cooking and clothes drying save an average of \$693 per year with combined savings of \$65 billion for residential gas customers over the past five years. Those savings represent a combination of lower fuel costs as well as higher energy efficiency.

A recent report by AGA's policy analysis group estimates that annual utility bills for a gas-fueled home are roughly 35 percent lower than a comparable all-electric home and about 55 percent lower than homes using oil and propane as primary fuel sources.

### **ABUNDANT SUPPLY, LOWER COSTS**

Recent discoveries of deeply buried shale gas reserves combined with new technologies for extracting that gas have increased the natural gas supply throughout the United States and Canada with production expected to remain strong over the next century. The U.S. Energy Information Administration's long-term forecast projects a 56 percent increase in total natural gas production by 2040 with prices remaining stable.

"Our nation's strong supply position is the primary reason that prices are expected to be lower and more stable," AGA spokesman Jake Rubin said. "Abundant supply means consumer savings."

Not only does natural gas have a lower purchase price, but it's also a better deal from an energy use perspective as well. Only 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. Natural gas, on the other hand, loses only 10 percent of its energy in the distribution process, so 90 percent of natural gas that enters the pipeline reaches your home.

### **A CLEAN, STABLE FUEL SOURCE**

The benefits of natural gas extend beyond price and efficiency. 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 a third as much nitrogen oxide and one percent as much sulfur oxide as electricity, making it a much smaller contributor to climate change, smog and acid rain than other fossil fuels.

And the environmental benefits of natural gas continue to improve. A recent study by Washington State University's Laboratory for Atmospheric Research found that emissions from local natural gas distribution systems have decreased over the past 20 years. The researchers cited improved technology as a key factor in emissions reduction.

Technological improvements that have reduced environmental impact and increased available supply have resulted in a more stable and reliable fuel source as well. America's Natural Gas Alliance estimates that about 98 percent of the natural gas used in North America is produced here as well. With so much of the natural gas supply coming from domestic sources, consumers are not significantly impacted by changes in political alliances and other disruptions in foreign fuel supply.

### **VERSATILITY**

With pricing and supply stability, natural gas offers a reliable fuel source for most household energy needs.

*(continued on page 10)*

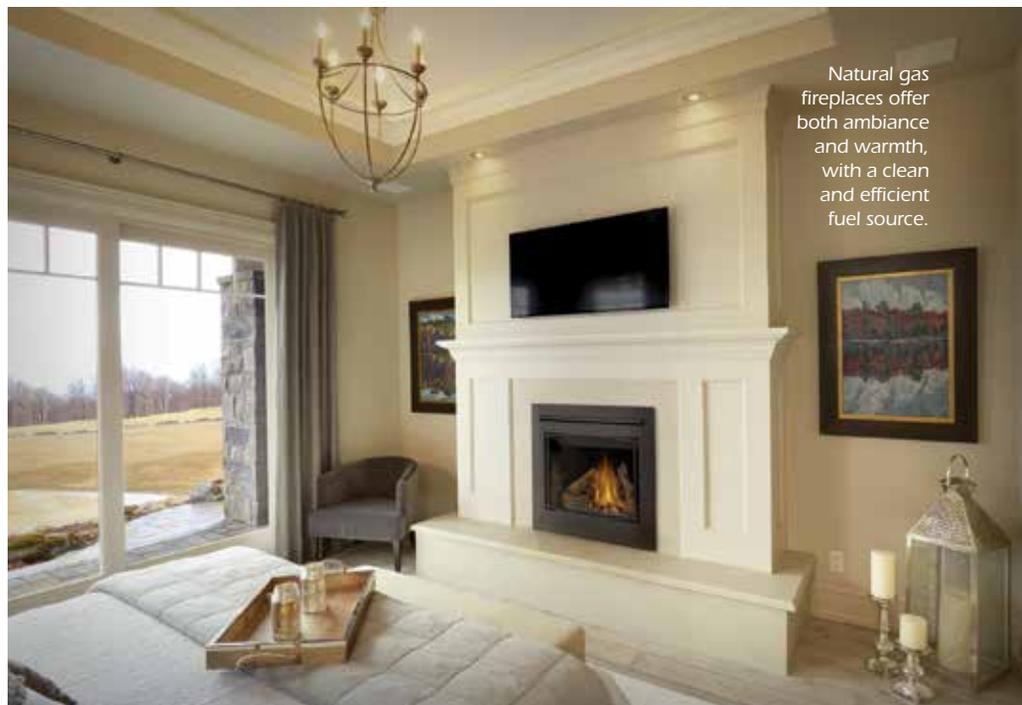


PHOTO COURTESY OF NAPOLEON



(continued from page 09)

**Heating.** Heating is the largest energy expense in the average U.S. home, accounting for about 45 percent of energy bills, according to the EIA. Natural gas consistently proves itself the most cost-effective source for home heating. EIA reports that natural gas has been nearly one third the cost of electricity and heating oil for the past two winters.

“Even with the two recent cold winters we’ve had, natural gas prices have remained stable—other than a few short periods in the Northeast during the polar vortices of early 2014,” notes Daphne Magnuson, director of public affairs for the Natural Gas Supply Association. “And even then, prices stabilized quickly after a few days. So all signs point to good news for consumers, even if it’s another very cold winter.”

Natural gas heating systems include gas boilers, forced-air central



heating systems, space heaters and radiant floor heating systems. Natural gas furnaces last longer than electric heat pumps and deliver heat that is up to 25 degrees warmer.

**Water heaters.** According to ENERGY STAR, water heaters are typically the third largest energy expense in the home, accounting for 14 percent of utility bills and exceeded only by heating and cooling costs. Natural gas water heaters cost up to 50 percent less to operate

## FEEL THE WARMTH OF RADIANT FLOOR HEATING

Long ago, architecturally savvy Romans had servants fan wood burning fires under elevated marble floors, creating an ancient world radiant floor heating system. The idea is still popular today.

Unlike the ancient Roman system’s reliance on human labor, today’s systems rely on coils circulating underneath the floor that provide a transfer of heat to the floor.

Radiant floor heating is an under-the-floor heating system that uses hot water tubes to conduct heat through the surface of the floor. As the thermal radiation from the heating tubes rises, it warms any objects that it strikes, such as furniture, warming them as well. The heat then radiates through the room, creating an even and consistent temperature.

Most typical heating systems blow hot air into the room through a series of vents. The hot air rises, and then sinks into the room. Only the air is heated (not objects in the room), and there is the potential for pockets of cooler air depending on where heating vents are located. Because heated air flows only vertically (from ceiling to floor) rather than circulating throughout the

room, the system is less efficient and users often experience more noticeable shifts in temperature.

Natural gas-fired boilers and hot water heaters are among the best fuel sources for radiant floor heating systems because of their energy efficiency and low environmental impact.

### Steady, consistent heat

The U.S. Department of Energy (DOE) ranks radiant heating as one of the more efficient heat sources. While radiant systems can be more expensive to install, they tend to be less expensive over time because of their heating efficiency—especially if they are fueled by natural gas, which is among the most economical of fuel sources.

Radiant heat provides a greater degree of comfort at lower temperatures, much the same way that standing in the sun on a cool day provides more warmth than a shady spot, even though there is little or no difference in air temperature. Studies conducted by the American Society of Heating, Refrigeration and Air Conditioning

and typically heat water twice as fast as electric water heaters. AGA estimates that homeowners can heat two bathtubs full of water heated by natural gas for the same cost of a single bathtub of water heated with electricity.

**Indoor and outdoor cooking.** Professional chefs prefer cooking with natural gas because it offers an even, consistent heat and exceptional temperature control. Ranges, cook tops and ovens as well as both simple and elaborate outdoor grills bring the benefits of natural gas to meal preparation. Some gas ranges and cooktops offer burners designed specifically for rapid heat and others designed only for simmering, adding to the ability to precisely control temperature. Many newer models of gas ranges, stoves, ovens and grills use an electronic ignition rather than a continuously burning pilot light, saving as much as an additional 30 percent on energy costs. Gas grills ignite quickly and typically cost about one-sixth the cost of cooking with charcoal and three-fourths the cost of cooking on a propane grill.

**Indoor and outdoor fireplaces:** Indoor gas fireplaces can function as a back-up heat source while adding ambiance to a room. Gas fireplaces burn more cleanly, with no ash build-up, no creosote in the chimney, and no sparks or flying embers escaping the fireplace.

**Clothes dryers.** Natural gas clothes dryers heat up quicker and cut

drying time, allowing consumers to dry three loads of laundry with a gas dryer for about the same cost as drying one load with an electric dryer. And quicker drying cycles are gentler on fabrics, helping to extend the life of clothing.

**Outdoor living.** Natural gas can supply both the heat and light needed for cozy outdoor gatherings. Natural gas can fuel freestanding or permanently fixed patio heaters as well as heaters for pools and hot tubs. With quick start-up times and consistent heat, natural gas appliances help extend the season for backyard enjoyment.

And, the soft glow of natural gas lights won't attract bugs but will offer security during power outages. Outdoor lighting can range from casual tiki torches to modest or elegant gas lamps.

**Generators.** Natural gas distribution pipelines run underground, making them less susceptible to power outages and weather disruptions. The dependability of natural gas can help you keep the lights on even when you lose electricity.

"The benefits of using natural gas for households are many," Magnuson notes. "It's a highly efficient and responsive fuel. It's affordable, it's clean, and it's domestic. It's a smart choice for your pocketbook and for the environment." In other words, you can't afford NOT to use natural gas! ■

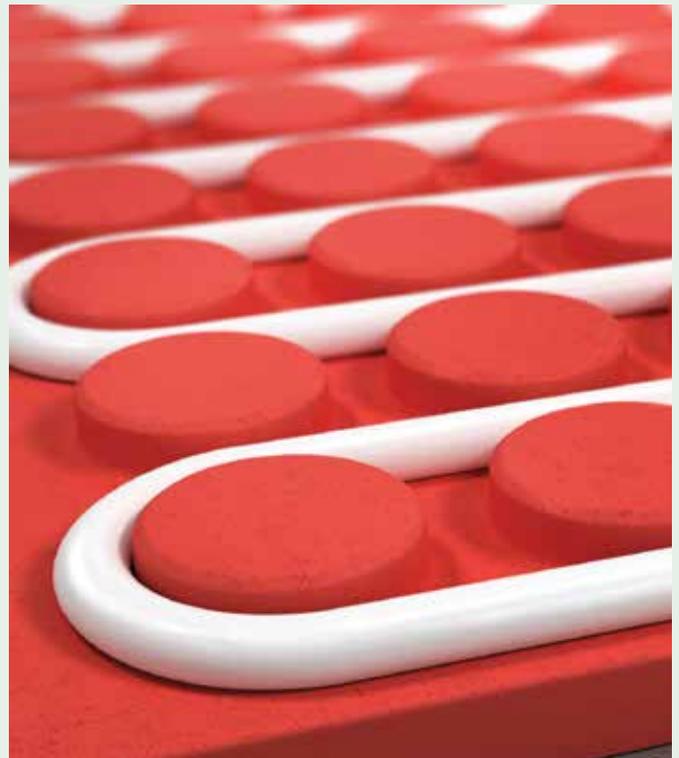
Engineers show that radiant heating systems allow people to be comfortable at temperatures 6 to 8 degrees F lower than other systems, saving energy.

Radiant floor heating has many advantages. Not only does it create consistent and comfortable heat, but it is quiet and does not cycle on and off the way other heating systems do. Radiant floor heating evens out the heat and eliminates cold spots by ensuring a steady temperature.

Because radiant heat doesn't depend on a fan or blower, it doesn't blow dirt or allergens around, making it a more comfortable for those who struggle with allergies. Unlike other heating systems, radiant heat doesn't dry out nasal passages.

If you already have a natural gas water heater, it can often serve double duty, heating water for the heating system in addition to other household needs. The DOE estimates that systems using a single fuel source for both heat and water can reduce domestic energy consumption by 27 percent.

Clean and efficient, a radiant heat system is the ideal complement for a natural gas household.



# Rapid Growth Forecast for Natural Gas Generators

Natural gas generators keep you safe and secure, providing peace of mind via reliable standby power.

By Drew Robb

**D**ue to their low fuel costs, reliability, environmental friendliness and convenience, natural gas generating sets (gensets) are experiencing unprecedented growth worldwide, according to a new report from Navigant Research. In North America alone, natural gas generators are expected to grow from 12.9 gigawatts (GW) in 2015 to more than 27.1 GW in 2024.

“Gensets fueled by natural gas are poised for rapid growth in the coming years, particularly in markets where inexpensive natural gas is widely available such as North America,” said Taylor Embury, research analyst with Navigant Research. “It is hard to beat the reliability and quick response time of a gas genset.”

## HOME MARKET

The availability of natural gas at a fraction of the cost of oil or diesel is making it an increasingly popular choice in the home and small business as a source of standby power.

Mark Axford, an energy consultant for Axford Consulting Inc., said the cost equation favors natural gas.

“One big reason to utilize natural gas-fueled generators gets down to the price of fuel,” Axford said.

Study after study proves that natural gas is much cheaper to run in the home than other sources of energy.

Jim Berry, technical representative at power generation equipment and services vendor OnPower Inc., concurred. But he also noted some of the other advantages of natural gas.

“Natural gas generators are a very mature technology that offer the lowest emissions, the least maintenance issues, and very low operating costs,” Berry said.

In terms of maturity, natural gas generators are internal combustion engines just like those used in automobiles for more than 100 years. As a result, the operation of natural gas generators has been fine tuned to the point where they require minimal user interaction while producing safe and reliable power.

“The engines used in natural gas gensets represent a widespread and mature technology used for all types of power generation,” Embury said.

Homeowners gain peace of mind, knowing they can rely on a natural gas engine to just keep on running safely for many years. Similar to modern automobiles, natural gas generators require an oil, filter and spark plug change. Consult your owner’s manual for preferred maintenance schedule. The gas is delivered directly to your appliance whenever you need it via the same piping system that supplies natural gas to your stove, heater or water heater.

Natural gas is also by far the cleanest burning fossil fuel. That’s why power plants across the United States are switching from coal and oil to natural gas. The same is now happening in home after home. A survey from Accenture discovered that more than one third of U.S. consumers plan to switch from electric to natural gas appliances and standby generators.

## LEARNING CURVE? WHAT LEARNING CURVE?

It is important for people to realize that there is little or no learning curve involved in making the transition to natural gas. Jake Thomas, director of product management for Generac Power Systems Inc., illustrated the ease-of-use and growing sophistication of the latest gas generating models. Automatic standby gas generators are now broadly available that can be permanently installed outside of a home. These machines are situated away from windows, doors or any fresh air inlet. They can be installed in any home in an hour or two.

The generator is connected to the home’s natural gas system, which allows it to operate immediately when called upon without the need to prepare it for operation. If the power goes out, it fires up automatically.

“Another advantage is that it runs continuously without you having to stop it and refill it,” Thomas said. “They can run for a few hours or multiple days at a time, and the homeowner never even has to leave the couch.”

Further, the convenience of a natural gas generator makes it the most popular choice for the home. When the power goes out, the generator automatically starts the engine. The lights are likely to be off for little more than 10 seconds. When the power returns, the generator switches off and the home transfers back to utility power.

Like Berry, Thomas noted that homeowners feel safer with a natural gas generator in their home.

“Natural gas generators are reliable, clean and environmentally friendly,” said Thomas.

On the economic side, purchase costs for the generators themselves represent a common reason so many homeowners gravitate toward natural gas. Thomas said natural gas units are by far the least expensive on the market. For example, a 7kW Generac automatic system at \$1,899 (installation not included). You can even have the vendor monitor your home generator over the Internet or a wireless network. Homeowners receive emails or texts to their mobile phones informing them of any change in the status of their generator so they know when it has begun running during an outage, and when maintenance or troubleshooting actions should be undertaken. That way, homeowners never have to worry about the reliability and availability of their generators. No matter what happens, they are assured of being able to keep the lights on and the home powered up.

In summary, the advantages of natural gas include:

- Lower costs – natural gas is easily the least expensive of all modern fuels.
  - Convenience – at any time of need, a natural gas generator restores power to the house almost instantly so your life can go on without interruption.
  - Peace of mind – a natural gas generator simply runs. It is a reliable source of standby power for the home you can count on in any emergency.
  - Abundant supply – The U.S. now possesses enough natural gas to supply the country for hundreds of years, making it the safe and secure fuel source for America’s future.
  - Environmental friendliness – natural gas is by far the cleanest burning fuel there is, with extremely low levels of greenhouse gas emissions.
- With those kinds of added benefits, it’s no wonder natural gas generators continue to gain momentum among consumers as their choice for standby power. ■



PHOTO COURTESY OF GENERAC POWER SYSTEMS INC.



## Preparing the Holiday Feast

Natural gas offers consistent heat and reliable fuel for both indoor and outdoor cooking.

By Tonya McMurray

**H**oliday preparations can be stressful. You worry about making everything perfect, impressing family and friends, and creating a just-right celebration.

When it comes to meal preparation, natural gas cooking appliances make those goals easier.

The Professional Chef's Association reports that 98 percent of professional chefs prefer to cook with natural gas. Natural gas earns the

seal of approval from chefs because it offers even, consistent heat and exceptional temperature control.

Natural gas ranges, cook tops and ovens provide professional-level, controllable heat for even amateur chefs. Some gas ranges and cook-tops even feature special high-Btu burners for rapid heat and low-Btu burners for simmering, increasing your level of cooking control.

In addition to more consistent culinary results, cooking with natural



oven-baked dishes to cook without drying out, even when cooked over several hours. In dishes such as the Brined Whole Turkey Breast featured below, the moist heat helps create a juicy and tender main dish. ■

## Brined Whole Turkey Breast

### FOR THE BRINE

- 2/3 cup kosher salt
  - 2 cups hot water
  - ½ cup honey
  - 10 whole allspice, crushed
  - ¼ cup peeled, coarsely chopped fresh ginger
  - 4 garlic cloves, crushed
  - 2 bay leaves
  - 1 cinnamon stick
  - 6 cups ice cubes
- Other Ingredients
- 1 whole turkey breast, 5 to 6 pounds
  - 1 tablespoon butter, melted

### DIRECTIONS

- 1 In a large 8-quart stockpot, dissolve the salt in the water. Add the rest of the brine ingredients, except for ice cubes, and stir to combine. Let cool to room temperature. Add the ice cubes to the brine.

*(continued on page 16)*



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

And, if you choose to venture outside for some of your holiday cooking, natural gas grills offer the same precise temperature control for consistent cooking results. Gas grills ignite quickly and cost about one-sixth the cost of cooking with charcoal and three-fourths the cost of cooking on a propane grill.

### BETTER CONTROL, BETTER RESULTS

Professional chefs often insist on natural gas for cooking because the temperature can be adjusted moment-to-moment with quick response. Unlike electric ranges, which require time to heat up and cool down, gas appliances respond to temperature adjustments almost immediately. That immediate response makes it easier to get precisely the temperature you need for every stage of cooking. Even if you misjudge the needed temperature, you can quickly correct it.

### GAS COOKING IN ACTION

For your holiday meal's main feature – chicken, turkey or other meat – gas cooking provides a moist cooking environment, allowing



(continued from page 15)

2 Rinse the turkey breast under cold water and place it in the brine. Add enough cold water to cover the turkey breast by at least ½ inch. Carefully stir the brine again. Cover and refrigerate for about 12 hours.

3 Remove the turkey breast from the stockpot and discard brine. Pat turkey dry with paper towels.

4 Prepare gas grill for indirect cooking over medium heat (350 degrees to 450 degrees F).\*

5 Place the turkey, skin side up, in a roast holder set inside a large disposable foil pan. Brush skin with melted butter. Grill\* the turkey breast over indirect medium heat with the lid closed until the skin is golden and the internal temperature reaches 160 degrees to 165 degrees F in the thickest part of the breast (not touching the bone), about 1 ½ hours. Remove from the grill and let rest for 15 minutes (the internal temperature will rise 5 to 10 degrees during this time). Cut into thin slices.

\*As an alternative to grilling, cook turkey in gas oven heated to 350 to 450 degrees F, cooking until golden and internal temperature reaches 160 to 165 degrees.

Another advantage of gas cooking is that heat is distributed evenly and food tends to cook quicker than with an electric stove. This means holiday foods featuring winter squashes or other foods that require long cooking times (such as the Butternut Squash with Candied Pecans highlighted below) get an extra cooking boost from gas-fueled ovens or grills.



## Butternut Squash with Candied Pecans

- 1 large egg white
- ¾ cup pecan halves
- 2 tablespoons packed light brown sugar
- ¾ teaspoon ground cinnamon, divided
- kosher salt
- 1/8 teaspoon ground cloves
- ¾ cup (½ stick) plus 2 tablespoons unsalted butter, melted
- ¼ teaspoon ground cayenne pepper
- 1 butternut squash, about 2 pounds, cut lengthwise into quarters, seeds removed

### DIRECTIONS

1 Preheat gas oven to 325 degrees F. Line a sheet pan with parchment paper.

2 In a large bowl, whisk the egg white until frothy. Add the pecans and stir to coat. Add the brown sugar, 1/4 teaspoon of the cinnamon, ¼ teaspoon salt, and the cloves. Stir until evenly distributed among nuts. Spread the nuts in a single layer on the prepared pan and bake until toasted and caramelized, 18 to 20 minutes, stirring several times. Once cool enough to handle, coarsely chop the pecans and set aside.

3 Prepare gas grill for indirect cooking over medium heat (350 degrees to 450 degrees F).\*

4 In a small bowl, combine the butter, the remaining ½ teaspoon cinnamon 1/3 teaspoon salt, and the cayenne pepper. Place the squash, cut side up, on the grill and brush generously with the butter mixture, reserving the rest for basting and serving. Grill over indirect medium heat with the lid closed until very tender, 50 minutes to 1 hour, basting occasionally. Remove from the grill and drizzle with the remaining butter mixture. Top with candied pecans and a final sprinkling of salt if desired. Serve warm.  
\*Alternatively, cook in gas oven set to 350 to 450 degrees F.

Recipes provided courtesy of Weber-Stephen Products LLC.

